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The Road to Successful EU Integration—The Policy Agenda

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ACRONYMS AND ABBREVIATIONS

ALMP	Active Labor Market Policies	FTA	Free Trade Agreement
APC	Administrative Procedural Code	GDP	Gross Domestic Product
BNB	Bulgarian National Bank	GMI	Guaranteed Minimum Income
BOP	Balance of Payments	GP	General Practitioner
CAD	External current account deficit	GVA	Gross Value Added
CBA	Currency Board Arrangement	ICT	Information Communications Technology
CEE	Central and Eastern Europe	IMF	International Monetary Fund
CEEC	Central and Eastern European Countries	MES	Ministry of Education and Sciences
CEFTA	Central European Free Trade Agreement	MEW	Ministry of Environment and Water
CEM	Country Economic Memorandum	MFN	Most Favored Nation
CIF	Cost of Insurance and Freight	MNC	Multinational Corporations
CIS	Commonwealth of Independent States	MOF	Ministry of Finance
CIT	Corporate Income Tax	MOH	Ministry of Health
CIM	Contract Intensive Money	MOLSP	Ministry of Labor and Social Policy
CMEA	Council for Mutual Economic Assistance	MTC	Ministry of Transport and Communications
CMO	Common Market Organizations	MTFF	Medium-Term Fiscal Framework
COM	Council of Ministers	NAFTA	North American Free Trade Agreement
COMTRAD	Commodity Trade Database	NAO	National Audit Office
CPI	Consumer Price Index	NHIF	National Health Insurance Fund
DH	District Heating	NGO	Non-governmental organization
NEA	National Employment Agency	NMS	New Member States
EBRD	European Bank for Reconstruction and Development	NSI	National Statistical Institute
EC	European Commission	OECD	Organization for Economic Cooperation and Development
ECA	Europe and Central Asia	OLS	Ordinary Least Square
EFTA	European Free Trade Association	PEP	Pre-Accession Economic Plan
EIB	European Investment Bank	PIFCA	Public Internal Financial Control Agency
EMU	European Monetary Union	PIT	Personal Income Tax
ERM	Exchange Rate Mechanism	SEE	South Eastern Europe
EU	European Union	SITC	Standard International Trade Classification
FDI	Foreign Direct Investment	SJC	Supreme Judicial Council
FMIS	Financial Management Information System	SME	Small and Medium Enterprises
FRA	Fiscal Reserve Account	SOEs	State-owned Enterprises

TFP	Total Factor Productivity	VAT	Value Added Tax
TIMSS	Trends in Math and Social Sciences	VEC	Vector Error Correction
ULC	Unit Labor Cost	WDI	World Development Indicators
USAID	United States Agency for International Development	WIIW	Vienna Institute for International Economic Studies
VAR	Vector Autoregression Models	WTO	World Trade Organization

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The Road to Successful EU Integration: The Policy Agenda

EXECUTIVE SUMMARY

- 1. Over the last seven years Bulgaria has made impressive progress towards long-term stability and sustained growth.** As a result of sound macroeconomic policies and deep structural reforms, average growth has reached the levels of eight European Union (EU) New Member States (NMS-8).¹ Increased growth and low inflation have contributed to increased per capita income and standard of living: per capita income at purchasing power parity (PPP) rose from US\$5,502 in 1998 to US\$8,260 in 2004. The unemployment rate, which has remained high since the early 1990s, started declining in 2003. While part of the decline was owing to active labor market programs, for the first time since 1996/97 there was net employment creation by the private sector in 2004, which contributed to a further reduction in unemployment to 12.7 percent. Stability, growth, and to some extent the extensive social protection system have also contributed to a substantial reduction in poverty, which continues to decline.
- 2. Despite the overall positive performance, Bulgaria is significantly poorer than NMS-8.** The country's per capita income, at PPS in 2003, was 31 and 56 percent of the average level of EU-25 and NMS-8 countries, respectively. Given Bulgaria's large income gap with EU25, improving efficiency of the economy is necessary to ensure that forthcoming EU accession will rapidly narrow the gap and result in sustained improvements in living standards.
- 3. To narrow the income gap and facilitate the convergence with the EU, Bulgaria would need to increase employment and productivity consistent with the Lisbon agenda.** These reforms are particularly pressing for Bulgaria, because the country has a negative natural rate of population growth (about -0.7 percent per year) and out-migration (about -0.1 percent per year). These have resulted in a rapidly declining working age and a growing share of old people in the total population. At the same time, the country has the second lowest labor market participation (49.4 percent) and the lowest employment rate (43.6 percent) among Central and Eastern European countries. To catch up with the EU, employment and labor market participation would need to be raised. Also, a large share of employment is in unproductive segments of the economy, or in areas where labor productivity is largely stagnant. This includes above all agriculture, where productivity has fallen sharply. Without increases in labor market flexibility, there is a risk that the economy will remain locked in a low wage and low productivity growth path. Given the demographic trends, Bulgaria could hardly afford that.
- 4. Raising investment and total factor productivity would be critical for continued growth.** The upgrading of the capital stock is still at an early stage, and factors of production are underutilized (firms operating at 70 of production capacity). This is a result of years of relatively low investment. The average investment to GDP ratio in 1991-2004 was 17 percent in Bulgaria compared to the NMS-8 average of 25 percent. Even though investment has since recovered, partly owing to an improved investment climate, and reached 23.5 percent of GDP in 2004, the accumulated capital stock gap remains large and needs attention. Also, public and private investment is concentrated in sectors geared to servicing domestic instead of export markets,

¹ Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia.

while exports are dominated by unskilled labor-intensive products. Competition in the domestic market is, however, limited by an overly complex regulatory environment, and inefficient contract enforcement. While progress has been made in regulatory and judicial reforms over the last few years, Bulgaria lags behind other countries in the region in these areas.

5. As Bulgaria approaches EU accession, it has the opportunity to act on these challenges and set the economy on a higher growth path. This report proposes a reform agenda focused on five areas to narrow the income, productivity, and investment gaps and accelerate convergence with the EU:

- (i) ***Improve the quantity and quality of human capital.*** To promote labor productivity and expand export capacity beyond unskilled labor-intensive products, there is a need to upgrade the skills of the labor force. This would call for a reform of the education system, including universities and vocational schools, to: (a) strengthen the links between the skills acquired in the education system and those needed in the job market through establishment of links and feedback mechanisms between the education system and labor markets; and (b) improve the efficiency and effectiveness of public outlays in education by reallocating resources from underused facilities and excess staffing to modernization of curriculum, textbooks, and teaching materials; implementing a composite per student resource allocation; and linking financing to educational results in addition to enrollment levels.
- (ii) ***Improve the quantity and quality of physical capital.*** Bulgaria's transport network needs upgrading since maritime ports and close to two-thirds of roads are in poor condition. Priority in resource allocation would thus need to be given to maintenance rather than new investment. The sequencing of reforms in this area would need to be based on cost-benefit analysis, and take into account liberalization of international trucking in the context of EU integration. Priority reform areas would be as follows: (a) upgrading and addressing bottlenecks along road segments that carry long distance international traffic; and (b) reform of maritime ports, including introduction of landlocked port, with the separation of operational and commercial functions, privatization of port services, and concessioning of large container and bulk terminals to private operators.
- (iii) ***Promote efficient and transparent public sector management, including further public expenditure restructuring.*** Bulgaria has implemented a series of reforms aimed at improving the functioning of the public sector. A large number of new laws and regulations have been introduced to achieve this. The next stage of reform would need to focus on: (a) increasing efficiency of health and social assistance spending; (b) extending program budgeting to all ministries and linking budget allocation with performance indicators; (c) implementing the financial management information system; (d) applying merit criteria for hiring, promotion, and salary increases; (e) implementing anti-corruption strategies and enforcing conflict of interest and asset declaration regulations; and (f) ensuring transparent and competitive procurement for civil works.

- (iv) ***Improve labor market performance.*** The current labor framework provides large benefits to those with labor contracts and seniority, leaving behind a large share of the long-term unemployed with few job opportunities and workers in the informal sector. Key reforms in this areas would include: (a) reducing payroll taxes to decrease disincentives to employment creation; (b) adopting policies for flexible use of fixed-term contracts and working schedules; (c) allowing more flexible terms for hiring and firing owing to fluctuations in production levels, performance, and absenteeism; (d) strengthening the link between wages and performance by folding the seniority premium into the basic wage and thereby eliminating it; (e) adjusting unemployment benefits to the average level and duration of OECD countries to eliminate disincentives to work; and (f) increasing labor force participation by allowing flexible use of temporary and part-time contracts.

- (v) ***Improve functioning of the judiciary and reduce regulatory complexity.*** While the investment climate has improved in the past years, Bulgaria’s legislative and regulatory framework remains excessively complex and contract enforcement weak. To promote competition in the domestic market and private sector activity overall, it would be important to streamline the regulatory regimes and implement judicial reform to strengthen enforcement of contracts. This would include: (a) simplifying contract enforcement procedures; (b) streamlining the licensing regimes; (c) transferring registration out of courts; (d) eliminating or reducing the level of minimum capital for private limited companies; (e) simplifying documentation required for new business registration; and (f) introducing statutory response time (“silence is consent” rules) for business registration and licensing.

6. **To be effective, the above structural reforms would need to be carried out in a stable macroeconomic environment.** Hence, the reform agenda needs to be supported by macroeconomic policies that address the risks and vulnerabilities, and make progress towards monetary integration. In the short run, there are risks associated with the pressures from the widening external current account deficit and rapid private sector credit growth. To date, these risks have been partly offset by turning the budget into surplus. Looking forward, however, the fiscal stance needs to remain sufficiently flexible to respond to potential external and internal shocks.

VOLUME 1: SUMMARY REPORT

1. **Over the last seven years Bulgaria has made impressive progress towards long-term stability and sustained growth.** As a result of sound macroeconomic policies and deep structural reforms, average growth reached the levels of New Member States (NMS-8) at about 5 percent per year in 2000-04. Despite this overall positive performance, Bulgaria is one of the poorest countries in Central and Eastern Europe. The country's per capita income, at PPS in 2003, was 30 and 57 percent respectively, of the average level of European Union-25 (EU-25) and NMS-8 countries. Given Bulgaria's large income gap with EU-25, and its rapidly aging population, improving and expanding its efficiency gains across the economy is necessary, if the country's accession to the European Union (EU) is to result in sustained and meaningful improvements in its standards of living.

2. **Maintaining macroeconomic stability and implementing structural reforms have led to overall improvements in the standard of living over the last seven years.** Following a failed transition which culminated in a severe crisis in 1996-97, macroeconomic stability was reestablished and has been maintained by prudent fiscal policies and strict discipline in incomes policy anchored in the Currency Board Arrangement (CBA) adopted in mid-1997. Fiscal consolidation reduced the overall fiscal deficit from 15.2 percent of GDP in 1996 to a balanced budget in 2003 and generated an overall fiscal surplus of 1.8 percent in 2004. The external and public debt to GDP ratios declined from nearly 100 and 107.4 percent of GDP, respectively, in 1997 to about 64 and 41 percent, respectively, by 2004. As a result of these policies, inflation has declined to single digits from hyperinflation levels.

3. **A broad structural reform program has contributed to solid economic performance.** The severity of the 1996-97 crisis and the prospect of EU accession changed the political economy in the direction of reforms. Between 1998 and 2002, most of the non-infrastructure enterprises and banks were privatized or liquidated, banking supervision was strengthened, trade and prices were liberalized, energy reforms made important progress, and the first steps were taken in regulatory reform to improve the investment climate. In 2003-04, Bulgaria completed the privatization of the electricity distribution companies and of telecommunications, and public sector and institutional reforms included the adoption of new legislation, regulations, and a management system. As a result, growth is led by the private sector which now accounts for 75 percent of gross domestic product (GDP) with an equal share of total employment. Integration with external markets has expanded with trade in goods and services relative to GDP increasing to 127 percent in 2004 from 94 percent in 1998. Foreign direct investment flows increased to about 37 percent of total investment in 2003 compared to 25 percent in 1998. Investor confidence improved over time both domestically and externally. Bulgaria's long-term foreign currency debt was upgraded to an investment grade rating in the summer of 2004.

4. **The resulting low inflation, declining interest rates, and sustained growth have contributed to increases in per capita income and its purchasing power and to overall improvements in the standard of living.** Per capita income at PPP increased from US\$5,216 in 1998 to US\$8,007 in 2004 and grew at an average of 6.5 percent per year in real terms. Registered monthly average wages and salaries increased from 183 BGN in 1998 to 294 BGN

in 2004—an average of 2 percent per year in real terms. The unemployment rate, which had remained high since the early 1990s and which peaked at 18 percent in 2000, started to decline in 2003 to 14.3 percent. While part of the decline in the unemployment rate has been due to the government's active labor market programs, in 2004 there was, for the first time since the 1996-97 crisis, a net employment creation by the private sector which contributed to a further reduction in unemployment to 12.7 percent. Stability, growth and the country's extensive social protection system contributed to a substantial reduction in poverty, which continues to decline.

5. The urgent need to implement a core reform agenda centered on productivity, however, more pressing for Bulgaria than for other countries in the region, where the demographic discount is not as large and is not increasing as rapidly. Bulgaria has had a negative natural rate of population growth (about -0.7 percent per year) which, together with net out-migration (about -0.1 percent per year), has resulted in a negative population growth averaging -0.8 percent per year during the 1990s and early 2000s. As a result, the working age population is declining rapidly and the aging population is growing rapidly—the demographic discount is large and is rising. It is estimated that in 20 years the working age population will have declined by 19 percent and the population over 64 years of age will have increased by 17 percent relative to the 2005 levels.

6. The Lisbon agenda focuses on increasing employment and productivity: the core agenda proposed in this report covers the reforms needed if Bulgaria is to move to a Lisbon agenda growth path. In addition to increasing productivity, the Lisbon agenda targets increasing the employment rate to 70 percent by 2010, which implies increasing labor market participation and reducing unemployment rather than discouraging the labor market supply. These objectives cannot be taken lightly by Bulgaria since, in addition to its large income and productivity gap in relation to EU-25 and the demographic discount, its labor market is performing poorly. Bulgaria has the second lowest labor market participation (49.4 percent versus 58 percent in EU-25 in 2003) and the lowest employment rate compared to EU-25 (43.6 percent versus 53 percent in EU-25 in 2003). Simple estimates indicate that if Bulgaria is to meet the Lisbon labor market performance targets by 2010, employment would need to increase by about 8 percent per year in 2005-10, and labor market participation would need to increase by about 4.5 percent per year during the same period. Meeting the Lisbon labor market performance targets could be challenging even if these targets were met by 2020—employment and labor market participation would need to increase by 3.5 percent and at least 2 percent per year, respectively, over the next 15 years.

7. Convergence implies that Bulgaria needs to increase its productivity and labor market participation. Simple estimates indicate that in order to double the per capita income in 20 years so as to reach two-thirds of the EU-25 per capita level, GDP per worker would need to increase by at least 5.5 percent per year. The trend in the declining labor force implies that labor productivity needs to increase by about 1 percentage point per year just to compensate for the impact of the decline in the labor force on per capita income. This increase would need to be larger if labor market participation remained low. Productivity growth cannot compensate for low labor market participation. Even if productivity were to increase, without an increase in labor market participation to 70 percent by 2015, Bulgaria's per capita income would remain below one-third of the EU-25 level.

8. **A broad reform agenda, therefore, lies ahead if Bulgaria's performance is to improve and the demographic discount is to be compensated by increasing productivity and employment.** The large income differences between Bulgaria and the EU-25 and NMS-8 countries reflect gaps in productivity, in the physical and human capital stock, in the functioning of products and factor markets in the economy, and, more generally, in the quality of the policy and institutional frameworks. Bulgaria should build on its achievements to date to accelerate real convergence. An analysis of the drivers of growth on the aggregate demand side and the sources of growth on the factor side outlines the central challenges in growth and competitiveness.

9. **From this perspective, five areas are central in defining a core agenda: productivity and growth, trade and investment integration, public expenditure policy, labor market adjustment, and the regulatory and institutional framework.** Chapter 1 focuses on stability, growth dynamics, and integration. The analysis of these three fundamental dimensions over time is complemented with cross-country comparisons. Chapter 2 examines the foundations of Bulgaria's growth performance over the last several years in terms of the drivers of growth, intra-sectoral restructuring, growth accounting, and potential output growth. Trade policy, trade and FDI dynamics, and recent trends in trade performance are examined in Chapter 3, while Chapter 4 discusses the reforms needed in public expenditure policies to support deepening trade integration. Chapter 5 covers labor market performance and labor market policies and institutions. In Chapter 6, selected dimensions of the institutional framework for growth and competitiveness are examined, and Chapter 7 discusses macroeconomic policies aimed at addressing risks and vulnerabilities and supporting progress in monetary integration. Finally, Chapter 8 presents a summary of the main conclusions drawn from the report.

A. GROWTH DYNAMICS

10. **The growth of aggregate demand components shows a relatively strong bias towards consumption relative to investment.** On the aggregate demand side, close to 90 percent of the average GDP growth in 2000-04 was due to total consumption and was driven mainly by private consumption. The growth of total consumption represented about 4.5 percentage points of an average growth rate of 4.9 percent per year during this period. With sustained growth and relatively low inflation resulting in improvements in income levels and purchasing power, the growth of private consumption has been robust at about 3.5 percentage points of an average GDP growth rate of 4.9 percent per year. In contrast, gross domestic investment's contribution to growth averaged of 2.9 percentage points, despite its rapid growth by 14 percent per year in 2000-04. This is largely due to Bulgaria's relatively low level of investment of around 21 percent of GDP during the same period.

11. **Bulgaria's investment gap relative to that of other countries in the region is large.** The average investment rate to GDP in Bulgaria in 1991-2004 was 17 percent compared to an average of 25 percent in NMS-8. This reflects a long-standing neglect of investment in Bulgaria despite the rapid increase of debt up to 1997. Later, the legacy of high indebtedness limited both public and private investment, and it is only recently that investment has started to recover from a trough of 10 percent of GDP in 1997. Investment to GDP has been recovering more rapidly since 2003, increasing to 23.5 percent of GDP in 2004. Stabilization and structural reforms have

improved the investment climate and as a result the private sector—whose share is about 73 percent of total investment—leads in carrying out most of the investment. Similarly, foreign direct investment is playing a central role in rebuilding Bulgaria's capital stock. An average of about 7 percent of GDP per year during 2000-04 may be reaching a critical mass needed to improve efficiency and deepen integration with the external markets. Nevertheless, an investment gap of 8 percentage points of GDP relative to NMS-8 is indicative that the level of investment remains an important challenge in Bulgaria. Two aspects are central to addressing this challenge: one is the mix of public and private investment, and the other is the trade orientation and factor intensity of investment.

12. While private investment has accelerated, it lacks an essential complement in basic public infrastructure, as gross domestic fixed investment by the public sector has declined sharply. Gross domestic fixed investment by the private sector more than doubled, from 6.4 to 14 percent of GDP between 1998 and 2002. In contrast, fixed investment by the public sector declined from 6.7 to 4.3 percent of GDP during the same period. This decline can be explained partly by the legacy of high indebtedness of the public sector, but for the most part it is due to growing imbalances between public current and capital expenditures while fiscal consolidation was being implemented. Indeed, fiscal savings from debt reduction were redeployed into social spending, which now accounts for about 37 percent of the budget. Public capital expenditures and operations and maintenance outlays, on the other hand, bore a heavy brunt in the fiscal adjustment. This trend began to be reversed only in 2003. As a result, private investment lacks an essential complement, owing to deficiencies in basic public infrastructure, particularly in the transport network.

13. Deficiencies in the basic public infrastructure essential to international trade may well be helping to bias investment towards domestic markets relative to external markets. Reaching distant markets is likely to be more costly, and therefore less profitable, than selling in domestic markets, owing to their proximity to producers in Bulgaria and scope to mark up domestic prices. While higher transport costs of imports can be transferred to domestic consumers through higher domestic prices, competitive pressures in external markets limit the extent to which Bulgarian exporters can transfer these costs to consumers in foreign markets through higher prices. Moreover, the infrastructure deficiencies, together with the accumulated appreciation of the exchange rate, are all the more serious, since they are likely to make selling in more distant markets, such as EU markets, more costly compared to producers located closer to EU markets or with better infrastructure than producers located in Bulgaria. The pattern of the trade orientation of investment shows a bias towards servicing domestic markets relative to external markets, although infrastructure deficiencies are not the only factor at play.

14. Investment in sectors oriented toward servicing the domestic market constitutes a disproportionately large share of total investment, one that has expanded faster than outward-oriented investment during 1998-2003. The analysis of gross domestic investment in this report distinguishes two categories: (i) outward-oriented investment includes investment in sectors with net export receipts exceeding 30 percent of total receipts from sales; and (ii) inward-oriented investment includes investment in sectors with net export receipts below 30 percent of total receipts from sales, and hence these sectors are predominantly oriented to servicing the domestic market, and include nontradables. Investment in sectors oriented to service the

domestic market increased by about 9 percentage points of GDP over 1998-2003, reaching a level of 21 percent of GDP in 2003. In contrast, investments in outward-oriented sectors experienced a modest growth of only 1 percentage point of GDP during the same period, reaching a level of 4 percent of GDP in 2003. The expansion of investment in sectors oriented to servicing the domestic market has been concentrated in wholesale and retail trade, energy, and real estate and business services. The modest increase of investment in outward-oriented sectors took place mostly in the manufacturing of textiles and textile products and the manufacturing of basic metals.

15. Similarly, investment is biased towards nontradables and resource-intensive activities. Investment in nontradables and in resource-intensive activities experienced the largest expansion over 1998-2003. Investment in nontradables increased by 6 percentage points, reaching 15 percent of GDP, and investment in resource-intensive activities increased by 2.2 percentage points, reaching 6 percent of GDP in 2003. Investment in low-tech-unskilled labor-intensive tradables increased by about 1.5 percentage points of GDP over the same period, reaching a level of about 3.1 percent of GDP in 2003. In contrast, the expansion of investment in medium to high-tech-intensive tradables showed the smallest increase: 0.2 percentage points over 1998-2003, and the investment to GDP ratio in these activities was under 1 percent. Therefore, export capacity is low and is dominated by unskilled labor-intensive products.

16. As a result, the economy has yet to move to a more solid path of developing export capacity. As a result of adopting liberal trade policies, trade in goods and services expanded from 95 to 117 percent of GDP between 1998 and 2003, and reached 127 percent in 2004. At this level, Bulgaria compares well with the NMS-8 average trade of 124 percent of GDP in 2003. However, this ratio masks Bulgaria's relatively limited export capacity. Bulgaria's imports of goods were about 50 percent of GDP which is not far from the average of 54 percent of NMS-8. Nevertheless, the difference in terms of exports of goods to GDP is twice as large—37 percent of GDP for Bulgaria compared to an average of 46 percent for NMS-8.

17. Moreover, the economy has yet to build up its export capacity beyond unskilled labor-intensive products. Exports are dominated by unskilled labor-intensive products, and final manufactures of consumer goods and automobiles and parts dominate imports. Reflecting the patterns of investment, exports are dominated by such unskilled labor-intensive activities as textiles, leather, and furniture, which represented about 41 percent of Bulgaria's total exports; another 31 percent consists of natural resource-intensive products. Capital and skilled labor-intensive exports, in contrast, showed only a small gain of 2 percentage points between 2002 and 2003, reaching a share of about 29 percent.

18. Imports are dominated by final manufactures of consumer goods. On the imports side, final manufactures of consumer goods, together with imports of automobiles and parts, represented on average 60 percent of total imports in 2000-03 and showed the largest expansion during this period. In contrast, imports of machinery and equipment, excluding automobiles, and industrial raw materials represented, on average, 25 percent of total imports and showed a modest expansion from 24 to 26 percent of total imports between 2000 and 2003. While more productive activities may be emerging, these advances seem to be at an early stage and have not reached a critical mass that can be observed at aggregate levels. These trends reflect the

improved, but still limited ability of the Bulgarian economy to benefit more fully from trade integration with EU and global markets, and to adjust to changes in market conditions.

19. As a result, Bulgarian exports have been less responsive to market opportunities than the exports of other countries in the region. As the Bulgarian economy was moving towards a vigorous recovery in 1999, and as Bulgarian exports began a slow recovery in 1999-2000, the world economy entered a downturn in 2001. Growth rates in high income economies fell sharply from above 3.5 percent in 2000 to less than 1 percent in 2001. This downturn in the world economy and the sluggish recovery since then has had an impact on the export performance of most of the CEEC. For example, Hungary and Romania experienced a sizable decline in exports of goods between 2000 and 2001—1.9 billion euros or about 8.7 percent in the case of Hungary, and 1.1 billion euros or 6.1 percent in the case of Romania. Hungary's exports began to recover in 2003 and Romania's a year earlier. In contrast, the magnitude of the decline was larger in Bulgaria—about 10 percent—and the recovery has been slower than that in Hungary and Romania. The incentives to producers in Bulgaria to turn to the domestic market when external markets weaken seem to be stronger than in Hungary or Romania.

20. The Currency Board Arrangement combined with the euro appreciation against the US dollar compounded a price bias in favor of nontradables which has not been compensated by a more adaptable economy that reallocates resources from lower to higher productivity activities. Between 2001 and the middle of 2004, the lev to euro exchange rate appreciated in real terms by nearly 30 percent when nominal rates were deflated by consumer price indices (CPIs). At the same time, the producer price index (PPI) based measure appreciated less than 10 percent during the same period.

21. The flip side of the coin is that the productivity of tradables is increasing faster than that of nontradables. The mechanics of this effect take place as the productivity of tradables rises faster than that of nontradables and the relative price of nontradables increases faster relative to tradables in Bulgaria. This takes place more rapidly than in the euro zone, where the gap between the productivity of tradables and nontradables is lower. Hence, productivity differentials contribute to the more rapid growth of prices in Bulgaria relative to the euro zone. However, not all of the accumulated real exchange rate appreciation of the lev to the euro can be attributed to productivity differentials, in the presence of significant impediments to resource reallocation from lower to higher productivity activities.

22. No more than half of the observed appreciation is due to the effect of productivity differentials; the other half is related to the combined effects of impediments to resource allocation. Based on the available estimates of the possible magnitudes of the effect of productivity differentials on real exchange rate appreciation, no more than half of the observed appreciation of the lev can be attributed to faster increases in the productivity of tradables relative to nontradables (called the Balassa-Samuelson effect). The other half is related to the combined effects of important impediments to resource reallocation towards more productive activities. Limited labor market adjustment, deficiencies in basic infrastructure, limited competition in the domestic markets, and the remaining deficiencies in institutional quality have contributed to a price bias in favor of nontradables. As will be discussed below, implementing reforms to substantially reduce these constraints is all the more pressing, given that, as in other

CEECs, interest rate differentials between Bulgaria and Western European economies have resulted in larger short-term capital inflows, which also contribute to the recent acceleration of real appreciation.

23. Indeed, growth is being driven mostly by total factor productivity. The growth accounting analysis for the period 1998-2003 shows that total factor productivity contributed 3.8 percentage points of the GDP growth of 4.1 percent per year, with capital accumulation contributing 0.5 percentage points, while the labor force contribution was -0.2 percentage points. This implies that to a large extent, on average, growth in 1998-2003 was driven mostly by the shedding of excess capacity and the elimination of inefficiencies, while upgrading of capital stock is at an early stage with the contribution of the labor force acting as a brake.

24. Nevertheless, large inefficiencies remain. At a first glance it appears that Bulgaria's inter-sectoral restructuring of the economy is evolving towards a more efficient structure of production. Namely, the shares of agriculture and industry in GVA have been declining, while the service economy has become an increasingly important source of income. In contrast to NMS-8, however, the share of employment in agriculture in Bulgaria increased from 18.5 to 25.5 percent between 1990 and 2004. The decline in the share of employment in agriculture in NMS-8 was about 7 percentage points during the same period. Clearly, productivity in agriculture in Bulgaria has fallen sharply and a large share of employment is locked into a sector which has low and declining productivity.

25. A key reason for this is that adjustment in sectoral employment in Bulgaria has been more limited than that observed in the New Member States. The departure indexes provide an estimate of inter-sectoral labor adjustments relative to two comparators: EU-North and EU-South. The departure index of Bulgaria, estimated at 24 for 1989, improved by about 2 points with the index declining to 22 by 2003. In contrast, the departure indexes of selected CEEC improved by 7 points, reflecting significantly larger labor adjustments in these economies during the same period. Furthermore, the expansion of services has been more pronounced in Bulgaria than in the NMS-8. Between 1990 and 2004, the share of services in GVA increased from 31 to 59 percent while the share of employment in services increased from 37 to 47 percent. The expansion of the share of services in GVA and the share of employment in the NMS-8 was 20 and 13 percentage points each.

26. A closer analysis of sectoral investment shows that the impact of inward-oriented investment on labor productivity is limited but that of outward-oriented investment is large. Furthermore, small increases in investment in the outward sectors have had a higher payoff in terms of labor productivity. Outward sectors enjoyed a gain in labor productivity (as measured by the GVA per worker) of 61 percent between 1998 and 2003, or an increase in labor productivity 4 times higher than the increase in labor productivity associated with inward-oriented investment. Under real exchange rate pressure, investors in outward-oriented sectors are compelled to use the factors of production more efficiently and to adapt new technologies in order to stay competitive in the international markets. Competitive pressures in the domestic market do not seem to be as strong.

27. **A focus on firm level performance shows that large firms are far more productive than small and medium enterprises.** The private sector in Bulgaria is characterized by a relatively small number of large firms, some of which are foreign owned, which are growing rapidly and generating high levels of productivity and are working fairly isolated from small and medium enterprises. Small and medium enterprises exhibit large inefficiencies. Statistical analysis also shows that foreign direct investment (FDI) flows and exports are positively associated with higher productivity but the relation is not statistically significant for the economy as a whole. However, a closer look at the sectoral composition of FDI flows shows that a large share of FDI is in services, and only a small share is in the tradable sectors. Hence, FDI flows in tradables have not reached a sufficient critical mass to have a robust positive impact on productivity. On average in 1998-2003, about 60 percent of FDI in Bulgaria was located in services, with more than half of these flows in the financial sector and only about 30 percent is in tradables—nearly all in manufacturing. Similarly, exports are dominated by unskilled labor-intensive products, which explain the weak statistical relation between exports and productivity indicators at the firm level.

28. **Thus, it is not surprising that there is prima facie evidence that growth is below its potential level and the factors of production are underutilized:** (i) firms are operating at 70 percent of production capacity; (ii) labor market participation is very low; and (iii) a large share of employment remains in largely unproductive segments of the economy or in activities where productivity is stagnant.

29. **Potential output growth was estimated using a growth cycle model which mimics the growth path of the economy of Bulgaria.** In essence, estimates based on a growth cycle model aim to outline the interplay of key determinants of alternative growth paths. Growth performance is determined by the rate of capital accumulation, by the accumulation of human capital (which may be achieved by improvements in the quality or skill content of the labor force), by total factor productivity, and by the policy and institutional environment that supports an efficient resource allocation in the economy. The rate of potential output growth is determined by the rate of expansion of new investment and the phasing out of old, outdated capital stock. The rate of expansion of new investment is determined by domestic savings, the capacity to attract FDI flows, and the ability to transform old capital into new capital. FDI flows are a function of the expectations held by foreign investors about possible future profits, which are largely determined by the profitability of economic opportunities and the predictability of the institutional framework. The former is linked to the flexibility of the goods and factors markets, and the latter is linked to the extent that Bulgaria can move to a predictable rules-based institutional framework.

30. **Estimates based on the model mimic very well the growth cycle of Bulgaria during the period 1990-2003.** The estimates of the model follow closely the sharp protracted contraction of output up until the 1996-97 crisis and the vigorous recovery since then. On the basis of these estimates, three alternative potential output growth paths were calculated. The slowest growth path aims at reflecting a scenario that would occur if Bulgaria were to lose momentum in implementing reforms and investment were to slow down relative to recent trends. The second higher path aims at reflecting recent performance. And the highest path aims at reflecting a possible path, if a core reform agenda proposed in this report were to be implemented. It is only

under the third path that Bulgaria could rebuild its capital stock² at a pace at which the effects of its lowest point in the 1996-97 cycle could be eliminated in the medium term.

31. The estimates of the growth cycle model point to several important policy implications. First, for additional capital accumulation to deliver high efficiency gains, disincentives to investment in outward-oriented activities need to be substantially reduced. While FDI flows are to a large extent filling the gap between domestic savings and investment, in the long term Bulgaria's low domestic savings represent a constraint to reaching the potential output growth. Second, significant improvements in the skills content of the labor force are needed to compensate for the demographic discount and to increase labor productivity in order to develop an export capacity beyond unskilled labor-intensive production. As discussed in Chapters 3 and 4, addressing the deficiencies in the transport network for trade facilitation and significant skills mismatch is central to these two challenges. A third implication is that the economy needs further restructuring to eliminate the remaining large inefficiencies. The incentive structure resulted in shifting a large share of employment to largely unproductive segments of the economy, or areas where labor productivity is largely stagnant. With a demographic discount on growth, Bulgaria cannot afford to have a large share of employment locked into unproductive activities or activities where labor productivity is stagnant, or where labor market participation is low; nor can it afford to reduce unemployment by discouraging labor supply (see Chapter 5). Without substantial increases in labor market flexibility, the risks are substantial that the economy will remain locked into low wages and a low productivity growth path. Finally, a fourth implication is that institutional quality needs to improve if productivity growth is to increase (see Chapter 6).

32. Policy and institutional reforms are central to moving to the higher growth path. A simple cross-country panel analysis shows that growth performance could be improved if Bulgaria were to catch up to the extent of the reforms already achieved by the strong performers among the New Member States. While structural reforms have improved the policy and institutional framework in Bulgaria, they still lag behind the extent of the reforms in the New Member States.

33. In particular, as indicated earlier, competition in the domestic market is still limited by an overly complex regulatory environment, poor contract enforcement and a poorly performing labor market. These conditions create rents that lock resources into sub-optimal uses. Notwithstanding the important progress made in simplifying the regulatory framework in the last few years, the entry and exit of businesses in Bulgaria is not easy, fast, or cheap. The number of procedures involved in opening a business is larger than in selected countries in the region—11 procedures in Bulgaria compared to 6 in Estonia and 4 in Ireland. Bulgaria has the highest capital requirement as a share of per capita income in Europe—117 percent of per capita income in Bulgaria compared to 50 percent in Estonia, and there are no capital requirements in Romania and Ireland. The time needed to execute insolvency in Bulgaria has been reduced from 3.8 years to 3.3 years, but it is significantly high compared to 2 years in Hungary, 1.1 years in Latvia and 0.4 years in Ireland. The cost of closing a business is also higher than in other countries in the region. The procedures for contract enforcement are significantly more complex in Bulgaria than in other countries in the region (34 procedures in Bulgaria, compared to 25 in

² In this report the term capital stock refers to the economic rather than a financial definition.

Estonia, 21 in Hungary, and 16 in Ireland). Complexity in enforcing contracts and inefficiencies in the court system contribute to the fact that businesses in Bulgaria rely more heavily on cash transactions than on the more efficient, sophisticated, and contract-intensive forms of payment employed by other countries in the region. Bulgaria shows low contract intensive money (CIM), or ratio of non-cash fraction to broad money (M2), over the last several years compared to other countries in the region, including Estonia and Romania, or the median observed in Eastern Europe.

B. THE CORE REFORM AGENDA

34. The core reform agenda proposed in this report is centered on achieving successful integration with the EU and the global markets. Bulgaria should build on its achievements to date to accelerate real convergence by expanding efficiency gains and competitiveness more broadly across the economy. To this end, Bulgaria needs to continue to act on several fronts, as it has done since 1998, and define a core agenda of reforms to deepen trade integration with the EU and global markets. For Bulgaria to move towards potential output growth and become more competitive, policies and economic restructuring need to focus on achieving higher economic efficiency and productivity supported by a fiscally sustainable and well-targeted social protection system.

35. This report proposes a core reform agenda that focuses on five areas. These areas are: (i) improving the quantity and quality of human capital accumulation by focusing on upgrading labor skills; (ii) improving the quantity and quality of physical capital by upgrading the transport network; (iii) promoting efficient and transparent public sector management including further public expenditure restructuring; (iv) enhancing labor market performance and the creation of employment by implementing labor market reforms that balance better labor adjustment, the creation of employment, and the management of unemployment risks, and that include the rationalization of the social protection system to enable the reduction of payroll taxes; and (v) improving functioning of the judiciary and reducing regulatory complexity in order to improve competition in the domestic market, and reliance of economic transactions on contracts and their efficient enforcement. This core agenda needs to be supported by macroeconomic policies that address risks and vulnerabilities and that make progress towards monetary integration.

36. The urgent need for reform that move towards a Lisbon growth path is more pressing for Bulgaria than for other countries whose demographic discount is not as large. First, Bulgaria's economy needs further restructuring to eliminate the remaining large inefficiencies. The incentive structure had resulted in the shifting of a large share of employment to largely unproductive segments in agriculture. With a demographic discount on growth, Bulgaria cannot afford to have a large share of employment locked into unproductive activities, or into low labor market participation, nor can it afford to reduce unemployment by discouraging labor supply. Second, if additional capital accumulation is to deliver high efficiency gains, disincentives to investment in outward-oriented activities need to be substantially reduced. A third implication is that significant improvements in human capital accumulation are needed to compensate for the demographic discount and to increase labor productivity to develop export capacity beyond unskilled labor-intensive production. A fourth implication is that institutional quality needs to improve if productivity growth is to increase.

C. UPGRADING SKILLS OF THE LABOR FORCE

37. **The first core area of reform is to upgrade skills of the labor force.** Bulgaria needs to implement a major shift in the paradigm of the education system, including universities and vocational schools, to address the declining size of cohorts, to generate the skills needed to compete in the global markets, and to improve access by disadvantaged groups. Improving the efficiency and effectiveness of public expenditures in education is particularly important, given the objective of improving labor productivity, which is needed for raising the wage income and for expanding the export capacity beyond unskilled labor-intensive products. Despite increases in the level of expenditures, the indicators of the quality of education, such as scores in mathematics and science, are below those observed in other CEECs with similar levels of expenditure on education. Furthermore, there is evidence that the education system generates significant skills inadequacies which contribute to a very large unemployment rate among recent graduates. Similarly, a survey conducted for this report indicates that foreign investors are experiencing difficulty in finding workers with the skills they need. Businesses report that the skills gap applies to technical specialists, qualified business managers, and other skilled job streams needed for operating modern competitive businesses. As result of this skills mismatch, firms must incur the high cost of training new hires, which in the case of software companies and other high-tech companies could include three to six months without any productive input from these workers.

38. **The direction of reforms in the education system should be driven by three criteria:** (i) improving the efficiency and effectiveness of public outlays on education, including the quality of education and access to education by vulnerable groups; (ii) strengthening the links between the skills acquired in the education system and those needed in the job market; and (iii) developing an accreditation and certification system. Key reforms recommended include the following:

- *Reallocating resources from a surplus capacity in teaching staff and underused facilities to other essential quality-enhancing inputs*, including the modernization of curricula, textbooks, and teaching materials. The reallocation of resources is also needed to address the acute deterioration of education facilities and teaching equipment.
- *Implementing a composite per student resource allocation*. An efficient mechanism finances outcomes, in this case students and the quality of the education they acquire, rather than financing inputs which, in the case of Bulgaria, are mostly teachers. Per student allocations should be differentiated to reflect differences in the cost of education levels and specialization, to improve access to education for disadvantage groups, and to account for cost differences arising from the learning needs of students. Differentiated per student financing formulas should be designed carefully to avoid simply reflecting the current per student costs of different levels and facilities, as this simply perpetuates inefficiencies. Measures that will increase cost recovery in universities to 30 percent, as specified by the law, including raising fees, should be implemented.
- *Moving towards a more advanced approach to education by financing educational results and not just enrollment levels*. Expanding the role of private education providers

and strengthening competition based on outcomes can be an important force in improving the quality of education. In general, countries using this approach condition their payments to private education providers upon agreed education targets in terms of learning achievements.

- *Consolidating the staffing and facilities of the education system.* Per student resource allocation policy needs to be complemented by a plan to consolidate staffing and facilities. Unless financial policy is supported by a program to consolidate staffing and facilities in the education system, Bulgaria will continue to have schools which are overcrowded in some urban areas while other facilities are being nearly empty. Consolidating facilities will require providing transportation to students from smaller to larger facilities.
- *Addressing the skills mismatch gap.* The education reform strategy needs to shift toward adopting automatic mechanisms and feedback rules to link the education system with labor market conditions, rather than relying so heavily on centralized planning mechanisms. First, the provision of education services should be demand-driven and based on job performance. Adopting a composite financing per student policy supports a system in which the demands of students and parents determine which educational programs expand and which contract. Second, stronger competition among education institutions, including universities, for public resources and private sector funding is needed. This would also help to attract the best teachers and students, and would improve the academic attainment and job performance of graduates. Third measure is that both academic attainment and job performance should be monitored and disclosed at the level of individual institutions.

D. UPGRADING THE TRANSPORT NETWORK

39. **The second core area of reform focuses on upgrading of the transport network.** Addressing Bulgaria's large basic infrastructure needs will take time. The conditions are poor in close to two-thirds of the road network. According to a recent field survey by the World Bank, bottlenecks are emerging along road segments that carry international traffic. Furthermore, port efficiency is low at about 54 percent of EU-15 levels; this compares poorly with 84 percent in Romania, 90 percent in Estonia, and an average of 73 percent in the New Member States. The direction of reforms needs to be driven by undertaking cost-benefit analyses of these investments and addressing the challenge arising from the liberalization of international trucking in the context of EU integration. Reforms that would upgrade the transport network include the following,

- *High priority should be given to long distance international traffic.* Investments first need to address the emerging bottlenecks along road segments that carry international traffic. These investments also need to address the problem that the road system for international traffic passes through many small towns and villages.

- *In parallel, reforms of maritime ports are urgently needed* since these ports, together with a road system for long distance international traffic, are essential to international trade and to deepening integration with the EU. The best international practice for supporting international trade in this area includes the introduction of the landlord port, with the separation of operational and commercial functions, the privatization of port services, and the concessioning of large container and bulk terminals to private operators.
- *In setting priorities in road investment for long distance international traffic, maintenance has the highest priority and new construction has the lowest.* Since road investments compete for limited resources, the preservation and rehabilitation of the existing assets has a higher priority than new construction.
- *Bulgaria should adopt transparent and competitive procurement for all civil works.*
- *Public-private partnerships should be entered into only if they offer value for money as determined by a public sector comparator.*

E. PROMOTING EFFICIENT AND TRANSPARENT PUBLIC SECTOR MANAGEMENT, INCLUDING FURTHER PUBLIC SPENDING RESTRUCTURING

40. **The third core area of reform is to implement further public expenditure restructuring and to improve the efficiency and transparency of public administration.** With about 40 percent of the resources of the economy under the command of the public sector, improving the efficiency and effectiveness of public expenditure policies is central to Bulgaria's growth prospects. In general, inefficiencies in public expenditure are more detrimental to productivity and to growth prospects because they affect efficiency across a wide spectrum of activities in the economy. The strategy of having the public sector focus on the efficient delivery of public goods, including an efficient and effective social safety net, while the private sector leads in the expansion of investment, output, and employment, has served Bulgaria well. Bulgaria should remain on this path and should accelerate its progress towards this end to continue improving economic performance. Increasing in the efficiency of public expenditure and improving the efficiency and transparency of public administration in general, and in two high priority areas in particular, are needed to improve competitiveness.

41. **To make room for spending to upgrade labor skills and the transport network and to maintain it in the face of an aging population, Bulgaria will need to rein in the rapid growth of expenditures in the pension and health care systems and the social assistance system.** Public expenditures on the social protection system increased from 8 percent of GDP in 1996 to close to 14 percent by 2004 and now account for about 35 percent of the budget. This is due to a combination of demographic trends, with a rapidly aging population, high unemployment, and the broad scope of the social assistance system. However, the efficiency and effectiveness of the social protection system has significant room for improvement—8 of every 10 Bulgarians receive at least one social benefit, including pensions, but only 1 in 3 is poor or

old. With one of the fastest aging populations in the region, the financial pressures are large and are increasing rapidly. Reforms in the social protection system are urgently needed to enable the reduction of the very high payroll taxes, which have created significant incentives for the informal economy and for tax evasion, and limit job creation.

42. **Deepening social security reform.** Despite substantial reforms since 1999 when Bulgaria moved to a three pillar system, its social security system is not aligned with demographic trends. As a result, payroll taxes are very high and provide incentives to the informal economy and to the under-reporting of income, both of which exacerbate the demographic trend of rising dependency ratios. The reforms recommended include the following:

- *Continue to implement reforms to contain financial imbalances.* Containing financial imbalances would entail mainly increasing the retirement ages further or reducing benefits. This reform path requires at least two additional measures: (i) implementing strict discipline in the use of the disability pension system which is currently still prone to fraud and abuse; and (ii) implementing the strict collection of contributions. The former needs both strict certification and steep sanctions for fraud and abuse. Making the National Revenue Agency operational is essential to improving revenue collection. Under this first reform scenario, reductions in the payroll tax are likely to remain limited to the extent that the contribution base can be expanded. However, risks to the system's financial and fiscal sustainability may increase over time owing to demographic trends, and may be magnified by periods of low economic growth.

43. Given the substantial financial challenges involved, detailed actuarial work is needed to assess the implications and the feasibility of alternative reform paths to deepening social security reform. Clearly, the most risky scenario financially, with potentially serious outcomes, is not to consider reform options to address the rapidly growing financial pressures.

44. **Reforming the health care system.** Despite increases in public expenditures and attempts at rationalization, improvements in the efficiency of public expenditures on health care and health indicators have been at best modest. Under the current trends, their fiscal sustainability is questionable. Reforms are needed to address the concurrent problems of rapid increases in health expenditures, surplus capacity in health care staffing and facilities, deterioration in the quality of facilities, and inadequate modernization of equipment. A new strategy is needed to address financial sustainability in general, and informal payments and corrupt practices in particular, as well as to improve quality and access. Several reforms are being discussed including:

- *Developing of a basic health care package.* The reform envisions universal coverage under the basic package.
- *Developing of a private voluntary health care insurance supplemental to the basic health care package.*

- *Funding high tech and expensive treatments.* These treatments would be funded by the state in an amount of additional payment inversely proportional to the value of the services.
- *Providing options in the ownership and management of hospitals.* The reform envisions providing free choice of health care providers so that hospitals compete on the basis of the price and quality of their services.
- *Subsidizing the NHIF for paying the full cost of the medical services of disadvantaged citizens.*

45. As in the case of pensions, careful analysis of reform options is needed in order to assess their implications in terms of financial sustainability and the provision of health care services. However, as the experience of the reforms of the last several years shows, health care financial policy reform will need to be supported by measures to restructure and consolidate the surplus capacity in health care staffing and facilities.

46. **Reforming the social assistance system.** There are large inefficiencies in the social assistance system, as is illustrated by its negligible impact on poverty. The system is highly fragmented, with more than 34 programs. The largest program is that of the Guaranteed Minimum Income which in the last few years has improved its targeting and effectiveness. However, for the most part, there is considerable scope for improving the targeting of the social assistance system. The recommended reforms include the following:

- *Consolidating the social assistance system in the direction of in-cash and income support mechanisms.*
- *Training social workers to better identify poor households.*
- *Improving information systems to facilitate means testing and reduce the payment of duplicative benefits.*
- *Expanding communication activities to inform beneficiaries about eligibility criteria and application procedures.*

47. **Public sector reform:** Over the last two years, Bulgaria has implemented important reforms aimed at improving the functioning of the public sector. A large number of laws and regulatory reforms aimed at achieving these objectives were implemented in 2002-03, and the first steps in implementation were taken in 2004 and early 2005. These included amendments to the *Civil Service Law* and the *Law on Administration*, the development of sectoral anti-corruption strategies, and the enactment of the new *Public Procurement Act*. Similarly, further progress was made in developing the Medium Term Fiscal Framework (MTFF) by strengthening the links between budget allocations and performance indicators and implementing, for the 2005 budget, guidelines for capital expenditure planning and appraisal. The next stage of reforms should focus on implementing fully the new legislative and regulatory framework. Key reform measures include the following:

- *Strengthening public expenditure management:* (i) completing the development and implementation of the MTFE to strengthen the links between budget allocation and performance indicators—program budgeting should be extended to all ministries; (ii) incorporating the expenditure accounts of the judicial system into the budgetary payment system; and (iii) developing and making fully operational a financial management information system.
- *Improving public administration:* (i) implementing fully the merit criteria for hiring, promotion and salary increases provided by the new legislation embodied in the Civil Service Law and the Law on Administration in order to depoliticize the civil service; (ii) completing functional reviews of all ministries and agencies supported by the central budget, and, based on its findings, implementing a restructuring program for the public sector; and (iii) increasing the scope and number of administrative services subject to formal competitive processes, outsourcing these services, and generating analyses of the savings generated.
- *Improving public sector governance and financial accountability:* (i) simplifying an overly complex legislative and regulatory framework (see Chapter 6); (ii) implementing national and sectoral anti-corruption strategies; (ii) enforcing fully the new regulations relating to conflicts of interest and asset declarations and the code of ethics introduced in 2004, and ensure mechanisms for verification of asset declaration; (iii) implementing transparent and competitive procurement for all civil works including those emerging from extra budgetary funds; and (iv) implementing internal and external auditing in all government entities, making evaluation reports publicly available, and implementing remedial actions based on the findings of the reports by NAO and PIFCA.

48. Substantial rationalization of public expenditures should provide solid support for the continued improvement of the efficiency of revenue policy and should reduce the tax and social contributions burden on the economy. The operationalization of the National Revenue Agency should not be further delayed and the rationalization of public expenditures, including expenditure cuts, should be implemented more decisively, if tax policy reform is to proceed on more solid ground. In the last four year, several tax rates have been reduced consistent with the strategy to reduce reliance on direct taxation and expand the role of indirect taxation in tax revenues. Despite the recent reduction in several tax rates, deficiencies in tax policy, particularly in revenue administration, contribute to a sizable, albeit declining, informal economy, and to tax evasion, and also limit employment creation. Reforms needed to operationalize the National Revenue Agency should not be delayed further. Reforms aimed at reducing payroll taxes, supported by labor market reform, are a high priority for enhancing labor adjustment in order to improve and expand efficiency gains more broadly across the economy.

49. To translate the efficiency gains resulting from public expenditure policy and public sector reforms into higher productivity levels in the economy, the Bulgarian economy depends on labor market adjustment. Upgrading the basic infrastructure and the skills content of human capital will have a limited impact on improving productivity more broadly across the economy unless the labor market reallocates labor from low to higher productivity activities.

F. ENHANCING LABOR MARKET PERFORMANCE AND EMPLOYMENT

50. **The fourth core area of reform is to improve labor market performance and the creation of employment.** Reform of labor market regulations to adopt some of the best practices in the EU can enhance creation of employment and the expansion of productivity gains more broadly across the economy, in order to benefit more fully from economic integration with the EU. Bulgaria has some of the most inflexible conditions of employment, with tight restrictions on working schedules. The terms of leave and working hours are more generous than the average for countries in the region. The combination of rules for dismissal and generous sick leave benefits are a major disincentive to work, and hinder the creation of employment. As discussed in the main report, in Bulgaria, high payroll taxes hinder net job creation and contribute to the informal economy.

51. **Labor market reforms are urgently needed to better balance the need to enhance labor performance, create employment, and manage unemployment risks.** The current framework provides large benefits to those with labor contracts and seniority, leaving behind a large share of the long-term unemployed with few job opportunities and leaving a larger share of workers in the informal sector with almost no coverage of social risks. This is not equitable, efficient, or sustainable. While labor market reforms are essentially a social compact and hence are determined by the country context reflecting social preferences and tolerance, the experiences of other countries in the region offer useful points of reference.³ The reforms recommended in this report include the following:

- *Strengthening the links between wages and salaries, and performance.* Wages should be better aligned to performance and labor productivity rather than seniority. The legislation in Bulgaria, however, includes the provision of an annual seniority bonus, which, over time, led to the creation of a second tier component in workers' remuneration—the cumulated seniority premium that often account for a significant share of total pay for older workers. Many firms discount the seniority premium from the basic salary, and pay a total wage that is the same for workers in the same occupation and with same skills regardless of their cumulated work experience. But this practice is not possible in labor intensive industries (e.g. textile) where many workers are at the minimum wage, reducing job creation especially among older workers. The seniority premium should be folded into the basic wage in a once-and-for-all change, and the practice and portability of the seniority premium should be eliminated. Similarly, given the wide variance in productivity by sectors and firms, the links between wages and salaries and performance should be strengthened at the firm level rather than being mandated these at the sectoral or economy-wide level.

³ The 2004 Report of the EU Economy by the European Commission shows that the labor market reforms of the United Kingdom, Denmark, the Netherlands, and Ireland have been successful in terms of employment and labor market participation.

- *Adopting policies for a flexible use of fixed-term contracts and working schedules.* The current Bulgarian labor code includes fairly restrictive rules on working time. In particular, there are precise rules regarding daily hours and weekly holidays and only limited possibilities are offered to firms for adjusting working time during the year. Moreover, overtime work is forbidden by the law, except for certain cases enumerated by the law. Creating greater flexibility in working time is important for firms to face fluctuation in demand. One option would be to follow the experience of several EU countries with the annualization of working time. Under annualization, employers set normal weekly hours at varying levels over the year, subject to a fixed annual total. Only when these limits are exceeded do overtime premia become payable. The modulation of hours over the year may be organized in different ways. The full schedule of hours may be fixed in advance, or there may be a working-time corridor of minimum and maximum hours of work, with overtime payments being paid when the average level of weekly or daily hours, taken over the year, exceeds an agreed limit.⁴
- *Increasing entry and exit from employment based on performance and an economic rationale beyond firm closure and allowing more flexible terms for hiring and firing owing to fluctuations in production levels, performance, and absenteeism.* The current rules are highly protective of employment. As a result, net job creation is limited and firms carry large costs due to idle capacity (see Chapter 2). The benefits of current rules accrue to those with labor contracts and seniority at the expense of workers and young graduates seeking jobs, and these rules lead to low levels of competitiveness. Rules for entry and exit from employment should be linked to economic rationales, including adjustment in production levels, performance, and absenteeism.
- *Eliminating disincentives to work.* Two areas of reform need to be implemented. Relatively large unemployment benefits may have been justified during the period of large privatization programs. However, now reforms should aim at taking advantage of a growing economy. Unemployment benefits should be adjusted (currently 60 percent of average wages) towards a level no higher than the average for OECD countries (the average is 45 percent of average wages). The duration of unemployment benefits should also be reduced—the current duration of 4 months for those with up to 3 years of service, and 12 months for those with more than 25 years of service, is too high. The second area of reform pertains to the rules for dismissal and sick leave benefits. The current rules combined result in a worker's receiving a higher net income while absent from work on sick leave than while working. The number of sick days should be limited, and the taxes on wage income should be the same whether the wages are earned while working or while on sick leave.
- *Reducing disincentives to employment creation on the demand side.* Very high payroll taxes are a major disincentive to employment creation. For type 3 jobs, payroll taxes are 43 percent of the wage income, of which 75 percent is paid by the employer. As

⁴ Annualization may be thought of as a special case of “averaging” in which the reference period is a year. In general, three key elements in the averaging of working hours are the “unit” of work time employed as the basis of the averaging procedure, the “reference period” over which the averaging is done, and the “limitations” that apply.

discussed in the main report, reducing payroll taxes is highly desirable not only for net job creation but also to reduce the size of the informal economy, and to reduce tax evasion. However, several reforms need to precede payroll tax reduction, including a major rationalization of public expenditures, including a reform of social spending in particular.

- *Increasing labor participation by bringing a large percentage of the working-age population back into the labor market.* Disincentives to work beyond the retirement age should be eliminated by allowing flexible use of temporary and part-time contracts, and temporary work arrangements. To reincorporate the long-term unemployed, the government should consider relying on effective retraining programs, including on-the-job retraining.

G. IMPROVE FUNCTIONING OF THE JUDICIARY AND REDUCE REGULATORY COMPLEXITY

52. The fifth core area of reform is to enhance the policy and institutional environment in which firms operate, focusing on streamlining the rules of the game and enforcing them in a more predictable manner. In the last two years, Bulgaria has moved towards implementing its public sector reform program, which spans over the period 2002-07. The program aims to improve public administration, to strengthen public expenditure management, and to reduce corruption. A number of legal and regulatory reforms in this direction were implemented in 2002-03. And first steps towards implementing these measures were taken in 2004 and early 2005.

53. Simplifying regulatory regimes and reducing the costs of doing business. While regulatory reforms have improved the investment climate in Bulgaria, Bulgaria's legislative and regulatory system still remains excessively complex, and this places producers in Bulgaria at a disadvantage relative to their peers in other countries in the region. The reforms recommended in this report include the following:

- *Simplifying the procedures for contract enforcement.* The procedures for contract enforcement are significantly more complex in Bulgaria than in other countries in the region. The number of procedures required to enforce a contract in Bulgaria is 34 compared to 25 in Estonia, 21 in Hungary, and 16 in Ireland.
- *Completing streamlining of licensing regimes.* Important progress was made in streamlining licensing regimes at the national level. The next step is to review and streamline sector-specific regimes and municipal regulations. The system governing construction permits needs to be modernized—businesses report that the current system represents a large burden on the costs of doing business. The reform should aim at simplifying the regimes by eliminating a multitude of overlapping regulatory structures, including sector-specific and municipal level regulatory structures.

- ***Making registration an administrative process.*** The current organization of Bulgaria's registration system is high in cost and low in efficiency. Its location in the courts is contrary to good European practices. It also damages economic growth by reducing the capacities of the commercial courts to deal with legal disputes. A more viable option would be the establishment of an expert registration agency, as foreseen in the Bulstat law.
- ***Eliminating or reducing the level of minimum capital for private limited companies.*** Minimum capital has been cited in a number of studies as an outdated legal concept and its problems are further amplified in Bulgaria, where the required amount (5,000 lev) is the highest in Europe as a share of average income. The high capital requirement for limited liability companies prevents many would-be entrepreneurs from starting up. Moreover, the ability of the entrepreneur to withdraw the capital immediately after registration is completed overrides its designed purpose. As a result, minimum capital requirements serve no useful purpose other than preventing poorer would-be entrepreneurs from doing business.
- ***Reducing the scope and complexity of the required documentation.*** There is a need to reduce the scope and complexity of the documents required to establish new businesses. To this end, several measures can be implemented including the use of standardized forms, single registration numbers, and notification and self-certification rather than authorization.
- ***Simplifying bankruptcy procedures.*** Notwithstanding reforms to date in this area, closing a business in Bulgaria is far more expensive than in other countries in the region. The number of years to execute insolvency was reduced from 3.8 to 3.3, and the cost was reduced from 18 to 14 percent of debt between 2003 and 2004. This places Bulgaria at a disadvantage relative to other countries in the region. The time taken to execute insolvency in Estonia is 3 years, in Hungary it is 2 years, in Latvia it is 1.1 years, and in Ireland it is only 0.4 years. The law needs to be amended and implemented to bring bankruptcy procedures in Bulgaria to a higher level of efficiency and strengthen exit/entry of firms in the economy.
- ***Introducing statutory response times ("silence is consent" rules).*** As adopted, the Law on Administrative Regulation and Administrative Control on Economic Activities does not provide for the use of the silent consent rule in business registration and most types of business licensing.
- ***Strengthening policy making on regulations.*** Bulgaria adopted the Law on Administrative Regulation and Administrative Control on Economic Activities in 2004. The Law establishes principles for the introduction of new regulatory regimes. Among other dimensions, the Law requires that proposals for new regulations be based on a clear rationale and to be subject to cost-benefit analysis.

54. **Bulgaria would also do well to create an independent body that could champion and lead deregulatory reforms in a more systematic and sustained way.** Different options are available for setting up an institutional framework for effective and systematic simplification of the legislative system and for deregulation. In some countries this issue is addressed by creating a Better Regulation Unit in the government (as in the United Kingdom, Australia and Canada). In other countries this issue is resolved by establishing an independent agency that screens all proposed legislation (as in Denmark and the Netherlands).

55. **Moving toward a rules-based system.** Bulgaria has made substantial progress in the area of judicial reform in the last two years. Although a comprehensive legislative framework for a more efficient judiciary has been put in place, regulations and management systems are still needed to implement the enacted changes, particularly in the areas of anti-corruption efforts, the improvement of court organization, the reduction of court delays, and the enhancement of the quality of justice. The draft on the development of performance standards for judges is yet to be completed. The most immediate and urgent reforms include the following:

- *Fully implementing the Rules for Court Administration* passed in October 2004. These rules introduce the concept of a court administrator, and they should help in bringing professionalism and transparency to court administration, as well as relieving judges and court presidents from time-consuming administrative tasks.
- *Automating case management*—a measure that should reduce the length of court proceedings and bring more transparency and accountability to the performance of judges.
- *Establishing specialized administrative courts*, provided by the new Administrative Procedure Code (the draft Code is, however, still awaiting the first reading in the Parliament).
- *Upgrading judicial training*—for newly appointed magistrates and also for continuous education; this measure should include *strengthening the new National Institute for Judiciary* established in December 2003.
- *Developing a comprehensive monitoring mechanism for evaluating judicial performance*, including the re-design of the court statistics system and the objective and transparent evaluation of judges' performance.

H. MACROECONOMIC POLICIES TO ADDRESS RISKS AND TO SUPPORT PROGRESS TOWARDS MONETARY INTEGRATION

56. **Macroeconomic stability is a pre-condition if structural reforms are to result in sustained high growth.** To be effective, the structural reforms of the core agenda proposed in this report need a stable environment. Feasibility of other areas of reforms proposed here depends on a financially robust fiscal stance, including social spending reform and payroll tax

reductions. Over the last three years Bulgaria has made impressive progress towards long-term stability. In 2004, Bulgaria's macro-financial position was stronger than ever, owing due to sustained large declines in the debt to GDP ratio, an overall fiscal surplus of 1.8 percent of GDP, and an investment grade rating on the country's foreign debt. However, risks and vulnerabilities remain and new challenges to macroeconomic policy emerge as Bulgaria moves towards monetary integration.

57. The fiscal consolidation strategy of the last several years targeted gradual adjustment in the overall fiscal balance. The strategy has aimed at reaching a balanced budget and reducing external debt to meet the Maastricht Treaty target of a public debt to GDP ratio of under 60 percent by 2005. The gradual adjustment in the overall fiscal balance has been accompanied by reductions in tax rates and significant reductions in public debt. Bulgaria reached the Maastricht Treaty target in 2002 and achieved a balanced budget in 2003. As a result, Bulgaria's macroeconomic financial position has strengthened. Nevertheless, there are risks and vulnerabilities to sustaining the macroeconomic stabilization and reform achievements to date.

58. Short-term and medium-term risks weigh heavily on the fiscal stance. In the short run, there are risks associated with the pressures towards the widening of the external current account deficit and the rapid growth of credit to the private sector. To date, these have been partly offset by turning the budget into surplus. Looking forward, however, the fiscal stance needs to remain sufficiently flexible to respond to external shocks.

59. Indeed, macroeconomic management could be further complicated if there were greater capital flow volatility. The risk associated with such volatility is magnified by the economy's growing reliance on short-term capital inflows. Short-term capital inflows more than doubled from 649 million to 1,633 million euros between 2003 and 2004. Their share in the financing of the external current account deficit increased from 27 to 55 percent during the same period. Much of these inflows represent money attracted to Bulgaria by the relatively high interest rates in relation to the returns on comparable securities/investments in the euro zone. A sharp reduction in these rates and/or interest rates as in other parts of the global economy would reduce the differentials, which could produce a rapid capital outflow and could result in a considerable shock to the economy.

60. The rapid expansion of private debt magnifies the potential risks. The foreign indebtedness of private firms and households more than quadrupled between 1999 and 2004. Similarly, with improvements in the investment climate, and in anticipation of EU accession, private firms are undertaking investments at a rapid pace. To the extent that these firms have turned to the financial markets to finance productive investments that would contribute to productivity growth and the ability to repay obligations (both domestic and foreign) there would be limited reason to worry. However, while more than one-third of the foreign debt growth is FDI-related, most of it is owed to domestic banks. The capacity of lenders to correctly assess the risk associated with certain loans, particularly consumer loans, is untested. While statistics on non-performing loans currently indicate that bank portfolios remain solid, there are often time lags before bad credits manifest themselves. It is important, therefore, to closely monitor the

effectiveness of recent measures to reduce the growth of credit to the private sector and to ensure that banking supervision continues monitoring closely for signs of inordinate lending behavior.

61. The gradual progress towards monetary integration raises additional macroeconomic challenges. Recently, Bulgaria took the initiative to announce its intention to join the exchange rate mechanism (ERM-2) as soon as possible after accession and to adopt the euro in the minimum term provided for by EU legislation—generally interpreted to mean two years. During this time, Bulgaria will need to maintain the lev within the fluctuation bands provided by ERM-2. This it will need to do without employing capital or exchange rate controls, Bulgaria will thus have to remove controls on credit operations, real estate transactions, personal capital movements, money market instruments and other capital transactions. Short of these instruments, the authorities will need to pilot the economy towards full adoption of the euro and to maintain it within strict parameters: a fiscal deficit to 3 percent of GDP, a public debt ratio of less than 60 percent of GDP, low inflation, and interest rates close to the EU average.

62. The task will be complicated in view of the large structural differences between Bulgaria and countries in the euro zone. Structural differences, both real and financial, between Bulgaria and other euro zone countries could mean that macroeconomic policies aimed at promoting stability in the euro zone as a whole need not correspond to the short-run economic realities in Bulgaria.

63. Indeed, response of Bulgaria's economy to shocks differs substantially from those in the Eurozone. The statistical analysis conducted for this report shows that these asymmetries are declining but the gap remains large. Estimates show that asymmetric response is larger in demand and supply responsiveness and the degree of co-movement varies considerably across sectors and across major trading partners.

64. Going forward, a cohesive structural reform agenda supported by disciplined macroeconomic policies is central if Bulgaria is to translate EU accession into sustained improvement in standards of living for its population. Bulgaria has gained considerable expertise in recent years in managing its economy under a hard peg. Best of all, it has demonstrated a willingness to subject its fiscal policy to the exigencies of the currency board and a flexibility to do so that will hold in good stead as it integrates in European monetary arrangements. Still, these challenges underscore the centrality of implementing the structural reforms outlined in this report to get the Bulgarian economy in sync with the rest of the currency area and able to withstand common external shocks. Reforms to substantially enhance labor market adjustment, to improve competition in the domestic markets, to enhance the dependability of contracts and to upgrade skills and transport network, will help achieve that, while accelerating real convergence. These are central for Bulgaria to translate EU accession into sustained improvement in standards of living for its population.

VOLUME 2: MAIN REPORT

1. STRENGTHENING STABILITY, GROWTH, AND INTEGRATION WITH THE EU

1.1 **Over the last seven years (1998-2004), Bulgaria has taken impressive strides in the direction of long-run stability and growth, based on its progress towards EU accession.** During 1998-2004, Bulgaria implemented a broad reform program, including economic restructuring and institutional reforms. The economic mismanagement of the first nine years of transition (1989-97) culminated in a severe economic and financial crisis in 1996-97. This crisis, together with the prospect of EU membership, changed the political economy in Bulgaria in favor of reforms.

1.2 **Maintaining macroeconomic stability and implementing structural reforms have been conducive to solid economic performance as well as to progress toward EU accession.** Macroeconomic stability was achieved, and has been maintained by prudent fiscal policies and strict discipline in incomes policy anchored in the Currency Board Arrangement (CBA) adopted in mid-1997, and by 1999 the economy was largely stabilized and growth had been re-established. Bulgaria was invited to start negotiations for EU membership in December 1999. Between 1998 and 2002, most of the non-infrastructure enterprises and banks were privatized, banking restructuring was completed and banking supervision strengthened, trade and prices were liberalized, energy reforms had made important progress, and the first steps had been taken in regulatory reform to improve the investment climate. In its Regular Report of 2002, the European Commission concluded that Bulgaria had a functioning market economy. In 2003-04 Bulgaria implemented major public sector and institutional reforms. The former included measures to improve public administration, public expenditure management, and public financial accountability, and the latter focused on judiciary reforms and anti-corruption measures. By June 2004, Bulgaria had provisionally closed all 31 chapters of the *acquis communautaire*, and in April 2005, Bulgaria signed the Accession Treaty.

1.3 **The challenge for the future is to implement a reform agenda aimed at successful integration with the EU and the global markets.** A broad reform agenda must lie ahead if EU accession is to be translated into meaningful and sustained benefits in the standard of living of Bulgarians. Bulgaria's progress to date increased its per capita income, at PPP, from US\$5,508 in 1998 to US\$8,260 in 2004—representing 30 and 57 percent respectively, of the average level for the European Union-25 (EU-25) and NMS-8. This large income difference reflects gaps in productivity, in the physical and human capital stock, in the functioning of products and factor markets in the economy, and, more generally, in the quality of the policy and institutional frameworks. Over the last seven years, Bulgaria has implemented a broad range of reforms and should build on its achievements to close the gaps in all these dimensions and, in this way, catch up with the New Member States (NMS). Clearly, Bulgaria needs to continue to act on several fronts as it has done since 1998.

1.4 Strengthening stability, growth, and integration with the EU and global markets while preserving social cohesion is the cornerstone of identifying a core agenda for the future. Reform priorities are, to a large extent, determined by the context of Bulgaria's unique features and constraints, by its achievements to date and its development goals as it approaches EU accession and beyond. Bulgaria's unique features include its demographic characteristics, its legacy of run-down basic public assets, particularly public infrastructure, the poor performance of its labor market, and its need to continue to strengthen its institutional framework. Successful integration with the EU implies continuing progress in improving the standards of living in Bulgaria and reaching convergence with the EU single market.

1.5 From this perspective, five areas are central in defining a core agenda: productivity and growth, trade and investment integration, public expenditure policy, labor market adjustment, and the regulatory and institutional framework. Chapter 1 focuses on stability, growth dynamics, and integration. The analysis of these three fundamental dimensions over time is complemented with cross-country comparisons. Chapter 2 examines the foundations of Bulgaria's growth performance over the last several years in terms of the drivers of growth, intra-sectoral restructuring, growth accounting, and potential output growth. Trade policy, trade and FDI dynamics, and recent trends in trade performance are examined in Chapter 3, while Chapter 4 discusses the reforms needed in public expenditure policies to support deepening trade integration. Chapter 5 covers labor market performance and labor market policies and institutions. In Chapter 6, selected dimensions of the institutional framework for growth and competitiveness are examined, and Chapter 7 discusses macroeconomic policies aimed at addressing risks and vulnerabilities and supporting progress in monetary integration. Finally, Chapter 8 presents a summary of the main conclusions drawn from the report.

1.6 Bulgaria moved from being one of the poorest performers in the region during 1989-97, to the position of a solid performer in 1998-2004. The former period was marked by output decline, massive borrowing, large fiscal deficits and very high levels of inflation, political instability and civil strife. The later period was characterized by fiscal discipline, the implementation of major structural reforms, including the privatization and liquidation of unviable enterprises and banks, low inflation, sustained output expansion, political stability and an absence of civil strife. Bulgaria should build on its achievements to date and accelerate its pace toward matching the quality of its institutions and its economic performance with those of the stronger performers among the New Member States. Moving from stability and growth to convergence entails implementing a core reform agenda centered on productivity, in order to shift to a Lisbon-growth path. This is central to Bulgaria, since large increases in productivity are needed to compensate for its demographic discount, with a declining labor force and a rapidly aging population, and to close the income gap with the EU-25. This chapter first provides a short summary of Bulgaria's transition. It then discusses Bulgaria's economic performance in a regional perspective. The last section examines the challenges of moving from stability and growth to accelerating EU convergence.

A. Macroeconomic stability and growth: A short history of transition

1.7 Bulgaria's transition is characterized by a marked shift to an economy exhibiting solid economic performance over the last seven years (1998-2004), from being one of the

poorest performers in the region during the first nine years of transition. The implementation of sound macroeconomic policies and deep structural reforms over the 1998-2004, with political stability and without civil strife, has resulted in a solid economic performance. In contrast, during the first nine years of transition, Bulgaria was one of the poorest performers in the region and experienced increasing social tension and political instability. A comprehensive analysis of Bulgaria's transition is beyond the scope of this report. This section is limited to outlining selected features of Bulgaria's transformation aimed at defining priorities for the central links between stability and growth while maintaining social cohesion.

A.1 From transition to crisis: The legacy of the past

1.8 **In contrast to the New Member States (NMS-8),⁵ Bulgaria began its reforms after a severe crisis in 1996-97 with a legacy of high indebtedness, over-industrialization, and a low stock of human capital.** At the start of political transition in 1989, most dimensions of Bulgaria's initial conditions were within a range between the Baltic countries and the NMS-8 (see Table 1.1). In terms of the share of Council for Mutual Economic Assistance (CMEA) trade in GDP, Bulgaria was in a better position, with a lower share of 15 percent of GDP compared with the Baltic countries with 31 percent and the NMS-8 with 21 percent. However, Bulgaria was worse off relative to the Baltic countries and the NMS-8 in terms of the legacy of over-industrialization, low stock of human capital, and high indebtedness. The index of over-industrialization is indicative of the fact that Bulgaria inherited larger economic distortions than the Baltic countries and the NMS-8. Similarly, Bulgaria's secondary school enrollment of 75 percent is indicative of a significantly lower stock of human capital compared to 94 percent in the Baltic countries and 90 percent in the NMS-8. Furthermore, by 1990 Bulgaria had reached an unsustainable level of debt to GDP ratio of 57 percent compared to 1 percent in the Baltic countries and 27 percent in the NMS-8. In April 1990, Bulgaria declared a moratorium on its external debt.

1.9 **By the early 1980s, the growth potential of Bulgaria's centrally planned economy had been exhausted and additional time was bought with rapid and unsustainable debt accumulation.** The centrally planned economy based on industrialization and high investment followed for more than three decades had exhausted its growth potential by the early 1980s. In the late 1950s, Bulgaria implemented a massive transformation program based on large-scale investment for the relocation of industrialization and labor from agriculture to industry.⁶ Between the mid-1960s to the mid-1970s, the economy grew at 5 percent and industry grew at 7 percent.

⁵ In this report the New Member States (NMS-8) include Estonia, Latvia, Lithuania (or the Baltic countries), the Czech Republic, Hungary, Poland, the Slovak Republic, and Slovenia.

⁶ Employment in agriculture fell from 55 percent in 1960 to under 25 percent by 1980 while industrial employment increased from 17 to 27 percent during the same period. Estimates of fixed investment show an increase of more than 400 percent in real terms during this period.

Table 1.1 Indicators of Initial Conditions: Bulgaria and Selected New Member States ^{a/}

	Bulgaria	Baltics ^{b/}	NMS-8 ^{b/}
PPP adjusted GDP per capita, 1989 (US dollars)	5,874	5,094	6,719
External debt to GDP in 1990 (percent)	57	1	27
External debt to GDP in 1997 (percent)	100	46	44
Share of CMEA trade in 1990 GDP (percent)	15	31	21
Share of agriculture in GDP in 1990 (percent)	18	22	13
Index of over-industrialization ^{c/}	0.23	0.10	0.11
Natural resource endowment (0=poor, 1=moderate, 2=rich)	0	0	0.25
Secondary school enrollment in pre-transition year (gross; percent)	75	94	90
Average growth, 1985-89 (percent)	2.7	3.0	2.0
Repressed inflation, 1987-90 ^{d/}	18	26	10
Distance of Capital from Brussels (km)	1698	1508	1177
Years under communism	43	51	47

Notes: a/ Selected indicators of initial conditions are taken from the three papers cited in the Source. Most indicators are used in at least two of the three papers; b/ Simple averages; c/ Defined as the difference between the actual and predicted share of industry, where the latter is derived from regressions estimated by Syrquin and Chenery (1986); d/ Calculated as the difference between the growth of real wages and real GDP growth over 1987-90.

Sources: World Bank staff calculations; and Fischer and Sahay (2000), Berg et al. (1998), de Melo et al. (1997).

1.10 During this period, however, total employment growth averaged less than 1 percent per year with economic growth being driven mainly by large investments and the sectoral reallocation of labor. As labor productivity and growth stagnated, trade integration with the Soviet economy—the main market of Bulgaria’s exports and a source of cheap energy imports—deepened and the energy intensity of the economy increased. By the early 1980s, the sustaining of growth through capital accumulation and labor reallocation across sectors was exhausted and economic distortions in the economy widened—growth in 1975-85 was less than 1 percent per year and labor productivity stagnated. Unable to change course to improve productivity, the country bought additional time by rapid debt accumulation in convertible currencies: the increase in external debt between 1985 and 1989 tripled to US\$9.2 billion (or 57 percent of GDP).

1.11 The economic mismanagement of the first nine years culminated in a severe economic and financial crisis in 1996-97 whose legacy burdens Bulgaria’s economy even today (see Table 1.2). The initial transformational recession was prolonged and deepened by expansionary budgetary and quasi-fiscal deficits sustained by the rapid expansion of debt accumulation and monetary aggregates. In contrast to New Member States, which had relied heavily on foreign direct investment (FDI) flows to implement economic restructuring since the start of transition, FDI flows to Bulgaria were negligible averaging around 1 percent of GDP during 1989-97. Instead, Bulgaria had relied heavily on the rapid expansion of debt accumulation since the mid-1980s, and expansion of monetary aggregates in 1993-95.⁷ By 1997, external debt and public debt to GDP were close to 100 and 105 percent, respectively.

⁷ Unsustainable macroeconomic imbalances exacerbated the costs of the external shocks of the Gulf and Yugoslav crises during 1989-97.

and reached over 1,000 percent per year in 1997.⁸ The large macroeconomic imbalances and the debt overhang led to a crippling run on the banks as the economy approached hyperinflation. With the loss of confidence in the banking sector, real credit growth turned sharply negative, maturities shortened, and interest rates soared. The sharp increase in interest rates was fiscally unsustainable and did not halt the collapse in money demand and capital flight. The banking sector collapsed, and by the end of the first quarter of 1997 the international reserves of the Bulgarian National Bank (BNB) were virtually depleted at less than the equivalent needed to cover one month of imports.

1.13 The costs borne by the Bulgarians were large, contributing to increases in social tensions. Per capita income declined by 12 percent, while the hyperinflation period eroded the purchasing power of wage incomes and wiped out the savings of a significant proportion of the population. The unemployment rate remained high at an average of 14 percent during the 1990s. And poverty increased substantially, reaching its highest level in 1997. During this period Bulgaria experienced political instability and increasing social tensions, which culminated in the fall of the government in the beginning of 1997.

1.14 The first years of transition contributed to the depletion of Bulgaria's capital stock and the loss of skills of its stock of human capital. In addition to the sharp deterioration on the macro-financial side, during this period Bulgaria's capital stock was being depleted, as the value of the assets and profits of state-owned enterprises and banks were being stripped by vested interest groups and widespread corruption practices. By the time Bulgaria started its privatization program in 1998, the value of the assets of many state-owned enterprises and banks had been substantially reduced. Furthermore, for the most part, public investment had neglected investment needs in basic public infrastructure, and assets in the education and health care systems had deteriorated. Similarly, the prolonged period of poor economic performance had contributed to the loss of skills of Bulgaria's human capital as a large share of its labor force had become long-term unemployed, discouraged workers, and labor market participation had declined. The unemployment rate had reached a high level of 15.8 percent by 1993 and remained high until 2003.

1.15 The legacy of indebtness has weighed heavily on Bulgaria's economic restructuring by limiting both public and private investment. During the first nine years of transition, Bulgaria's investment level to GDP, at around 14 percent, was one of the lowest among Central and Eastern European countries, where investment to GDP averaged about 27 percent. Cross-country research indicates that in a highly indebted country, as in the case of Bulgaria in 1997, the cost in terms of growth has been estimated at an average 2 percentage points per year. These estimates seem to be consistent with Bulgaria's experience compared with the Baltic countries and the NMS-8. The effects and transmission mechanisms of high indebtness and growth are complex and beyond the scope of this report. However, a simple comparison, while incomplete, illustrates that the costs of Bulgaria's indebtness have been high.

1.16 Average annual growth of per capita income at PPP in 1991-2001 was around 1 percent in Bulgaria compared with 3 percent in Estonia and 2.7 percent in the NMS-8. At the start of the transition, Bulgaria's per capita income at PPP was US\$5,874 or about 15 percent

⁸ During the first part of 1997 the average inflation rate was 240 percent.

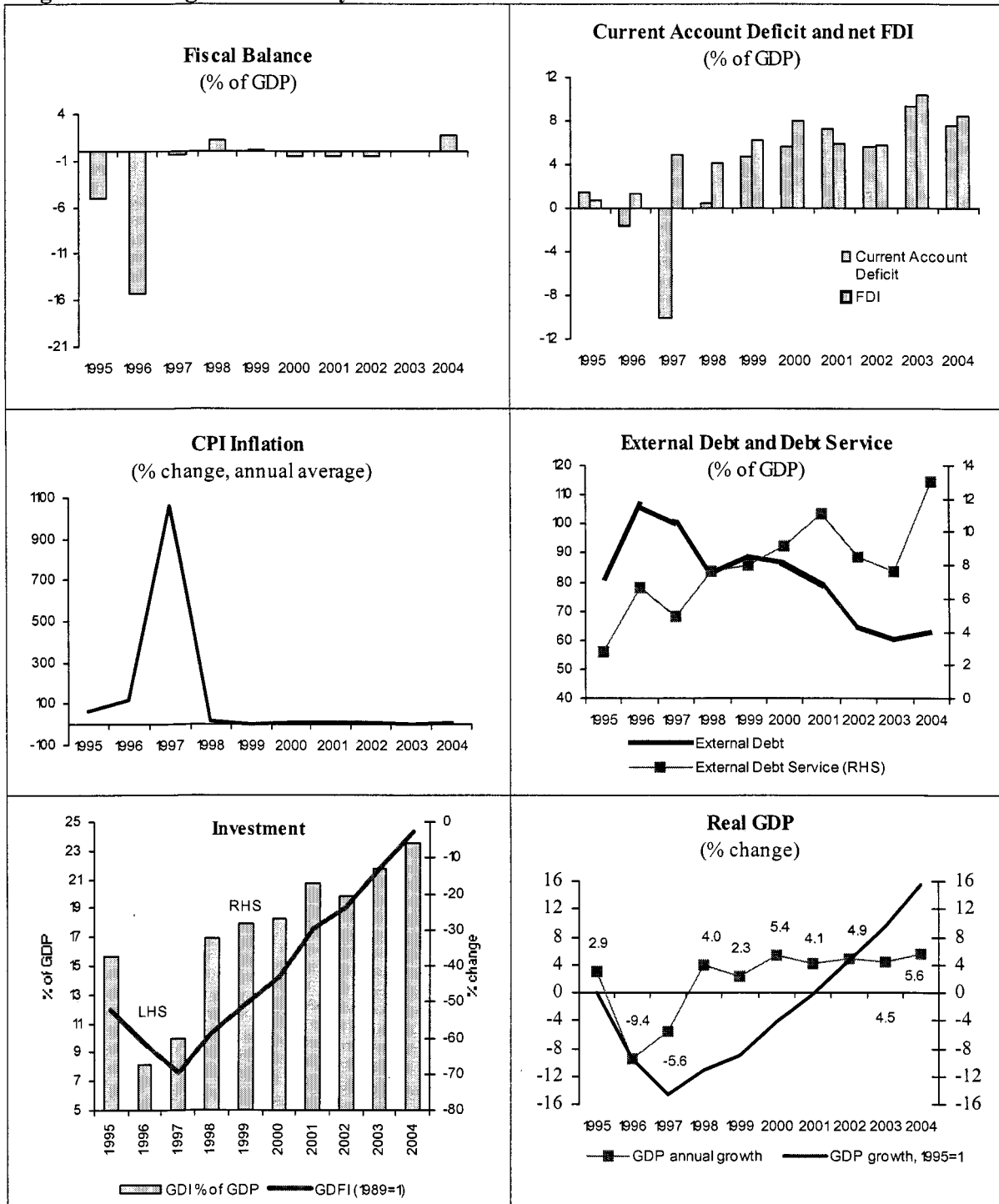
higher than the average in Baltic countries and 14 percent lower than in NMS-8 (see Table 1.1). However, at the start of the transition (1989) the average debt to GDP was about 1 percent for the Baltic countries and 27 percent for the NMS-8, compared to an unsustainable level of 57 percent in Bulgaria. During the transition, the Baltic countries and the NMS-8 were able to leverage their debt headroom which together with larger FDI flows resulted in higher investment levels over a long period of time. Higher investment levels driven mostly by the private sector, particularly foreign investors, under an improved policy environment have contributed to increases in productivity and growth. In contrast, the legacy of high indebtedness in Bulgaria has limited both public and private investment levels in Bulgaria. By 2000, the average per capita incomes at PPP for the Baltic countries and that for NMS-8 were 26 and 67 percent higher, respectively, than in Bulgaria.

A.2 From crisis to stability and growth

1.17 The combination of the severe 1996-97 crisis and the prospect for EU membership changed the political economy in Bulgaria in favor of reforms. Since 1997, Bulgaria has been implementing a comprehensive stabilization and structural reform program anchored in its process for EU accession. Macroeconomic discipline has been supportive of providing momentum for structural reforms by enforcing budgetary discipline. Figure 1.1 illustrates selected characteristics of Bulgaria's macroeconomic adjustment and the results of structural reforms in terms of investment and growth. Two observations can be derived from these facts. One is that given the severity of the crisis, Bulgaria had to implement a huge fiscal adjustment to restore stability as a first step towards EU membership. The other is that enforcing budgetary discipline provided momentum for the rapid implementation of structural reforms, particularly the privatization and liquidation of unviable state-owned enterprises and price liberalization, reforms which had for many years stalled under soft budgetary and financial constraints.

1.18 Macroeconomic stability was achieved and has been maintained by prudent fiscal policies and strict discipline in incomes policy, anchored in the Currency Board Arrangement (CBA) adopted in mid-1997. With the adoption of the CBA, the state limited the role of the Central Bank to banking supervision, economic monitoring and reporting, and the management of international reserves. Without the possibility of using monetary and exchange rate policies, fiscal and incomes policies became the only route for macroeconomic adjustment. The cumulative fiscal adjustment between 1996 and 1998 was on the order of 12.8 percent of GDP which was brought about by eliminating soft budget and financial practices. This fiscal adjustment resulted in a near balanced external current account through which, together with large FDI flows related to privatization and official external financing, Bulgaria re-established international reserves to about 5.6 months of imports by 1998. By 1999, the economy was largely stabilized and growth had been re-established. Bulgaria also implemented a strict incomes policy by controlling wage increases in the public sector, particularly in loss-making state-owned enterprises, and by limiting increases in minimum wages. As a result, inflation declined sharply from above an annual rate of 1,000 percent in 1997 to under 19 percent by 1998. With a more stable macroeconomic environment and deep structural reforms, investment began to recover led by a growing private sector and growth performance has been robust.

Figure 1.1 Bulgaria: Stability and Growth



Source: World Bank staff estimates based on data from NSI, BNB, MOF (*GFS2001*), and NEA.

1.19 Fiscal discipline has been at the center of Bulgaria’s progress towards long-term stability and growth, and has provided momentum for structural reforms by enforcing

budgetary and financial discipline. Between 1998 and 1999, the government consolidated hundreds of extrabudgetary funds into a single Treasury account and adopted strict budgetary controls and a strict timetable in its budgetary process. Budgetary and financial discipline provided the momentum for implementing structural reforms, including privatization and the reduction of subsidies. Bulgaria also introduced a Fiscal Reserve Account (FRA) for which the government kept sufficient financial resources to cover at least 90 percent of the gross debt service of the following year. In addition, privatization receipts were deposited in the FRA with withdrawals limited to external debt reduction purposes.

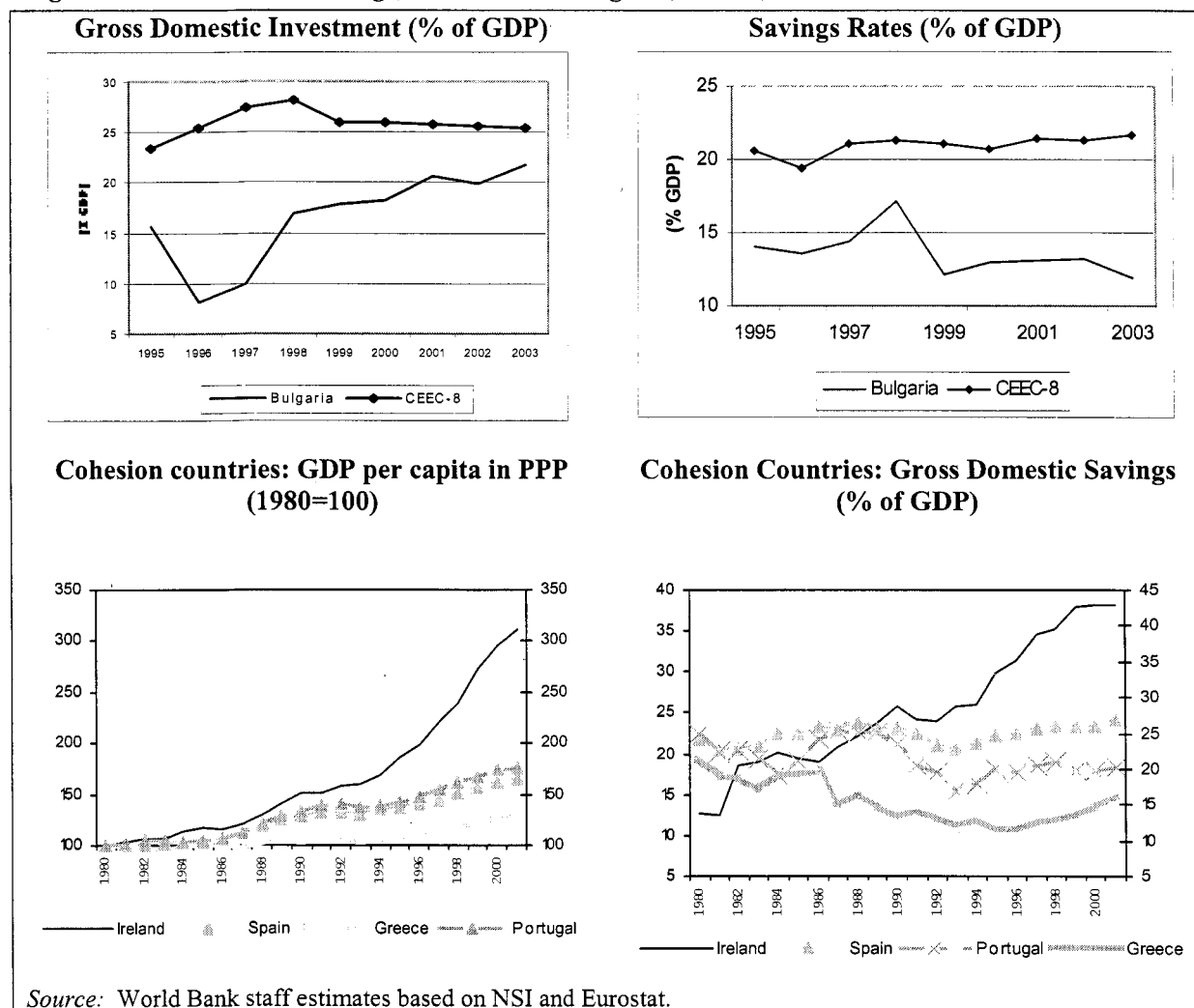
1.20 While the macroeconomic financial position has been strengthened, contributing to the acceleration of economic growth, the investment-savings gap has been widening rapidly (see Figure 1.2). With an improved policy environment, investment grew rapidly at 16 percent per year in 2003 and 2004 and is rapidly approaching CEEC⁹ levels. Savings to GDP are lower in Bulgaria than in the NMS-8, reflecting to some extent per capita income differentials. In most countries savings rise with income but do so more slowly than per capita income growth. Research on the potential effects of growth in per capita income on savings shows that on average, an increase in the income growth rate by 1 percentage point results in an increase in the private savings rate of as much as 0.45 percentage points in the medium to long term. However, as shown in Chapter 2, growth in Bulgaria exhibits a strong bias in favor of consumption, which explains the relatively stagnant levels of savings.

1.21 As illustrated by the experience of the Cohesion Countries,¹⁰ growth and stability and improvements in the standard of living do not come about through EU membership alone (see Figure 1.2). Rather, improvements in the standard of living result from reforms that enhance the policy and institutional frameworks so that they sustain growth with stability over a long period of time. Ireland joined the EU in 1973 with a per capita income at 60 percent of the EU average and with savings to GDP of about 18 percent. With Ireland's impressive growth performance, its per capita income at PPP surpassed the EU average in 1997 and its savings to GDP increased to 34.5 percent. In contrast, improvements in per capita income in Spain, Portugal, and Greece have been more modest and their trends vary. Spain is converging to the EU average per capita income, albeit at a slower pace than Ireland. The per capita incomes of Portugal and Greece have shown a slight decline relative to the EU average in recent years.

⁹ Central and Eastern European Countries (CEEC) are defined here to include Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia.

¹⁰ Cohesion countries include Greece, Ireland, Portugal and Spain.

Figure 1.2 Investment, Savings, and Growth: Bulgaria, CEEC, and Cohesion Countries



1.22 Over the last four years Bulgaria's macroeconomic financial position has strengthened because of fiscal consolidation and sustained reductions in its external debt; however, the external current account is high. The fiscal consolidation strategy of the last several years targeted gradual adjustment in the overall fiscal deficit aimed at reaching a balanced budget and an external debt reduction so as to meet the Maastricht Treaty target of a public debt to GDP ratio of under 60 percent by 2005. The gradual adjustment in the overall balance has been accompanied by reductions in tax rates and significant reductions in public debt. Bulgaria reached the Maastricht Treaty target in 2002 and achieved a balanced budget in 2003. Bulgaria's medium-term macroeconomic framework over the last four years implied a large current account deficit of around 6 percent of GDP as projected imports surpassed Bulgaria's improving export capacity. This reflects the fact that investment needs in Bulgaria are being addressed at a more rapid pace than can be financed by domestic savings. However, there have been episodes during which the external current account deficit reached very high levels.

1.23 Under the CBA a prompt reaction in the fiscal stance is needed to respond to external developments. The sharp downturn in the world economy in 2001, with growth declining from 3.5 percent in 2000 to 1 percent in 2001 and with slow recovery in the EU since then, has exerted pressures on Bulgaria's external deficit. The external current account deficit increased from 5.6 to 7.2 percent of GDP between 2000 and 2001. The government responded prudently by tightening its fiscal stance and developed contingency measures to be applied should the external environment deteriorate further. In 2002, the external deficit narrowed to 5.6 percent. Under the CBA, Bulgaria's macroeconomic framework requires a more immediate response to external developments than do most other New Member States, to keep external imbalances within prudent levels.

1.24 As in other countries in the region, a large interest rate differential between Bulgaria and Western Europe has accelerated the expansion of credit-creating pressures on external imbalances. The external current account deficit widened to 9.3 percent of GDP in 2003. The tightening of the fiscal stance was complemented by measures taken to reduce the growth of credit in 2004. Preliminary estimates indicate that the external deficit declined to 7.5 percent in that year.¹¹ Since 1998, external current account deficits have been financed by large FDI flows and international reserves have increased every year since then (see Table 1.2 and Figure 1.1). By 2004, international reserves reached a record level of 6.7 billion euros, representing about 6.1 months of imports, about 34 percent of GDP, and more than 60 percent of broad money. FDI flows and other private capital flows are expected to finance the projected external current account deficits. Given Bulgaria's recent experience with rapidly changing external conditions, these large external imbalances imply that Bulgaria is vulnerable to external shocks and adjustments.

1.25 Maintaining macroeconomic discipline and keeping up the momentum in implementing structural reforms resulted in solid economic performance and overall improvements in the standard of living (see Table 1.2 and Figure 1.1). Since 1999, annual average economic growth has been 4.8 percent and accelerated to 5.6 percent in 2004. The average annual rate of inflation has been around 6 percent with a lower average end-of-period rate of inflation of around 4.5—with most of the difference attributed to the one-off effects of the price liberalization and tax adjustments implemented in 1999-2004. Interest rates have declined from around 13 percent to 9 percent. Sustained growth, low inflation, and declining interest rates have contributed toward increases in per capita income and growth in the purchasing power of wage income. Per capita income, at PPP, increased from US\$5,502 in 1998 to US\$8,260 in 2004 and at an average of 6.5 percent per year in real terms. Registered monthly average wages and salaries increased from 183 BGN in 1998 to 294 BGN in 2004—an average of 2 percent per year in real terms.¹² The unemployment rate, which had remained high since the early 1990s and which peaked at 18 percent in 2000, started to decline in 2003 to 14.3 percent. While part of this decline was due to the active labor market programs of the government, in 2004, for the first

¹¹ Final estimates of the external current account deficit in 2004 may result in a higher deficit, since preliminary balance of payments estimates show a sizable estimate under errors and omissions of close to 2 percent of GDP.

¹² While wages and salaries in Bulgaria are low compared to most other countries in the CEEC, they seem to be in line with labor productivity, which is also low compared to other countries in the region. It should also be noted that registered wages and salaries are grossly under-reported as a way to minimize high payroll taxes.

time since the 1996-97 crisis, there was net employment creation by the private sector which contributed to a further reduction of unemployment to 12.7 percent. Thus stability, growth and Bulgaria's extensive social protection system contributed to a substantial reduction in poverty, which continues to decline.

B. Bulgaria's performance in a regional perspective

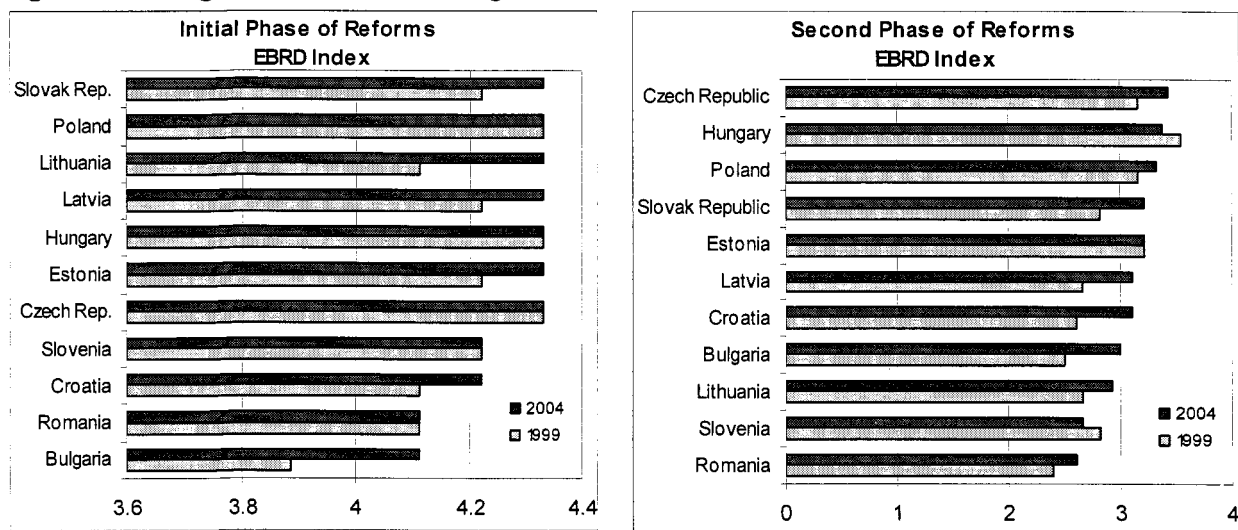
1.26 Despite positive developments over the last seven years, important gaps in reforms and performance relative to the New Member States (NMS) remain. Over the last seven years, Bulgaria has made important progress in structural reforms. As a result, its trade and investment integration has expanded. Despite a well diversified trade partnership and a liberal trade regime which provide producers in Bulgaria with easy access to global markets, its economy has yet to benefit more fully from its integration with the EU and global markets. Bulgaria's export capacity remains limited compared to the NMS. Competitiveness is limited to unskilled labor-intensive and energy-intensive activities. This due to a large extent to gaps in structural reforms relative to NMS. Bulgaria's relatively solid growth and stability performance is tempered by having one of the lowest per capita incomes in the region. Rising per capita income have contributed to improvements in social indicators, but sizable gaps in social indicators relative to the NMS remain. Moreover, further macroeconomic adjustment is needed to support growth. Bulgaria needs to implement a core reform agenda to move to a Lisbon-growth path and accelerate convergence, if EU accession is to be translated into sustained and meaningful improvements to its standard of living.

B.1 Structural reforms: Bulgaria and the CEEC

1.27 Selected indicators of the progress of structural reforms show important advances in 1999-2004. Between 1998 and 2002, most of the non-infrastructure enterprises and banks were privatized, many loss-making state-owned enterprises were liquidated and failed banks were closed. In addition, trade and prices were liberalized; banking restructuring was completed and banking supervisions strengthened; reforms in the energy sector were implemented in both the electricity and district heating sectors; and the first steps were taken in regulatory reform to improve the investment climate. In 2003-04, Bulgaria implemented major public sector and institutional reforms. The public sector reforms included measures to improve public administration, public expenditure management, and public financial accountability, and the institutional reforms focused on judiciary reform and anti-corruption measures.

1.28 Structural reforms have experienced a strong momentum since 1998 but gaps relative to the New Member States remain. Figure 1.3 distinguishes between two phases of reforms. The initial phase relates to the changes in basic economic liberalization typical of the early stages of transition: price liberalization, foreign exchange and trade liberalization, and small-scale privatization. The second-phase of reforms includes deeper and more complex reforms: the privatization of large-scale enterprises, governance and enterprise restructuring, competition policies, infrastructure reforms, banking and interest rate liberalization, and non-banking financial institutions. The ratings range between 1 and 4+, with a higher rating indicating a more advanced stage of reform.

Figure 1.3 Bulgaria and CEEC: Progress in Structural Reforms, 1999-2004



Source: EBRD Transition Indicators; Indicators for the initial phase of reforms are calculated as unweighted averages of indicators for small-scale privatization; price liberalization; trade and foreign exchange system. Indicators for the second phase of reforms are calculated as unweighted averages of indicators for large-scale privatization; governance and enterprise restructuring; competition policy; banking reform and interest rate liberalization; securities markets and nonbank financial institutions; infrastructure reform.

1.29 **Two observations should be noted.** One observation is that while Bulgaria has accelerated its implementation of structural reforms since 1998, it lags behind the NMS. By 2004, Bulgaria's second phase of reforms were at the stage of the Slovak Republic in 1999 and were lagging behind the stage of second phase reforms in Estonia, Poland, Hungary, and the Czech Republic in 1999. The other observation is that progress in second phase reforms in 1999-2004 was still at an early stage. Furthermore, the NMS continue to make progress in both phases of structural reforms. Seemingly small differences in the ratings reflect large qualitative differences in the policy environment once the ratings surpass the level of 4 in the first phase index and 3.5 in the second phase index. For example, in January 2004 the Polish Parliament adopted the Law on Economic Freedom, which reduces the number of licensing regimes from 9 to 5, introduces silent consent rule in business registration and other areas of administrative regulation, and limits the number and duration of various inspections. In contrast, in Bulgaria, notwithstanding an important regulatory reform in 2001-04, there are 39 licensing regimes de jure (but 60 licensing regimes de facto), the silent consent applies only to a handful of licenses, and there is no legislation on inspections. Institutional and regulatory reforms are discussed in Chapter 6.

B.2 Selected economic and social dimensions: Bulgaria and the CEEC

1.30 **Bulgaria's economic performance over the last few years has been characterized by robust and sustained growth with solid macroeconomic stability.** As discussed in the previous section, the economy shows a vigorous recovery from the protracted economic contraction of the first nine years, which culminated in the 1996-97 crisis. In addition, rising per

capita income has contributed to improvements in social indicators (see Box 1.1). Despite these overall positive developments, the country's economic performance is mixed compared to the NMS-8 (see Table 1.3).

Table 1.3 Bulgaria and the CEEC: Selected Economic Indicators, 2000-04

	GDP per capita in 2003, PPP (US\$)	GDP Growth (avg. %)	CPI Inflation (avg. %)	Interest Rates (avg. long term, (%)) a/	Overall Fiscal Balance (avg, % of GDP)	External CAB (% of GDP)	Broad Money (M2) (% of GDP)	Private Sector Output, 2004 (% of GDP) b/	Net FDI (avg. % of GDP)
Bulgaria	7,501	4.9	6.4	10.4	0.0	-7.0	45.0	75	7.7
Croatia	11,139	4.1	2.8	11.6	-5.5	-5.5	61.9	60	5.3
Czech Rep.	16,448	3.1	2.7	3.9	-6.7	-5.8	70.0	80	7.0
Estonia	13,348	6.5	3.5	7.6	0.9	-9.6	39.1	80	5.1
Hungary	14,572	3.9	7.1	7.8	-5.6	-8.0	47.1	80	3.9
Latvia	9,981	7.5	3.2	3.4	-1.9	-8.6	33.7	70	3.5
Lithuania	11,250	6.7	0.5	8.0	-2.0	-3.1	28.9	75	3.0
Poland	11,623	3.1	4.4	14.3	-5.5	-3.0	42.5	75	2.9
Romania	7,222	5.2	28.7	22.6	-2.7	-5.4	24.6	70	3.0
Slovak Rep.	13,469	4.1	7.7	6.8	-5.6	-4.7	64.7	80	7.4
Slovenia	19,300	4.1	7.7	9.7	-5.6	-4.7	64.7	65	7.4
NMS-8	13,749	4.9	4.6	7.7	-4.0	-5.9	48.8	76	5.0

Notes: a/ Rates pertain to the following: Bulgaria, commercial bank lending (weighted average); Croatia, prime lending; Czech Republic, one-year interbank lending; Estonia, commercial lending; Hungary, 10-year government bond auction; Latvia, prime lending – refinancing; Lithuania, prime lending; Poland, refinancing; Romania, interbank lending; Slovakia, one-year interbank lending; and Slovenia, discount rate.

b/ Mid-year estimate, EBRD Transition Report, 2004.

Sources: International Financial Statistics, IMF; World Bank ECA Regional Tables (2005), Datastream, EBRD.

1.31 Bulgaria's relatively solid growth and stability performance is tempered by one of the lowest per capita incomes in the region. As a result of reforms, Bulgaria reached the average growth performance of the NMS-8 during 2000-04. However, this solid performance is tempered by the fact that Bulgaria has the second lowest per capita income among the CEEC. Moreover, Bulgaria's growth performance is below that observed in Estonia, which also has a CBA. This indicates that growth may be below its potential. (This question is addressed in Chapter 2). At 75 percent of GDP, the share of the private sector in the economy is about the same as the average share in the NMS-8 but falls short when compared to strong performers such as Estonia whose share is 80 percent. To the extent that resources are used more efficiently in the private sector, further expansion of the private sector in the economy can be expected to have a positive impact on productivity and growth. Bulgaria had the highest FDI flows to GDP among all comparators. However, as shown in Chapter 3, cumulative FDI flows have yet to reach a critical mass to improve Bulgaria's productivity and competitiveness performance.

1.32 Moreover, further macroeconomic adjustment is needed to support growth and accelerate convergence. The higher inflation rate relative to the average rate of the NMS-8 is partly due to the fact that price liberalization and tax harmonization have been taking place in Bulgaria more recently than in most of the NMS-8. Nevertheless, further fiscal adjustment is needed to converge to a lower inflation rate. Monetary and credit aggregates have been growing rapidly reflecting the rapid expansion of credit to the private sector and a vigorous increase in money demand in Bulgaria. As a result, broad money in Bulgaria is close to the average of the

NMS-8. However, broad money to GDP in Bulgaria at 45 percent is now considerably higher than the 39 percent in Estonia, which also has a CBA and a sizable external current account deficit. However, in contrast to Bulgaria, Estonia's productivity levels are high and public expenditures are much more flexible—as is illustrated by their ability to generate a fiscal surplus of close to 4 percent of GDP in 2003 to respond to the widening of the external current account deficit. Considering that the world economy is moving from an accommodating monetary stance to a more neutral position, changes in financial conditions are not without risks. If recent monetary measures are effective in reducing the growth of credit to the private sector, vulnerabilities could be reduced.

1.33 The relative size and efficiency of the public and private sectors poses important challenges. As noted earlier, the share of the private sector in Bulgaria's economy has increased to 75 percent of GDP but it is below that of more competitive economies in the region such as Estonia and the Czech Republic. This poses the challenge of trade-offs regarding the size of the public sector and the efficiency with which it uses the resources at its command relative to the private sector. As shown in Chapter 4, the tax burden in Bulgaria has been declining, but it remains high and there is scope to improve the efficiency of public expenditures. At the same time, the pressures on the external account deficit and the rapid growth of credit to the private sector entail macroeconomic adjustment. With a rapidly growing share of social expenditures in total public expenditures, and with their relative inefficiencies, budgetary inflexibility is increasing.

1.34 While social indicators have been improving, sizable gaps relative to the NMS remain (see Box 1.1). The improvement in social indicators is remarkable considering the severe and protracted economic contraction of the first nine years since transition. The growth and stability of the last seven years contributed to rising incomes and improvements in social indicators. In addition, the extensive and sizable social protection system in particular, and, more generally the large and increasing shares of social expenditures have played a central role in the improvements in social indicators. However, the rapidly aging population together with important inefficiencies, including governance issues, in social expenditures have resulted in growing budgetary pressures. Reforms that will improve the efficiency and fiscal sustainability of social expenditures need to be implemented if Bulgaria is to catch up in social development with the New Member States while safeguarding its stability.

Box 1.1 Trends in Selected Social Indicators: Bulgaria and the CEEC

Based on GDP per capita at PPP, Bulgaria is the second poorest country with the fastest aging population in the region. Nevertheless, in addition to Bulgaria's making progress in poverty reduction, the country's social indicators have also been improving. Adult illiteracy, infant mortality and the mortality of children under 5 years of age, school enrollment and life expectancy at birth have improved since the start of transition.

These improvements are remarkable taking into account the length and severity of the protracted contraction of 1989-97 and the crisis in 1996-97, and the differences in per capita income. The improvements in school enrollment are noteworthy. Net school enrollment increased substantially from 63 to 88 percent by 2003/4, surpassing the levels of Estonia and Croatia, with the latter having started from the same low level as Bulgaria. It can also be observed that for the CEEC increases in per capita income are associated with considerable improvements in social indicators. Bulgaria's growth-driven agenda is supportive of continued improvement in its social indicators.

Bulgaria and the CEEC: Selected Social Indicators

	GDP per capita, PPP (US\$) 2003	Adult Illiteracy (%)		School enrollment, secondary (% net)		Mortality rate, infant (per 1,000)		Mortality rate, under-5 (per 1,000)		Life expectancy at birth, total (years)	
		1990	2004	1990a/	2002b/	1990	2002c/	1990	2002c/	1990d/	2002e/
Bulgaria	7,807	2.8	1.4	63	88	14.8	12.3	16	13	71.3	72.1
Croatia	11,139	3	1.9	63	84	12	7	13	8	72.2	73.8
Czech Republic	16,448	..	..	86	89	10	4	11	5	71.7	75.0
Estonia	13,348	0.2	0.2	82	85	15	10	17	12	69.5	70.6
Hungary	14,572	0.9	0.7	75	92	15	8	16	9	69.3	72.3
Latvia	9,981	0.2	0.3	77	87	16	17	20	21	69.3	70.4
Lithuania	11,250	0.7	0.4	81	93	17	8	13	9	71.3	72.7
Poland	11,623	..	0.3	76	89	16	8	19	9	70.9	73.8
Romania	7,222	2.9	2.7	73	79	27	19	32	21	69.7	70.1
Slovak Republic	13,469	..	0.3	..	86	14	8	15	9	70.9	73.3
Slovenia	19,300	0.4	0.3	89	92	8	4	9	5	73.3	75.9

Notes: a/ Data for the Czech Republic, Latvia and Romania refer to 1993, Estonia, 1992, Lithuania, 1994, and Slovenia, 1997. b/ Data refer to 2001-02 with the exception of Latvia and Poland (2000/02), and Bulgaria (2003/04). c/ Data for Bulgaria refer to 2003. d/ Data for Bulgaria refer to 1988-90. e/ Data for Bulgaria refer to 2001-03.

Source: UNESCO (Adult illiteracy rates for 2002 refer to 2002-2004, and are available for Census years), World Bank database (DDP), NSI.

B.3 Trade and investment integration: Bulgaria and the CEEC

1.35 As a result of progress in structural reforms, Bulgaria's trade and investment integration has expanded, but its economy has yet to benefit more fully from its integration with EU and global markets (see Table 1.4). Bulgaria has an open economy with total trade in goods and services representing about 122 percent of GDP and compares well with the average ratio of 124 percent of the NMS-8. At 29 percent, the share of trade in services to GDP in Bulgaria is significantly higher than the average of 20 percent for the NMS-8. This reflects the rapidly growing tourism industry in Bulgaria. On the side of merchandise trade, however, Bulgaria's share to GDP at 93 percent is lower than the average share of 103 percent of the NMS-8. These ratios, however, mask larger and more fundamental differences than may appear. Bulgaria's merchandise imports are about 30 percent higher than its merchandise exports. While the share of merchandise imports to GDP is comparable to other countries in the region, its share

of merchandise exports to GDP is very low. Bulgaria's export capacity is improving very slowly and, as shown in Chapter 3, exports are dominated by unskilled labor-intensive and energy-intensive activities.

Table 1.4 Bulgaria and CEEC: Selected Indicators of Integration, 2003

	Imports plus Exports of Goods to GDP (%)	Imports plus Exports of Services to GDP (%)	Imports from EU (% of Total imports)	Imports from CEEC-10 (% of total imports)	Exports to EU (% of total exports)	Exports to CEEC-10 (% of total exports)	FDI from EU (% of total FDI) (2002)
Bulgaria	92.9	28.8	49.6	8.4	56.5	6.8	66.1
Croatia	70.6	n.a.	56.5	16.7	54.9	12.0	71.2 ^{a/}
Czech Rep.	111.3	16.6	59.2	12.6	69.8	18.0	86.1
Estonia	149.6	39.6	51.9	10.2	58.3	14.1	81.5
Hungary	108.4	20.0	56.1	9.7	73.5	11.3	80.2 ^{a/}
Latvia	73.5	22.0	51.0	24.6	61.8	17.5	56.4
Lithuania	93.1	17.0	44.5	11.6	42.1	18.8	59.5
Poland	58.0	10.4	60.6	8.3	68.4	12.9	82.5
Romania	73.1	10.4	57.7	10.6	67.9	8.1	61.1 ^{a/}
Slovak Rep.	137.0	19.4	51.4	22.9	60.7	25.7	79.7
Slovenia	96.2	17.8	67.1	12.8	58.4	18.6	78.1
NMS-8	103.4	20.4	55.2	14.1	61.6	17.1	74.8

Source: World Bank estimates based on data from UN COMTRADE, Eurostat, and BNB.

1.36 With a well diversified trade partnership and a liberal trade regime, producers in Bulgaria have easy access to global markets. Bulgaria has a more diversified trade partnership than other countries in the region. The EU is Bulgaria's largest and most important trading market. Close to 50 percent of its imports and 57 percent of its exports are with the EU. In addition, more than two-thirds of FDI inflows to Bulgaria are from the EU. Germany, Italy, and Russia are the most important trading partners on the import side, with a combined share of about 40 percent of total imports. Italy, Germany, Turkey, and Greece are the most important trading partners, representing about 43 percent of its total exports. Imports from the United States, Canada, and Japan together represent about 4 percent of total imports, and exports to these countries combined are about 5 percent of total exports. Trade with the Balkan countries is 6 percent on the export side and less than 1 percent on the import side.

C. From stability and growth to EU convergence

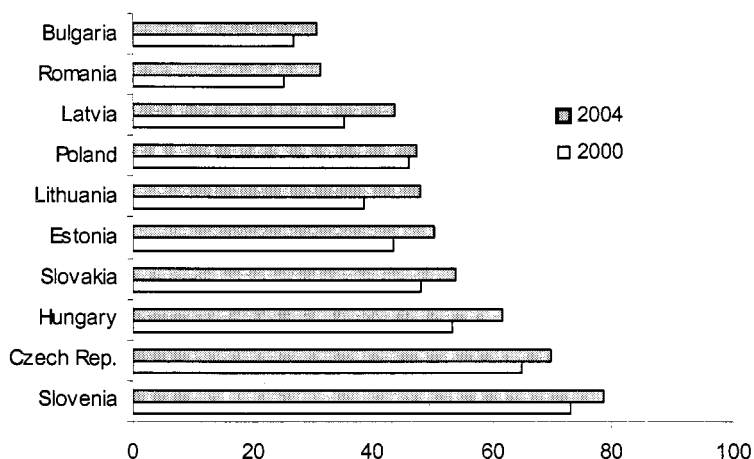
1.37 Bulgaria should take advantage of the momentum of its economic progress to increase productivity and growth performance and accelerate real convergence. Bulgaria's gap in per capita income with EU-25 levels has been declining since 2000—per capita income, at PPS, increased from 25 to close to 31 percent by 2004. This improvement is underpinned by the structural transformation of its economy. The share of the private sector in the economy increased to around 75 percent of GDP by 2004 from 60 percent in 1998. Trade in goods and services expanded to over 117 percent of GDP in 2003 and to 127 percent of GDP in 2004 from

94 percent in 1998. And FDI flows have increased to an average of 7 percent of GDP per year since 1998 compared to an average of 1 percent of GDP in the first nine years of transition. Investors' confidence has improved over time, both domestically and externally, with spreads of Brady and Euro bonds declining since 2002. During the summer of 2004, S&P and Fitch upgraded Bulgaria's long-term foreign currency debt to investment grade rating. If macroeconomic discipline is maintained and the pace of structural reforms is continued, Bulgaria can build on its achievements to date to accelerate real convergence.

C.1. The challenge of convergence

1.38 **Despite this overall positive performance, Bulgaria is one of the poorest countries in Central and Eastern Europe.** Bulgaria's per capita income at PPS in 2004 is 31 percent and 56 percent, respectively, of the average level of the EU-25 and the NMS-8 (see Figure 1.4). The large income differences between Bulgaria and the EU-25 and NMS-8 reflect large gaps in productivity, in physical and human capital stock, in the functioning of products and factor markets in the economy, and more generally in the quality of the policy and institutional frameworks. Closing these gaps is the central challenge of convergence.

Figure 1.4 GDP per Capita, PPS, EU-25=100 : Bulgaria and the New Member States



Source: World Bank staff estimates based on Eurostat.

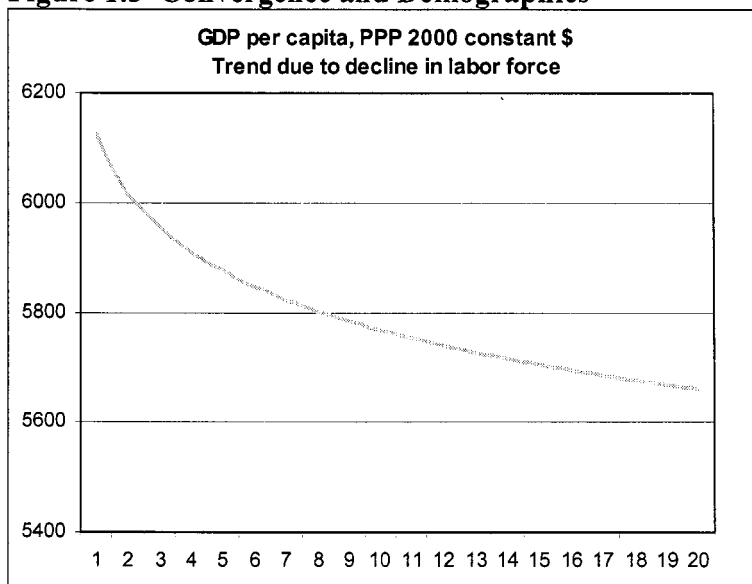
C.2. Bulgaria's demographic challenge and the Lisbon agenda

1.39 **The Lisbon agenda focuses on increasing productivity, growth, and employment.** Bulgaria expects to join the EU in January 2007. To this end, Bulgaria provisionally closed all 31 chapters of the *acquis communautaire* in June 2004. This commitment implies that Bulgaria needs to make significant progress in institutional reforms in the medium term. It also implies that Bulgaria is signing on to central EU principles. The EU Single Market and the Lisbon agenda are particularly relevant in defining Bulgaria's core reform agenda for the future. The

Single European Market principle implies a commitment to the free movement of goods, services, capital and persons within the EU. It also implies that Bulgaria cannot undertake policies that foster—for example, through subsidies or other more subtle means of state aid—domestic production at the expense of undermining producers elsewhere in the EU. Another implication particularly relevant to Bulgaria is a commitment to highly competitive domestic markets. Furthermore, in addition to increasing productivity and growth performance, the Lisbon agenda targets increasing the employment rate to 70 percent by 2010 which implies increasing labor market participation and reducing unemployment rather than discouraging labor market supply.

1.40 These commitments cannot be taken lightly by Bulgaria given its large income and productivity gap with the EU-25 and its large demographic discount. As shown in Chapter 2, there is evidence that productivity is low and output growth is below its potential. labor productivity and investment in inward oriented activities, representing the lion’s share of total investment, are stagnant. And while productivity in outward oriented activities is rising rapidly, employment and investment in these activities has not reached a critical mass in the economy so as to be reflected at aggregate levels. Moreover, the factors of production are underutilized. As a result, competitiveness is limited to unskilled labor-intensive and energy-intensive products, and export capacity is developing very slowly (see Chapter 3).

Figure 1.5 Convergence and Demographics

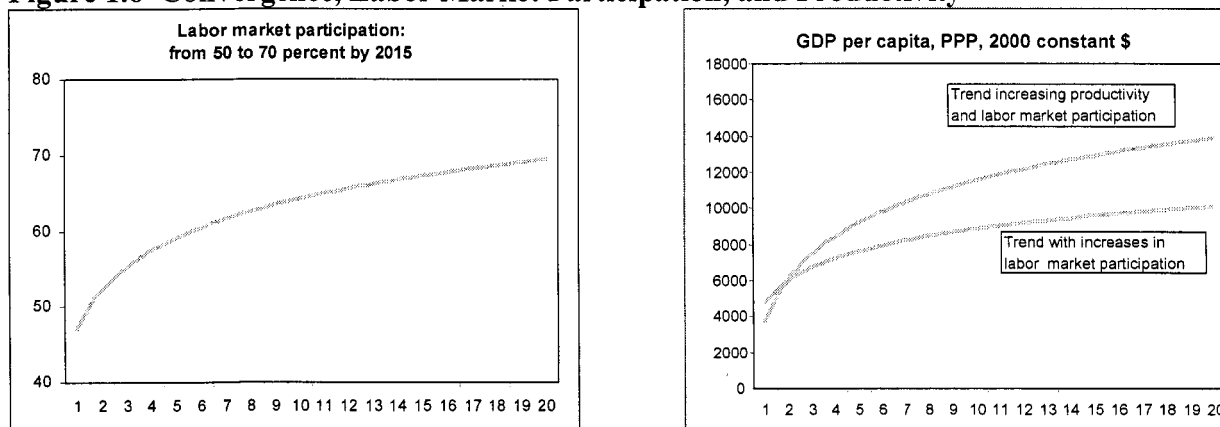


Source: World Bank staff estimates based on World Bank population projections.

1.41 Bulgaria faces a larger demographic discount than most countries in the region. The urgency of implementing a core reform agenda centered on productivity and growth is more pressing for Bulgaria than for other countries in the region where the demographic discount is not as large and is not increasing as rapidly. Bulgaria has had a negative natural rate of population growth (about -0.7 percent per year), which, together with net out-migration (about -0.1 percent per year) resulted in a negative population growth averaging -0.8 percent a year

during the 1990s and early 2000s. As a result, the working age population is declining rapidly and the aging population is growing fast—the demographic discount is large and rising (see Figure 1.5). It is estimated that in 20 years' time the working age population will decline by 19 percent and the population older than 64 years will increase by 17 percent relative to 2005 levels. Figure 1.5 shows the trend in the GDP per capita at PPP, 2000 constant US dollars if it is driven solely by the decline in the labor force as a result of the demographic trends.

Figure 1.6 Convergence, Labor Market Participation, and Productivity



Source: World Bank staff estimates based on databases of the World Bank and World Bank population projections.

1.42 Convergence implies that Bulgaria needs to increase productivity and labor market participation (see Figure 1.6). Simple estimates indicate that if per capita income is to double in 20 years, which would result in its reaching two-thirds of the EU-25 per capita level, GDP per worker would need to increase by about at least 5.5 percent per year. The trend in the declining labor force implies that labor productivity needs to increase by about 1 percentage point per year just to compensate for the impact of the decline in the labor force on income per capita. Increasing labor market participation appears to be insufficient to compensate the impact. As shown in Figure 1.4, without increases in labor productivity to compensate for the declining trend in the labor force, the effects of this trend on per capita income can be sizable.

1.43 As shown in Figure 1.6, convergence depends strongly on increasing labor market participation. Productivity growth cannot compensate for a low labor market participation of 50 percent. Even if productivity increases, without an increase in labor market participation to 70 percent, Bulgaria's per capita income will remain below one-third of the EU-25 level. Figure 1.6 (right-hand panel) shows two per capita income paths; the lower path is an estimate of the trend that per capita income would take if labor market participation remained at the low current level of 50 percent. Under this scenario, Bulgaria's per capita income would grow but the gap with the EU-25 would remain at the current large level of close to 70 percent. Alternatively, if labor market participation should increase from 50 to 70 percent by 2015 and productivity should also increase then per capita income could double in about 20 years and the gap with the EU-25 could be reduced to about 30 percent. This is the higher path shown in Figure 1.6.

1.44 Reallocating resources from low to higher productivity activities is seriously constrained by labor market rigidities. Bulgaria's labor market is performing poorly. As

shown in Chapter 5, Bulgaria has the second lowest labor market participation (49.4 percent compared to 58 percent in the EU-25 in 2003) and the lowest employment rate (43.6 percent compared to 53 percent in the EU-25 in 2003). Simple estimates indicate that if Bulgaria is to meet the Lisbon labor market performance targets by 2010, employment would need to increase by about 8.0 percent per year in 2005-10; and labor market participation would need to increase by about 4.5 percent per year during the same period. Meeting the Lisbon labor market performance targets is challenging even if these are met by 2020: employment and labor market participation would need to increase by 3.5 and by at least 2 percent per year, respectively, over the next 15 years.

1.45 In addition, there is evidence suggesting that the regulatory and institutional framework for competition in the domestic markets has a large scope for improvement. Entry and exit of businesses in Bulgaria is not easy, fast, or cheap. These impediments often tend to result in substantial temporary rents. Limited competition in the domestic markets does not exert pressures to cut costs or improve productivity. Therefore, the central challenge of Bulgaria's core reform agenda is to move towards a Lisbon-growth path—mainly reforms that enable the market mechanism to reallocate resources from lower to higher productivity activities.

2. MOVING TOWARDS A LISBON-GROWTH PATH

2.1 To move to a Lisbon-growth path, the key drivers of convergence are productivity and growth. Bulgaria faces important reform challenges in improving its productivity and growth performance. Indeed, there is evidence that growth is below its potential level and the factors of production are underutilized: (i) firms are on average operating at 70 percent of their production capacity; (ii) labor market participation is very low; and (iii) a considerable share of employment remains in largely unproductive segments of the economy or where productivity is stagnant.

2.2 Despite positive developments in terms of reforms and economic performance, Bulgaria's economy has yet to move to a more solid growth path. The growth of aggregate demand components shows a relatively strong bias in favor of consumption rather than investment. This is a troubling trend as Bulgaria's investment gap compared to other countries in the region is large. Although productivity is rising rapidly in activities oriented to servicing external markets, productivity in activities oriented to servicing domestic markets is stagnant, and investment shows a strong bias in favor of sectors that mainly service the domestic market. This reflects the combined effects of important deficiencies in the policy and institutional frameworks, whose costs can be transferred to domestic consumers via a combination of higher prices and lower quality but not to consumers in external markets, where there is intense competition. On the supply side, growth is being driven mainly by total factor productivity with only small contributions due to capital accumulation and the declining labor force acting as a brake. Intra-sectoral restructuring shows that substantial inefficiencies remain because of the large share of employment that is in largely unproductive segments of the economy or where labor productivity is stagnant. As a result, further restructuring and relatively sizable labor adjustments will be needed to move towards a Lisbon-growth path.

2.3 In addition to increasing productivity and growth, the Lisbon agenda targets increasing the employment rate to 70 percent by 2010. This target implies that reforms should increase labor market participation and reduce unemployment rather than discouraging labor market supply. These objectives cannot be taken lightly, since, in addition to Bulgaria's large income and productivity gap with the EU-25, its labor market is performing poorly (see Chapter 5) and its demographic discount is large.

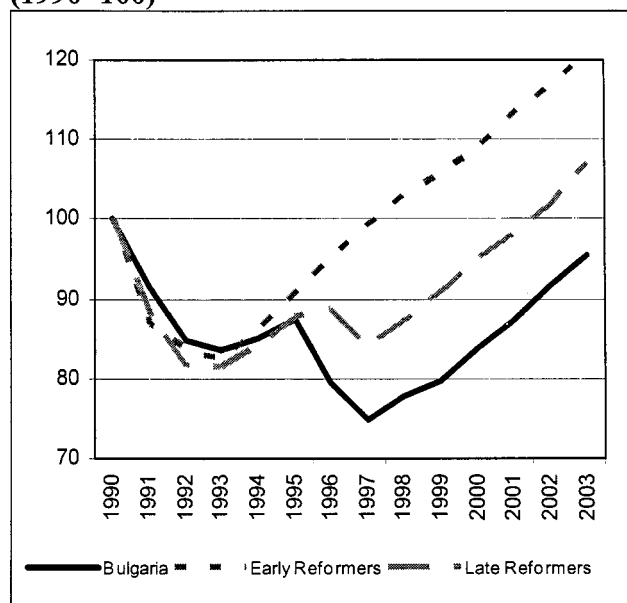
2.4 This chapter, then, is concerned with the issues that are involved in moving towards a Lisbon-growth path. First the chapter examines growth dynamics, and then it assesses the trends in the drivers of growth on the aggregate demand side. It then examines the patterns of sectoral investment and productivity. The chapter then analyzes the shifts that have taken place through inter-sectoral restructuring. The findings of an analysis of the general characteristics of economic performance at the firm level are discussed. The growth accounting analysis examines the growth drivers on the supply side. The mechanics of alternative growth paths and their key determinants are discussed in the context of an estimated growth cycle model that mimics the growth path of Bulgaria's economy. The chapter then presents the key findings of a cross-country dynamic panel analysis used to estimate Bulgaria's growth in the two periods 1995-99 and 2000-2003 relative to the performance of other countries. The chapter ends by

outlining the main components of a core reform agenda for moving towards a Lisbon-growth path.

A. Growth dynamics

2.5 Growth dynamics over the last seven years reflect deep economic restructuring. The economic transformation of Bulgaria's economy began 7 rather than 16 years ago. A failed transition through 1997 magnified the problems of resource allocation. Indeed, some of the structural shifts that took place in the first half of the 1990s had to be reversed once market-oriented reforms began in 1997. As a result, the economy suffered a longer period of output decline, with an initial collapse in output followed by a second and deeper economic contraction in the middle of the decade. In fact, as shown in Figure 2.1, the contraction in output in Bulgaria was more severe than in other transition economies. Bulgaria's economic recovery since 1998 has taken place in the context of impressive economic reform and prudent macroeconomic policies. The growth rate averaged 4.2 percent per year between 1998 and 2003, about the same rate as the average seen in New Member States. However, trends in productivity will need to catch up with those in strong performers of the New Member States, if Bulgaria's competitiveness is to be improved.

Figure 2.1 GDP Dynamics, 1990-2003
(1990=100)

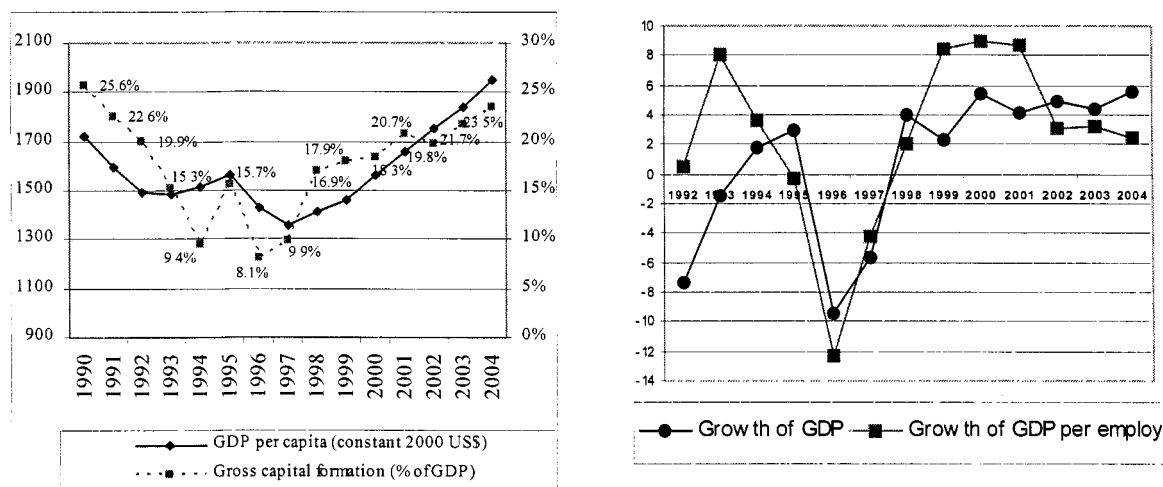


Source: World Bank staff estimates based on DDP database.

2.6 Overall economic growth and rising per capita income in real terms closely follow labor productivity and investment developments (see Figure 2.2). As in other CEEC, during the first few years of political transition, output and per capita income experienced a deep fall, reaching a first trough in 1993. This was followed by a transitory recovery in 1994-95 driven by a quasi-fiscal deficit and an accommodating monetary policy, which resulted in high rates of money creation and consequently was unsustainable. The stripping of the value of assets and hyperinflation resulted in a dramatic fall in investment and hence in labor productivity. The

decisive stabilization and structural reforms initiated in the second half of 1997 provided momentum for a vigorous recovery which has been sustained since 1998. The large income differences between Bulgaria and the EU-25 and NMS-8 reflect gaps in productivity, in physical and human capital stock, in the functioning of products and factor markets in the economy, and, more generally, in the quality of the policy and institutional frameworks. The analysis of the drivers of growth on the aggregate demand side, inter-sectoral economic restructuring, and the sources of growth on the factor side outlines the central challenges in growth and competitiveness.

Figure 2.2 Growth, GDP per Capita Growth, Labor Productivity, and Investment, 1990-2004



Source: World Bank staff estimates based on NSI, MOLSP, and World Bank databases.

B. Drivers of growth

2.7 The analysis of growth in this section reveals some troubling trends. The growth of aggregate demand components shows a bias in favor of consumption relative to investment. Despite the fact that the productivity of sectors oriented mainly to servicing the external markets is rising rapidly while the productivity of sectors oriented to servicing the domestic markets is stagnant, investment is biased in favor of servicing the domestic market. Inter-sectoral restructuring shows that large inefficiencies remain. As a result, growth on the supply side is being driven mostly by total factor productivity, with only small contributions from capital accumulation and the labor force acting as a brake on growth. Moreover, there is evidence that growth is below its potential and the factors of production are underutilized. This section examines the drivers of growth on the aggregate demand side of the economy and includes a sectoral analysis of investment, employment and productivity. The overall trends of inter-sectoral restructuring are then discussed and compared to those observed in the NMS. The results of estimates of sources of growth on the supply side are then presented, followed by a discussion of the implications of two models: one focusing on potential output growth as estimated by a growth cycle model, and the other using a model of conditional convergence to compare the growth performance of Bulgaria with that of other countries in the region.

B.1 Drivers of growth: Aggregate demand components

2.8 **The growth of aggregate demand components shows a relatively strong bias towards consumption relative to investment (see Table 2.1 and Figure 2.3).** On the aggregate demand side, close to 90 percent of the average GDP growth in 2000-04 was due to total consumption, driven mostly by private consumption. The growth of total consumption represented about 4.5 percentage points of an average growth rate of 4.9 percent per year during this period. With sustained growth and relatively low inflation resulting in improvements in income levels and purchasing power, the growth of private consumption has been robust at about 3.5 percentage points of an average GDP growth rate of 4.9 percent per year. In contrast, the contribution of gross domestic investment to growth was at an average of 2.9 percentage points despite its rapid growth of an average 14 percent per year in 2000-04. This was largely due to Bulgaria's relatively low level of investment of around 21 percent of GDP during the same period.

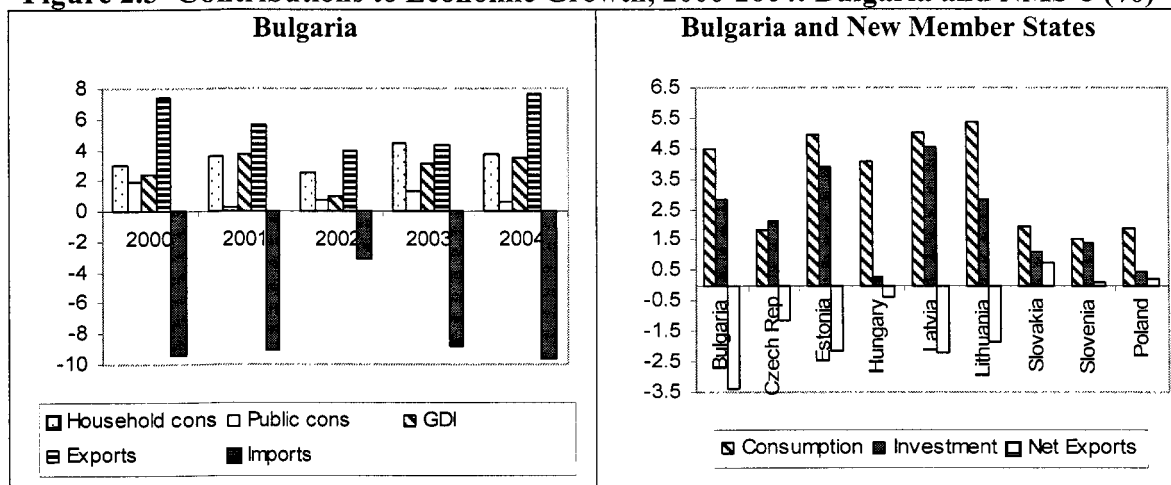
2.9 **The challenge of investment in Bulgaria includes several dimensions in both its level and its composition.** As a result of the protracted transition, Bulgaria lost more physical and human capital than most of the other transition countries. Investment fell more rapidly than output; the decline was particularly severe between 1994 and 1997, at the time of the second and deeper economic contraction. Only one other country in CEE registered a lower investment ratio during the transition (Albania, in 1991-92). Similarly, Bulgaria's human capital has fallen precipitously during the transition years. Only recently has investment in Bulgaria started to recover. As a result, the investment gap in Bulgaria relative to other countries in the region is large. The average investment to GDP in Bulgaria in 1991-2004 was 17 percent compared to an average of 25 percent in the NMS-8. This reflects a longstanding neglect of investment in Bulgaria despite the rapid increase in debt up to 1997. Later, the legacy of high indebtedness limited both public and private investment. It is only recently that investment has started to recover from a trough of 10 percent of GDP in 1997.

Table 2.1 Bulgaria: Drivers of Growth of Demand Components, 1990-2004

	Growth rates (%)				Shares of GDP (%)			
	1990 to 1995	1996 to 1997	1998 to 2004	2000 to 2004	1990 to 1995	1996 to 1997	1998 to 2004	2000 to 2004p
GDP	-4	-8	4	4.9	100	100	100	100
Exports of GNFS	-14	12	6	10.9	42	57	52	55
Imports of GNFS	-16	4	13	13.5	44	52	59	63
Investment	12	-22	25	14.2	18	9	20	21
Fixed Investment	-10	-20	18	14.6	16	12	17	19
Gov. Consumption	-9	-15	6	5.7	18	12	18	18
Priv. Consumption	-4	-7	5	5.1	66	74	69	69

Source: World Bank staff estimates based on NSI data residing in World Bank databases, and latest NSI estimates for 2003-2004; 2004 data are preliminary data.

Figure 2.3 Contributions to Economic Growth, 2000-2004: Bulgaria and NMS-8 (%)



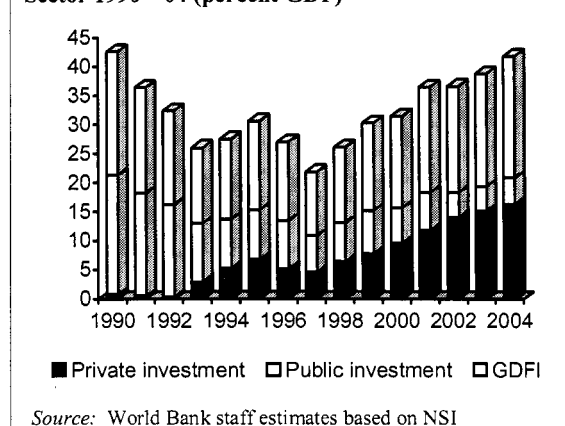
Source: World Bank staff estimates based on NSI and Eurostat.

2.10 Investment to GDP has been recovering more rapidly since 2003, increasing to 23.5 percent of GDP in 2004. Stabilization and structural reforms have improved the investment climate and as a result the private sector leads in carrying out most of the investment with a share of about 73 percent of total investment. Similarly, foreign direct investment is playing a central role in rebuilding Bulgaria's capital stock, at about an average of 8 percent of GDP per year during 2000-04, but it has yet to reach the critical mass needed to improve efficiency and deepen integration with the external markets. Nevertheless, an investment gap of 8 percentage points of GDP relative to the NMS-8 indicates that the level of investment remains an important challenge in Bulgaria. Two aspects are central to addressing this challenge: one is the mix of public and private investment, and the other is the trade orientation and factor intensity of investment.

B.2 Sectoral investment and productivity

2.11 Since 1998, solid economic recovery has been supported by the recovery of investment and rising labor productivity (see Figures 2.4 and 2.5). The stabilization of the economy and the implementation of a number of structural reforms have improved the environment for private sector development and investment. Private sector output grew at 8 percent per year between 1998 and 2003, while private investment increased from 5 percent of GDP in 1996-97 to almost 8 percent in 1998. By 1999, private sector investment exceeded investment by the public sector (general government, SOEs and state-owned banks), and three years later private investment was already

Figure 2.4 Gross Domestic Fixed Investment by Sector 1990 - 04 (percent GDP)



more than two-thirds of total investment. Labor productivity grew faster during 1998-2002 than GDP growth. The re-entry in low-productivity jobs of about 100,000 long-term unemployed under the active labor market program “From Social Assistance to Employment” contributed to the decline in labor productivity growth, which fell below the rate of GDP growth in 2002-04.

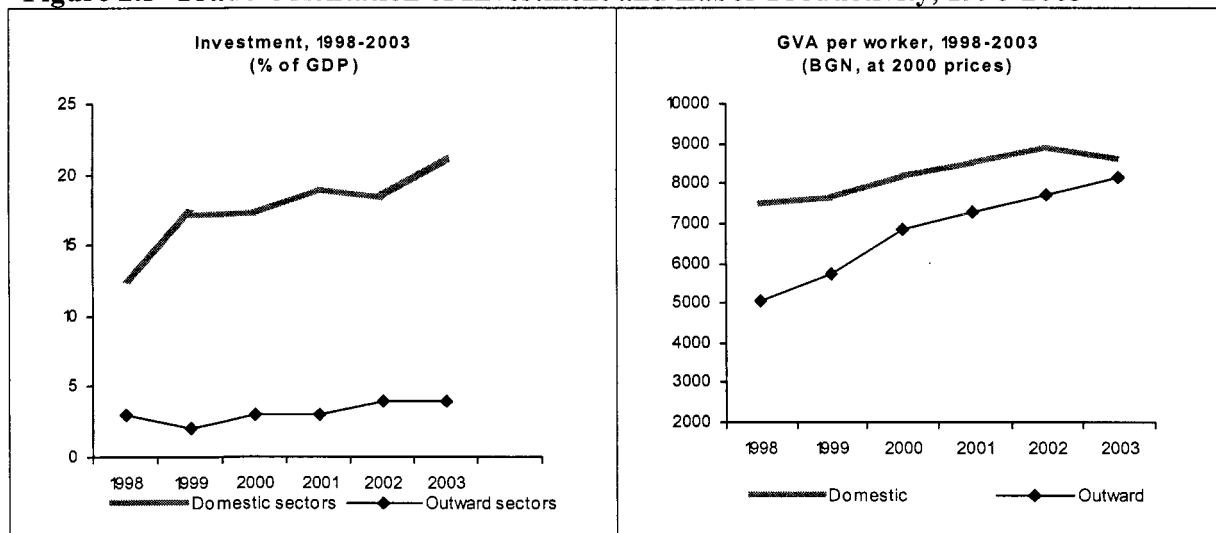
2.12 While private investment accelerated, it lacked an essential complement in basic public infrastructure as gross domestic fixed investment by the public sector declined sharply. Gross domestic fixed investment by the private sector more than doubled, from 6.4 to 14 percent of GDP, between 1998 and 2002. In contrast, fixed investment by the public sector declined from 6.7 to 4.3 percent of GDP during the same period. This decline is partly explained by the legacy of high indebtedness of the public sector but, as shown in Chapter 4, for the most part it was due to growing imbalances between public current and capital expenditures while fiscal consolidation was being implemented. Public capital expenditures and operations and maintenance outlays bore a heavy brunt in the fiscal adjustment. This trend began to be reversed only in 2003. As a result of the long-standing neglect of basic public infrastructure, private investment lacks an essential complement, owing to deficiencies in basic public infrastructure, particularly in the transport network.

2.13 Investment in sectors oriented to servicing the domestic market dominate total investment, while outward oriented investment shows a modest expansion (see Figure 2.5). An analysis of gross domestic investment distinguishes two categories. Outward-oriented investment includes investment in sectors with net export receipts of at least 30 percent of total receipts from sales. And inward-oriented investment includes investment in sectors with net export receipts below 30 percent of total receipts from sales, and hence these sectors are predominantly oriented to servicing the domestic market and include nontradables. Solid growth performance relies on both types of investments and activities driven by their corresponding levels of productivity. The question is if the policy framework supports resource allocation to high productivity activities. Investment oriented to servicing the domestic market (or inward-oriented investment) has seen an increase of close to 9 percentage points of GDP over 1998-2003, while investment oriented to servicing outward markets (or outward-oriented investment) has experienced only a modest growth during the same period. The expansion of inward-oriented investment was concentrated in trade, energy, real estate and business services. This expansion made important contributions in developing basic services for the economy. However, with the exception of trade, these sectors have not contributed much to the overall growth of the gross value added of the domestic sectors as a whole, despite the fact that these had a cumulative growth of 18 percent in 1998-2003. Outward-oriented investment was driven by the manufacturing of textiles and textile products, and the manufacturing of basic metals. These sectors have also been driving output growth in the outward sectors, together with the manufacturing of machinery and equipment and chemical products. Overall gross value added in the outward sectors showed a growth of 44 percent in 2003 compared to 1998.

2.14 However, the labor productivity growth of outward oriented investment markets outpaces the labor productivity of inward oriented investment (see Figure 2.5). The outward-oriented sectors enjoyed a gain in productivity as measured by a gross value added per worker of 61 percent between 1998 and 2003—or about four times higher than the productivity gains of the inward-oriented sectors. The productivity of the latter even declined in 2003

compared to 2002, which was associated with the increase in public employment due to a government sponsored employment program.¹³ The sizable labor productivity growth of the outward-oriented sectors is associated with the positive effects of international competition, which exerts pressures to the use of factors of production as efficiently as possible in order to remain competitive in the international markets. Outward-oriented sectors in general also tend to import and adapt new technologies in order to remain competitive with other players in the external markets, which in turn increases labor productivity.

Figure 2.5 Trade Orientation of Investment and Labor Productivity, 1998-2003



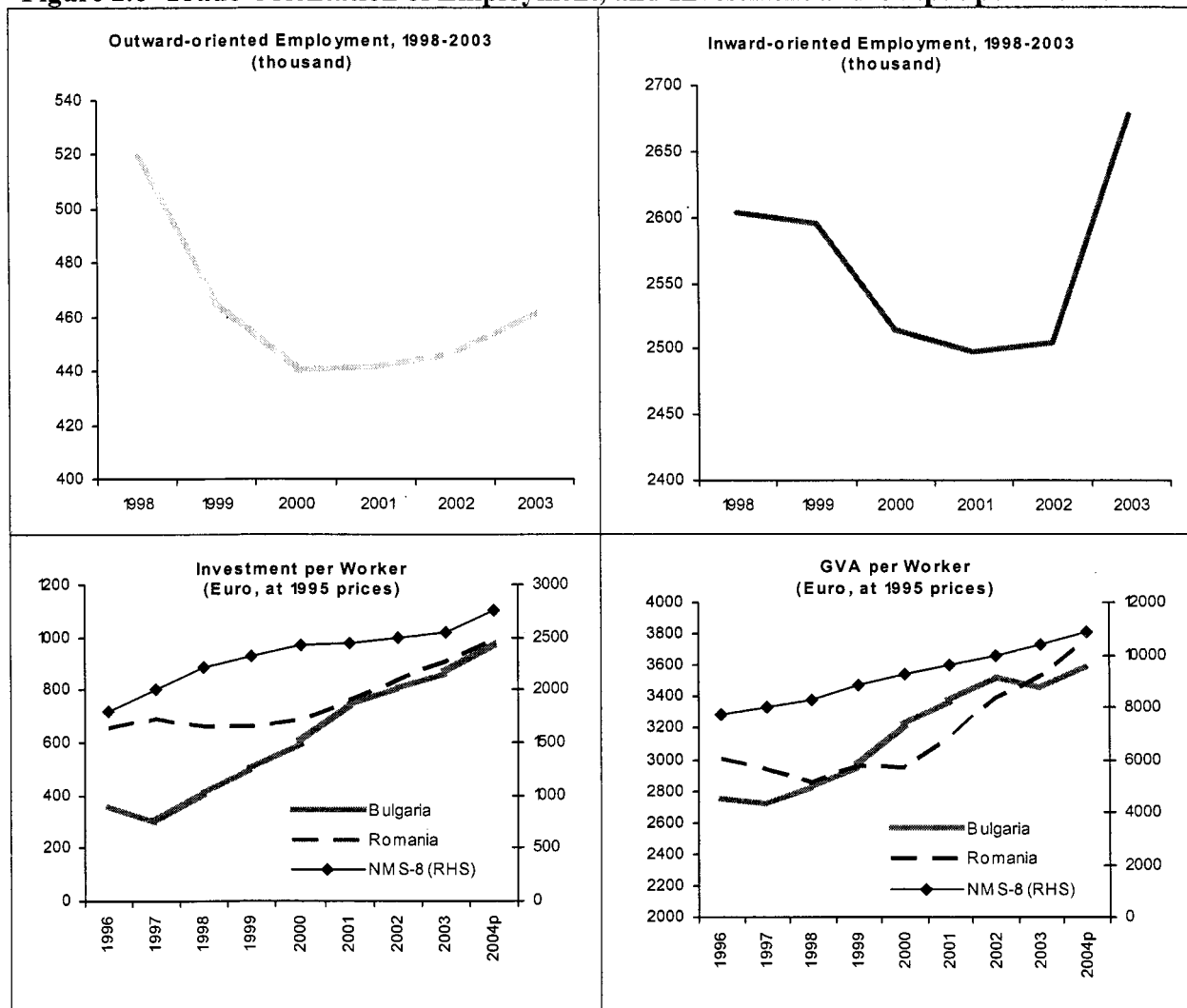
Source: World Bank staff estimates based on NSI data.

2.15 After the economic transformation started in 1998, productivity growth was accompanied by labor shedding, with outward-oriented sectors exhibiting momentum in employment expansion in 2002-03 (see Figure 2.6). The trade orientation of employment resembles that of investment, with inward-oriented sectors having five to six times more employment than outward-oriented sectors. Employment in both categories declined in 1998-2000 as a result of deep economic restructuring. However, the economic restructuring was deeper in the outward-oriented sectors. Employment in the outward-oriented sectors declined by about 15 percent in 1998-2000 as part of the major economic restructuring associated with the privatization of SOEs and the liquidation of unviable firms. Surplus labor was highest in the manufacturing of transport equipment, chemicals and rubber, and electrical and optical machinery. At the same time, employment in textile manufacturing was growing steadily throughout the period, while sectors such as the manufacturing of wood and wood products, rubber and basic metals experienced significant increases in employment between 2001 and 2003. Labor shedding was less pronounced in inward-oriented sectors in 1998-2000 and the sharp increase in employment in this category in 2002-03 reflects the re-entry of the long-term unemployed into low productivity jobs.

¹³ The program “From Social Assistance to Employment” started in late 2002 as a pilot and proceeded at full speed in 2003. It provided public sector jobs to around 100,000 long-term unemployed.

2.16 Although starting from a very low base, investment per worker and labor productivity are catching up to the NMS-8 (see Figure 2.6). With the depletion of assets, and of physical and human capital, and the large distortions in the economy with many sectors having considerable surplus labor, Bulgaria began its economic transformation with a very low level of investment per worker. With the deep economic restructuring since 1998, both investment per worker and labor productivity are catching up with the levels observed in the NMS-8. However, productivity gains in Bulgaria during 1998-2004 remain below the NMS-8 average.

Figure 2.6 Trade Orientation of Employment, and Investment and Output per Worker



Source: World Bank staff estimates based on NSI and Eurostat data. Note: 2004 are preliminary data.

2.17 The productivity gap is widening compared to the Baltic countries and Poland, which have been catching up rapidly with EU levels over the last few years. In 2002-04, the Baltic countries experienced productivity growth rates of more than 6 percent per year, whereas productivity gains in Bulgaria slowed down in 2002 and declined in 2003. This slowdown and decline are associated with the public sector sponsored low productivity jobs for the long-term

unemployed and the introduction of the mandatory registration of labor contracts. Both government policy measures, together with some private job creation, resulted in an unprecedented increase in employment by 6 percent in 2003 compared to 2002. Adjusting overall productivity levels for low-productivity public employment does not change the slump in overall productivity, although it renders it less pronounced. The imposition of stricter rules for labor registration have increased formal employment but have not translated to higher productivity levels. While labor productivity recovered to around 4 percent growth in 2004, it remains below the 4.5 percent growth attained in 2002.

2.18 An analysis of economic performance at the firm level shows that large firms are far more productive than small and medium enterprises and that on average firms operate at 70 percent of production capacity. Annex A presents a model for estimating total factor productivity at the firm level. Economic performance indicators, including growth, labor productivity, and total factor productivity, were examined at the firm level using regression analysis to identify the major correlates of growth and structural characteristics. The statistical model is a basic specification with a parsimonious set of correlates. The analysis indicates that the private sector in Bulgaria is characterized by a relatively small number of large firms, some of which are foreign owned, which are growing rapidly and generating high levels of productivity, and are fairly isolated in their operations from small and medium enterprises. Small and medium enterprises exhibit large inefficiencies. On average, firms operate at 70 percent of production capacity.

2.19 The statistical analysis also shows that foreign direct investment flows and exports are positively associated with higher productivity but the relation is not statistically significant. There are a limited number of foreign owned firms in the sample used in the exercise, which may be responsible for the weak statistical link between FDI and exports, and productivity. However, as shown in Chapter 3, a closer look at the sectoral composition of FDI flows shows that a large share of FDI is in services and only a small share is in the tradable sectors. Hence, FDI flows in tradables have not reached a sufficient critical mass to have a robust positive impact on productivity. On average, in 1998-2003 about 60 percent of FDI in Bulgaria was located in services, with more than half of these flows in the financial sector, and only about 30 percent of FDI was in tradables, nearly all in manufacturing. Similarly, exports were dominated by unskilled labor intensive products, which explains the weak statistical relation between exports and productivity indicators. Moreover, analysis of inter-sectoral restructuring indicates that large inefficiencies remain.

B.3 Inter-sectoral restructuring

2.20 The economic restructuring of the Bulgarian economy thus far has been remarkable, considering that it has been taking place for only seven years (see Table 2.2). In addition to this short period of economic transformation, the initial conditions for restructuring were unfavorable compared to those in the NMS-8. The legacy of indebtedness and the collapse of the banking sector in 1996 severely limited the amount of available financing.¹⁴

¹⁴ The restructuring of the banking sector was implemented quickly and by 2002 the majority of banks were foreign and were well capitalized. However, financial intermediation was low and credit growth declined from above 6

Nevertheless, the Bulgarian economy today is substantially different in terms of its structure and functioning from that of 1990. The share of services in GVA shows a large expansion which nearly doubled from 31 to 59 percent between 1990 and 2004. The re-establishment of banking, the development of the tourism industry, business services, transport, and so on have contributed to the rapid expansion of services. As a result, Bulgaria's share of services in GVA compares well with the average for the NMS-8 which stands at 63 percent.

2.21 The expansion of services in the economy was accompanied by a sizable increase in the share of employment in services. The share of employment in services to total employment increased from a low level of 37 percent, compared to 42 percent in NMS-8, in 1990, to 47 percent in 2003. Bulgaria's share of employment in services is lower than the share of 56 percent for the NMS-8. However, the extent to which the labor increase in services reflects the efficient allocation of human capital or employment of last resort in low productivity and low paying jobs is not clear. The latter scenario cannot be excluded, since labor productivity in inward-oriented activities, which include a large share of the services sector, is stagnant.

2.22 The trends in agriculture, however, are in sharp contrast to those observed in the New Member States. In Bulgaria the share of employment in agriculture in total employment increased sharply, from 18.5 to 25.5 percent between 1990 and 2003. In the NMS-8 the share of employment in agriculture declined from 19 to 13 percent (see Table 2.2). Furthermore, the share of agriculture in GDP in Bulgaria declined from 18 to 11 percent during the same period. As a result, productivity in agriculture has declined sharply.

2.23 Given Bulgaria's much higher level of over-industrialization in 1990, the economic restructuring in industry has been more pronounced than in the NMS-8. The share of industrial employment in Bulgaria dropped from 44.8 to 27.2 percent, or about 17.6 percentage points, between 1990 and 2003 (see Table 2.2). In the NMS-8 the share of industrial employment declined from 38.6 to 31.5 percent, or about 6.5 percentage points, during the same period. On the output side, the share of industry in GVA in Bulgaria declined by 21.3 percentage points while in the NMS-8 it declined by 12.7 percentage points. Despite the deep restructuring in industry, its share in GVA at 30 percent is significantly lower than the share of 34 percent in the NMS-8.

2.24 The implication of these trends for growth potential and convergence cannot be understated. With large inefficiencies in the agricultural sector and stagnant labor productivity in services, Bulgaria faces a considerable challenge in productivity. With labor being shifted to low or stagnant labor productivity activities, aggregate productivity levels could grow too slowly (as it seems to be the case) for Bulgaria to move towards a more solid convergence path as it approaches EU accession. Indeed, the analysis of growth accounting shows that growth is being driven mostly by total factor productivity.

percent in 1999 to under 1 percent in 2002 (see Figure 1.7 in Chapter 1). Credit started to grow in late 2002 and had accelerated to a high rate of 43 percent in 2004.

Table 2.2 Inter-sectoral Restructuring: Bulgaria and NMS-8, 1990 - 2004

A. Average Real GDP Growth (percent)			
	1990-2004	1995-2004	Index of Real GDP in 2004 (1990 = 100)
Bulgaria	-0.4	1.9	101.1
NMS-8 ^{1/}	1.9	4.1	137.8
B. Structure of Production (percent) ^{2/}			
	1990	1995	2004
Bulgaria			
Agric, forestry & fishing	17.7	13.4	10.9
Industry	51.3	32.7	30.0
Services	31.0	54.0	59.1
NMS-8 ^{3/, 4/}			
Agric, forestry & fishing	10.7	6.3	3.3
Industry	46.8	37.4	34.1
Services	42.5	56.3	62.6
C. Structure of Employment (percent)			
	1990	1995	2004
Bulgaria	100.0	100.0	100.0
Agric, forestry & fishing	18.5	23.9	25.5 ^{4/}
Industry	44.8	33.8	27.2 ^{4/}
Services	36.7	42.3	47.3 ^{4/}
NMS-8 ^{3/}			
Agric, forestry & fishing	19.1	16.3	12.6
Industry	38.6	34.2	31.5
Services	42.3	49.5	55.9
Memorandum:			
		Bulgaria	NMS-8
Average growth in 2000 - 2004p (percent) ^{4/}		4.9	4.8

Notes: NMS-8 includes new member states, excluding Cyprus and Malta. 1/ Averages are based on population weights. Data for 2004 are preliminary. 2/ Share of gross value added at basic prices. 3/ Data are for 2003. 4/ Observations for 1990 are weighted averages of the earliest available years, which are as follows: Production data: Estonia, Latvia, Slovenia - 1991, others, 1990. Employment data: Latvia excluded, Hungary - 1992, Czech Republic, Slovenia - 1993, Slovak Republic - 1994, others is 1990; 5/ NMS-8 production calculation uses 2003 data for Estonia, Hungary, Slovenia. 6/ NMS-8 employment calculation for 1995 uses 1997 data for Latvia.

Sources: World Bank staff based on data from NSI Bulgaria, EUROSTAT, ILO, WDI 2004, ECA Regional Tables (2005).

C. Growth accounting: Drivers of growth on the supply side

2.25 The sources of growth indicate that the economy shifted from a negative total factor productivity in 1989-97 to a positive rate in 1998-2003. Table 2.3 presents a growth accounting decomposition estimate based on different sets of assumptions regarding the initial

capital stock and the rate of depreciation (see Annex B).¹⁵ Given the poor quality of the data, the conclusions can be indicative only of the direction of changes during the period. These results, however, are robust compared to alternative assumptions about the initial capital stock and depreciation rates, and are broadly consistent with other estimates of total factor productivity (TFP) for Bulgaria and with the prevailing trends in the CEE reported elsewhere in the literature.¹⁶ Most of the fall in GDP in 1990-97 was the result of a drop in (TFP). In particular, the rate of growth of TFP was highly negative during the earlier years of transition, and the decline accelerated during the second deeper contraction of 1996-97. The decline in TFP implies that the marginal productivity of capital fell abruptly following the transition. In contrast to the productivity trends in 1989-2003, the recovery of economic growth since 1998 has led to a rapid increase in TFP.

2.26 The contribution to growth of capital accumulation follows closely the trend in total factor productivity. In addition to a large positive TFP in 1998-2003, the rate of growth of the physical capital stock followed a similar trend: capital per worker fell between 1990 and 1997 and has increased since 1998. Finally, the rate of growth of the labor force was negative in 1990-97 and continued to be negative during 1998-2003.

Table 2.3 Bulgaria: Growth Accounting, 1990-2003

	Real GDP Growth	Contribution of:						
		Labor	Physical capital ¹	TFP ¹	Physical capital ²	TFP ²	Physical capital ³	TFP ³
1990-03	-0.8	-0.2	0.2	-0.8	-2	-0.4	-0.4	-0.2
1990-97	-4.6	-0.3	-0.4	-3.8	-0.8	-3.5	-1.0	-3.3
1998-03	4.1	-0.2	1.0	3.3	0.6	3.7	0.3	4.0

^{1/} $k_0=1.5$, ^{2/} $k_0=2.0$, ^{3/} $k_0=2.5$

	Real GDP Growth	Contribution of:						
		Labor	Physical capital ¹	TFP ¹	Physical capital ²	TFP ²	Physical capital ³	TFP ³
1990-03	-0.8	-0.2	0.2	-0.4	-0.6	0.0	-0.9	0.3
1990-97	-4.6	-0.3	-1.1	-3.2	-1.4	-2.8	-1.7	-2.6
1998-03	4.1	-0.2	0.9	3.4	0.5	3.8	0.1	4.2

^{1/} $k_0=1.5$, ^{2/} $k_0=2.0$, ^{3/} $k_0=2.5$.

¹⁵ The estimated Cobb-Douglas production function is: $Y = AK^\alpha L^{1-\alpha}$, where Y = total output, L = labor force, K = capital, α = capital share of output, A = total factor productivity. The capital stock is estimated as $K_t = (1 - \delta)K_{t-1} + I_t$, where δ is the depreciation rate and assumed equal to 6 percent and 8 percent to generate alternative estimates. I_t is gross capital formation. K_0 (for 1987) is assumed equal to 1.5*GDP, 2.0*GDP, and 2.5*GDP to generate alternative estimates. The values of the depreciation rate used are higher than the usual benchmark of 4 percent. This is to reflect the fact that capital stock used to produce output before the transition had become rapidly obsolete post transition. The assumptions of K_0 include higher ones than the benchmark for less developing countries (usually 1.5*GDP) to reflect the fact that most Eastern European transition economies had been characterized by "over-industrialization" in the pre-transition era compared to their counterparts in other developing regions. See Annex B.

¹⁶ See, for example, EBRD Transition Reports, Campo and Coricelli, 2002.

2.27 The growth accounting analysis for the period 1998-2003 shows that growth has been driven mostly by TFP. This implies that to a large extent growth has been the outcome of shedding excess capacity and eliminating inefficiencies. There has been a small positive contribution of capital accumulation to growth, reflecting the fact that the upgrading of the capital stock is at an early stage. At the same time, a shrinking labor force imposes a demographic discount on growth. Limited improvements in upgrading skills in the labor force may be partly compensating for the negative growth of the labor force.

2.28 The results indicate that the contribution of TFP to growth was lower after 2000 when compared to the estimates without the human capital adjustment. Estimates can be calculated adjusting for the quality of human capital using the educational attainment of the labor force and the existing estimates of returns to education as proxies to estimate a measure of human capital (H). Two alternative methods were used. One method follows Loayza et al. (2004) and the other Gosh and Kraay (2000). During 1992-97 the negative growth resulting in a sizable contraction of output can be attributed mostly to sharp declines in TFP more than to changes in the labor force once it is adjusted for the quality of human capital. This is due to a large outflow of workers with a lower education level from the labor force, which changed the educational structure of employment substantially during this period. In contrast, from 1998 to 2003 the structure of the labor force changed less dramatically, with only a small improvement in the share of workers with a higher education going from 14 percent in 1998 to about 18 percent in 2003.

2.29 Adjustments for the skill content of the labor force result in a slightly lower estimate of TFP. As a result, the growth attributable to TFP changes is lower with human capital adjustment than with unadjusted changes in the labor force. Using a depreciation rate of 8 percent and an initial capital stock to GDP of 2.0, TFP contributes 3.8 percentage points of the GDP growth of 4.1 percent per year, with capital accumulation contributing 0.5 percentage points, while the contribution of the labor force, unadjusted for educational attainment, is -0.2 percent. Adjusting for the quality of human capital, TFP is about 3.7 percentage points of the GDP growth of 4.1 percent per year, with capital accumulation contributing 0.5 percentage points, while the contribution of the labor force, adjusted for educational attainment, is estimated at -0.01 percentage points. This implies that the upgrading of skills can have a significant impact in compensating for the demographic discount of the declining labor force.

2.30 A growth cycle model that mimics the growth path of Bulgaria's economy was estimated to outline more clearly the mechanics of alternative growth paths looking ahead, and their key determinants.

D. Potential output growth and convergence

2.31 To the extent that there are per capita income differentials, higher growth rates are needed by countries with lower per capita income to achieve real convergence with higher per capita income countries. Bulgaria's current per capita income, at PPP, is about 30 percent of the EU-25 level and about 57 percent of the levels of the NMS-8. Economic growth in Bulgaria in 2000-04 was on average 4.9 percent per year or about the same level as in the NMS-8 during the same period. At this rate of growth Bulgaria is converging to EU-25 at the same

speed as the average rate of the NMS-8 but Bulgaria has a wider per capita income gap with the EU-25. However, there is evidence that Bulgaria's current rate of growth is below its potential output growth level.

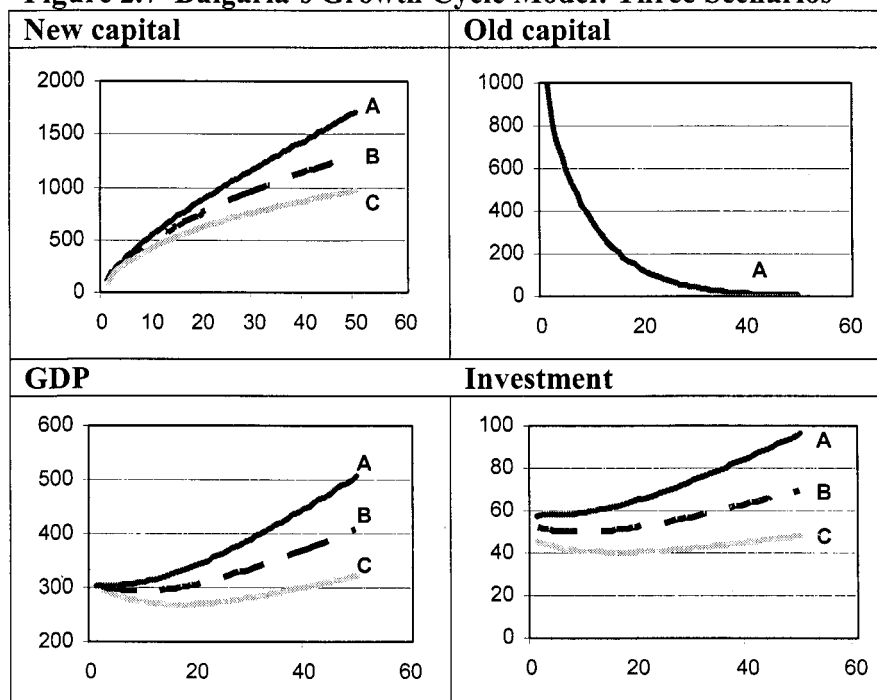
2.32 The evidence that growth is below its potential level and the factors of production are underutilized lies in the following: (i) firms are operating at 70 percent of production capacity; (ii) labor market participation is very low; and (iii) a large share of employment remains in largely unproductive segments of the economy or in activities where productivity is stagnant. On the side of potential output, it should be noted that growth refers to the average growth rate obtained by the efficient uses of resources, under a supportive and predictable policy environment that can be sustained over a long period of time. Year to year growth rates fluctuate around a long-run trend which approaches potential output growth following the business cycle. Hence, while growth accelerated to 5.6 percent in 2004, the experience of 2000-03 shows that the economy remains vulnerable to external shocks since the labor market and investment are unable to absorb the shocks fully. Consequently, potential output growth estimates are based on average growth rates over several years.

2.33 Potential output growth was estimated using a growth cycle model which mimics the growth path of the economy of Bulgaria. Annex C presents a growth cycle model which mimics closely the growth path of Bulgaria since 1990. In essence, estimates based on a growth cycle model aim to outline the interplay of the key determinants of alternative growth paths: the relationship between growth and investment, savings, labor, FDI, the rate of phasing out old capital, policies and institutions. Growth performance is determined by the rate of capital accumulation, by the accumulation of human capital (which may be achieved by improvements in the quality or skill content of the labor force), by total factor productivity, and by the policy and institutional environment that supports an efficient resource allocation in the economy. The rate of potential output growth is determined by the rate of expansion of new investment and the phasing out of old outdated capital stock. The rate of expansion of new investment is determined by domestic savings, the capacity to attract FDI flows, and the ability to transform old capital into new capital. FDI flows are a function of expectations held by foreign investors about possible future profits, which are largely determined by the profitability of economic opportunities and the predictability of the institutional framework. The former is linked to the flexibility of the goods and factors markets and the latter to the extent that Bulgaria can move to a predictable rules-based institutional framework.

2.34 Estimates based on the model mimic very well the growth cycle of Bulgaria during the period 1990-2003 (see Figure 2.7). The path predicted by the model mimics the U-shaped output cycle that characterizes Bulgaria's actual growth path. The trough and speed of recovery, and over many years of convergence, depends on the technological parameters and the productivity of factors of production. It should be noted that the simulations are based on parameters which aim to capture possible paths of better performance but do not measure directly the impact of the proposed reforms. Instead, the simulations are only indicative of possible outcomes subject to alternative key parameters. The estimates of the model follow closely the sharp protracted contraction of output up until the 1996-97 crisis, and the vigorous recovery since then. Based on these estimates, three alternative potential output growth paths into the future were calculated. The slowest growth path, labeled C in Figure 2.7, aims at

reflecting a scenario if Bulgaria were to lose momentum in implementing reforms and if investment were to slow down relative to recent trends. The second higher path, labeled B in Figure 2.7, aims at reflecting recent performance. And the highest path, labeled A in Figure 2.7, aims at reflecting a possible path if a core reform agenda proposed in this report were implemented. It is only under the third, highest, growth path that Bulgaria can rebuild its capital stock at such a pace that the effects of its lowest point in the cycle in 1996-97 can be eliminated in the medium term.

Figure 2.7 Bulgaria's Growth Cycle Model: Three Scenarios



Source: World Bank staff estimates based on simulations of a growth cycle model; see Annex A.

2.35 Transforming old capital into new capital in the economy is very limited, hence phasing out old capital can take some time (see Figure 2.7). A large share of old investments are irreversible and embedded technologies are obsolete. Moreover, institutional and regulatory constraints limit the extent to which the available factors of production are being reallocated from low to higher productivity activities. This implies that in potential output growth paths there will be no new investment in old capital inputs, and the stock of old capital will decline over time at a pace that depends on depreciation and the ability to release resources associated with old capital for use in new investments. However, given the legacy of over-investment in largely inefficient production, reflected by a large over-industrialization index at the start of the transition, the phasing out of old capital could take a long time.

2.36 For a given rate of new investment, the more productive the new technology is and the higher the institutional quality is compared to current levels, the higher the rate of potential output growth will be. High investments, domestic and foreign, and high growth depend on the extent to which new investments in Bulgaria are linked to the increasing

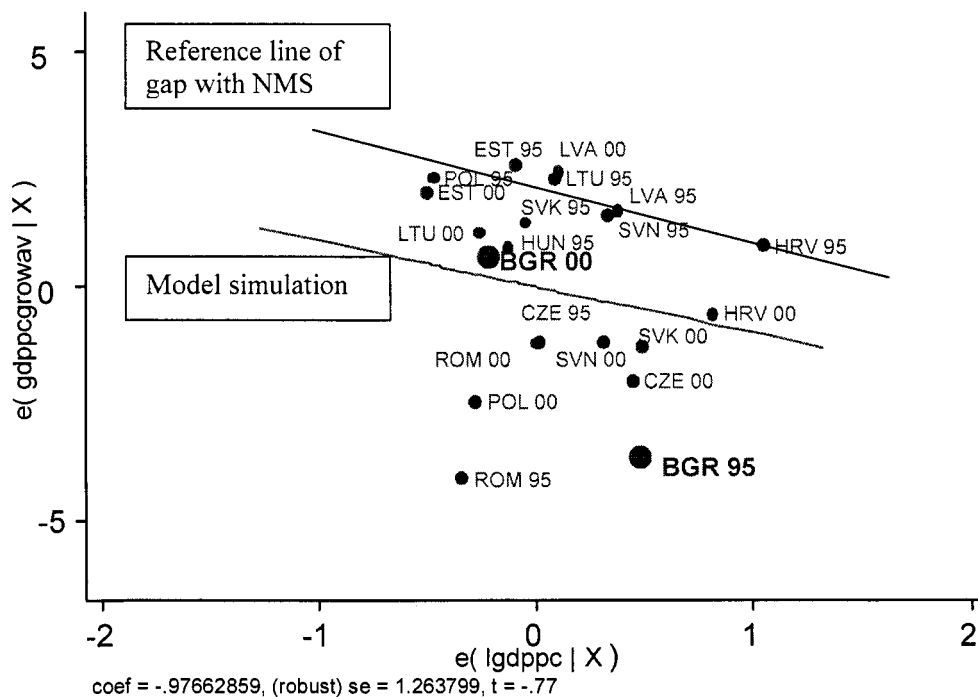
efficiency and productivity of the economy and the development of export capacity. This implies that reforms need to be implemented to substantially reduce the constraints to expanding outward-oriented investment. Among these reforms, improving institutional quality is central to achieving potential output growth.

2.37 The estimations of the growth cycle model point to several important policy implications. First, for additional capital accumulation to deliver high efficiency gains, disincentives to investment in outward-oriented activities need to be substantially reduced. While FDI flows are to a large extent filling the gap between domestic savings and investment, in the long term Bulgaria's low domestic savings represent a constraint to reaching the potential output growth. Second, significant improvements in the skill content of the labor force are needed to compensate for the demographic discount and increased labor productivity is needed to develop export capacity beyond unskilled labor intensive production. As discussed in Chapters 3 and 4, addressing deficiencies in the transport network for trade facilitation and addressing the significant skills mismatch are central to these two challenges. A third implication is that the economy needs further restructuring to eliminate the remaining large inefficiencies. The incentive structure resulted in shifting a large share of employment to largely unproductive segments in the economy or to areas where labor productivity was largely stagnant. With a demographic discount on growth, Bulgaria cannot afford to have a large share of employment locked-in in unproductive activities or activities where labor productivity is stagnant. Nor can it afford to have low labor market participation or to reduce unemployment by discouraging labor supply (see Chapter 5). Without substantial increases in labor market flexibility, the risks of the economy remaining locked into low wages and a low productivity growth path are substantial. A fourth implication is that the institutional quality needs to improve if productivity growth is to increase (see Chapter 6). Indeed, as shown in Figure 2.8, the following cross-country analysis indicates that economic performance can improve substantially if Bulgaria catches up with the extent of the institutional reforms achieved by strong performers among the NMS-8.

2.38 Controlling for the quality of its policy framework, Bulgaria's growth performance is about average but is below its potential compared to other countries (see Figure 2.8). Annex D presents a cross-country dynamic panel model using a parsimonious set of regressors to capture conditional convergence. This model was used to estimate Bulgaria's growth in the two periods 1995-99 and 2000-03 relative to the performance of other countries. In particular, Figure 2.8 plots the unexplained part of growth on the unexplained part of per capita initial income. The unexplained part of the growth regressions is the residual of a regression of growth on a parsimonious set of explanatory variables, except income. And the unexplained part of per capita initial income is the residual of a regression of income on the complete set of explanatory variables. As such, the slope of the plotted line is the coefficient on log income.

2.39 Policy and institutional reforms are central to moving to that higher growth path. The analysis also shows that growth performance can be improved if Bulgaria were to catch up to the extent of the reforms already achieved by strong performers among the NMS-8. While structural reforms have improved the policy and institutional framework in Bulgaria, these nevertheless lag behind the NMS-8.

Figure 2.8 Residuals from the Unpredicted Part of Growth on the Unpredicted Part of Initial per Capita Income



Source: World Bank staff estimates.

E. Moving towards a Lisbon-growth path: A core reform agenda

2.40 **An analysis of growth shows that the economy has yet to move towards a Lisbon-growth path.** As has been mentioned, there is evidence that growth is below its potential level and factors of production are underutilized: (i) firms are on average operating at 70 percent of their production capacity; (ii) labor market participation is very low; and (iii) a large share of employment remains in largely unproductive segments of the economy or where productivity is stagnant. The growth of aggregate demand components shows a relatively strong bias in favor of consumption relative to investment. These are troubling trends as the investment gap of Bulgaria relative to other countries in the region is large. To some extent this is partly due to the fact that private investment, while accelerating in the last few years, lacks an essential complement in basic public infrastructure, as public capital expenditures bore a heavy brunt in the fiscal adjustment. Similarly, labor market inflexibility and skills mismatch limit the scope of profitable investment opportunities, since to compensate for employment rigidities firms need to operate significantly below production capacity, and lack of adequate skills further increases the costs of operations as workers need to be trained on the job.

2.41 **On the supply side, growth is being driven largely by TFP, while the contribution of capital accumulation is small and declines in the labor force are acting as a brake.** TFP in 1998-2003 contributed 3.8 percentage points of a GDP growth of 4.1 percent per year, with capital accumulation contributing 0.5 percentage points and the labor force contributing -0.2

percentage points. This implies that growth during this period was driven mostly by the shedding of excess capacity and the elimination of inefficiencies. While upgrading the capital stock is at an early stage and the demographic trends of the labor force act as a brake. Indeed, investment and FDI flows in tradables have not reached a critical mass that would have a robust positive impact on productivity observable at an aggregate level. At the firm level, efficiency gains are driven by a relatively small number of large firms, some of which are foreign owned, are growing rapidly and generating high levels of productivity, and are operating fairly isolated from small and medium enterprises which, in general, are relatively inefficient. Inter-sectoral restructuring shows that large inefficiencies remain. As a result, further restructuring and relatively large labor adjustments will be needed to move towards a Lisbon-growth path.

2.42 Trade integration with the EU and global markets is the productivity driver in Bulgaria's economy. Productivity in investment and labor is growing rapidly in outward-oriented activities while productivity in inward-oriented sectors is stagnant. The sizable labor productivity growth of outward-oriented sectors is associated with the positive effects of international competition, which exerts pressures to use the factors of production efficiently in order to stay competitive in the international markets. However, the combined effects of important impediments to resource allocation towards more productive activities are limiting the expansion of investment and employment in outward-oriented sectors. Limited labor adjustment, deficiencies in basic infrastructure, limited competition in the domestic markets and deficiencies in institutional quality have contributed to a price bias in favor of investment and employment in activities oriented mainly to servicing the domestic markets. These deficiencies translate into costs (or temporary rents) that producers can transfer to domestic consumers via a combination of higher prices and lower quality. In contrast, the scope for transferring these costs, or taking advantage of temporary rents, to consumers in the external markets is highly limited because of the intense global competition.

2.43 The analysis of growth and productivity implies a core set of reforms to move towards a Lisbon-growth path. This report proposes to deepen trade and investment integration with the EU and global markets (see Chapter 3) by implementing a core reform agenda in three intertwined areas:

- (i) Improving the quantity and quality of physical and human capital accumulation, by restructuring public expenditures to upgrade skills and the transport network, and improving efficiency and transparency in public administration (see Chapter 4)
- (ii) Enhancing labor market adjustment and the creation of employment by implementing labor market reforms that better balance labor adjustment, the creation of employment, and unemployment risks, and that include the rationalization of the social protection system to enable the reduction of payroll taxes (see Chapter 5)
- (iii) Implementing institutional reforms in two areas—reducing legislative and regulatory complexity to improve competition in the domestic market, and moving toward a rules-based system by implementing judicial reform to increase the reliance of economic transactions on contracts and their efficient enforcement (see Chapter 6).

2.44 This core agenda needs to be supported by macroeconomic policies that address risks and vulnerabilities and that make progress towards monetary integration (see Chapter 7). Macroeconomic stability is a pre-condition for sustaining a high growth path. As a result of implementing prudent macroeconomic policies and reducing debt levels, Bulgaria has strengthened its macro-financial position. However, there are a number of risks and vulnerabilities, and new macroeconomic challenges are emerging. In the short run, these risks and challenges include the rapid growth of credit to the private sector and the resulting rapid growth of debt by the private sector, and the widening of the external current account deficit and the larger role of short term capital flows in financing this deficit. The economy is vulnerable to external shocks including further oil price and interest rate increases. There are also risks related to the adjustment from an accommodating to a more neutral monetary stance in high income economies and their growth prospects. As shown in Chapter 3, weak growth performance in the EU has a significant economic and financial impact on the economy of Bulgaria. The rapid growth of expenditures in the social protection system and the rapidly aging population represent a threat to budgetary stability and fiscal sustainability in the medium to long term. The preparation for and eventual adoption of the euro will increase the need for enhanced macro-financial discipline, given the relatively large asymmetries between the economy of Bulgaria and the economies of the Eurozone.

2.45 The urgency of this agenda is greater than may appear given the comprehensive reform program implemented thus far, the strengthened macro-financial position, and the solid growth outcomes achieved. However, as shown in this chapter, for Bulgaria to move towards a Lisbon-growth-path, its core reform agenda needs to be anchored in deepening its trade and investment integration, since rising productivity gains are concentrated in outward-oriented activities. As discussed in the next chapter, Bulgaria's trade performance reveals that there are a number of challenges involved in deepening trade and investment integration.

3. BUILDING ON TRADE INTEGRATION AND INVESTMENT INTEGRATION

3.1 Despite positive developments in expanding trade and investment relative to GDP, Bulgaria has yet to benefit fully from its integration into the EU and Pan-European markets. In large part thanks to the EU accession process, Bulgaria has implemented a broad package of structural reforms, with the *acquis communautaire* providing templates, and has dealt successfully with macroeconomic stabilization following the crisis in 1996 and 1997. As a result, Bulgaria has an open economy that has become integrated into global markets, although it has yet to develop an export capacity that would move the country's specialization beyond unskilled labor intensive products. These products still dominate Bulgaria's exports. With the exception of textiles and clothing, Bulgarian firms—in marked contrast to those in most of the NMS-8—have not become part of global value chains driven by international outsourcing despite some recent progress. Furthermore, the low level of imports of capital goods indicates that establishing more sophisticated export capabilities has been proceeding slowly. While these trends overall an improving capacity of the Bulgarian economy to tap benefits from trade integration into Pan-European and global markets, this capacity remains limited in terms of adjusting to changes in market conditions. This chapter first provides an overview of Bulgaria's trade policy framework and then examines recent trends in its trade performance and seeks to explain its weaknesses and strengths. The chapter ends with a reform agenda for deepening trade and investment integration.

A. Trade policy

3.2 The impact of EU accession goes beyond the trade liberalization of the Bulgarian economy. The severe crisis of 1996-97 and the prospects for EU membership in 1996 when the European Commission (EC) invited five Central European countries to start the EU accession process changed the political economy in Bulgaria in favor of market-oriented reforms. Bulgaria was invited to begin negotiations for EU accession in December of 1999, once the economy was largely stabilized and growth was re-established. Since then, the reforms in Bulgaria have been anchored to EU accession. As a result, Bulgaria has implemented a broad reform program and economic performance has improved. In its Regular Report of 2002, the EC has assessed Bulgaria as a functioning market economy. By June 15, 2004, Bulgaria provisionally closed all 31 chapters of the *acquis communautaire*. The Accession Treaty was signed in April 2005. Bulgaria expects to join the EU in January 2007.

3.3 Thanks to the EU accession process, Bulgaria has become part of one of the world's largest single free trade area for industrial products. The EU associate status, or more exactly the EU Eastern Enlargement project, has driven Bulgaria's foreign trade policy. It encouraged bilateral trade liberalization initially with the EU and EFTA and, subsequently, with other European preferential partners of the EU (i.e., signatories of the Pan-European Agreement on the Cumulation of the Rules of Origin¹⁷ and participants of Stability Pact for Southeastern

¹⁷ The concept of pan-European cumulation introduces diagonal cumulation across a Europe-wide free trade area encompassing the EU-25, EFTA, Bulgaria, Romania and Turkey. Diagonal cumulation allows materials originating in any of participants to count towards fulfillment of the rules of origin.

Europe). The Pan-European Agreement combined with the removal of tariffs on all industrial products and the harmonization of technical standards among its participants has led to the emergence of a de facto *single free trade area for industrial products*. In consequence, Bulgarian producers face intensive competition from imports and also have preferential duty-free access to imported inputs, both of which contribute to their competitiveness. Pan-European partners account for around three-quarters of Bulgaria's industrial trade.

3.4 Since multilateral liberalization has not gone hand-in-hand with vigorously pursued regional liberalization, the extent of reverse discrimination has increased significantly.¹⁸

Together with Romania, Bulgaria has the most protectionist MFN tariff schedule in the region (Table 3.1). While the coverage of WTO bound rates is 100 percent, Bulgaria has set bound rates at a much higher level than it applies. Hence, Bulgaria has kept its options open to increase MFN tariffs up to the levels set by the bound rates. In fact, the applied rates are lower than bound rates but significantly higher than in Croatia, Turkey and the EU. Both simple and weighted average MFN applied tariff rates on total goods in Bulgaria are significantly larger than those in the EU, Croatia, and Turkey. The average MFN tariff on total goods in Bulgaria of 11.5 percent is twice as high as in the tariff rate of 4.2 percent in the EU. The difference is greater on agricultural than on industrial goods. Bulgaria's tariff rate on agricultural goods is 22.9 percent compared to 7.6 percent in the EU. In the case of industrial goods, the tariff rate in Bulgaria is 8.6 percent compared to 3.7 percent in the EU. Tariff rates in all categories in Croatia and Turkey are closer to the EU levels than are those of Bulgaria.

Table 3.1 Average Applied Tariffs and Bound Rates: Bulgaria and Regional Partners (percent)

Reporter	Year	Average Applied MFN Tariff Rate								Binding Coverage in percent
		Total Goods		Agricultural Goods		Industrial Goods		Bound Rate of All goods		
		Simple Average	Weighted Average	Simple Average	Weighted Average	Simple Average	Weighted Average	Simple Average	Weighted Average	
Bulgaria	2004	11.5	2.8	22.9	16.2	8.6	2.5	24.2	20.0	100
Croatia	2002	6.0	4.7	10.9	11.3	5.6	4.2	5.8	4.8	100
Romania	2001	11.6	8.3	24.8	30.7	10.6	6.3	40.4	40.3	100
<i>Memorandum:</i>										
European Union (15)	2004	4.2	3.0	7.6	4.5	3.7	2.3	3.9	3.0	100
Turkey	2003	5.2	4.0	20.7	12.3	3.7	2.3	28.6	19.8	50

Note: Agricultural goods are based on the WTO classification of HS 01-24 and industrial goods are HS 25-96. * Indicates non-WTO member as of August 2003.

Source: World Bank staff based on UNCTAD TRAINS database and WTO bound tariff rates from WTO IDB database.

3.5 High reverse discrimination is redundant and is a bad trade policy. Such reverse discrimination is redundant as Pan-European suppliers already have duty-free access, and government resorts to tariff exemptions if these products are not available in Pan-European

¹⁸ Reverse discrimination occurs when differences between MFN tariff rates in the home country and in the trading partners' domestic market, ceteris paribus, result in placing producers in the home country at a disadvantage compared to producers in the preferential trading partners' domestic markets. The result is similar to providing an import subsidy on the final product imported by the home country since the MFN tariff rate on the imported input in the home country is substantially larger than the MFN tariff rate on the same imported input faced by producers in the preferential trading partners' domestic markets. Hence, these differences place producers of the final product in the home country at a disadvantage compared to their peers in the trading partners' domestic markets.

countries. But if they are available, high MFN tariffs merely protect FTA suppliers from MFN competition, which leads to rents going to Pan-European suppliers. The overall result is that domestic producers remain exposed to competition from imports, and the government is deprived of customs duty revenues. Bulgaria should thus converge to the EU Common External Tariff on industrial products even before accession.

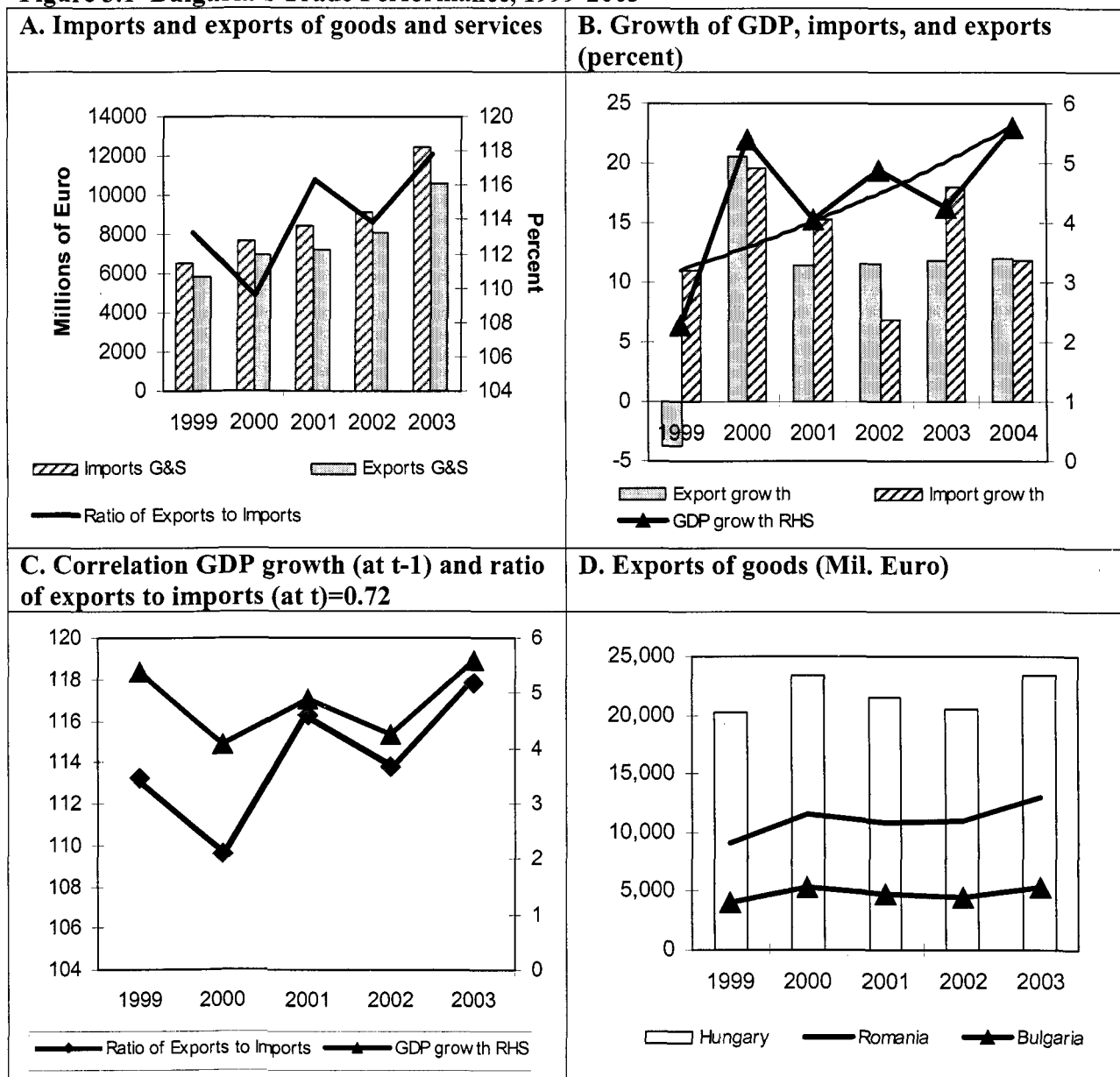
B. Trade performance

3.6 Despite an unfavorable external environment, Bulgaria's trade expanded rapidly in 2000-03 (see Figure 3.1). The growth cycle discussed in the previous chapter follows closely the trade developments in Bulgaria. After the 1996-97 crisis, the economy was largely stabilized and growth was re-established by 1999. As shown in the previous chapter, trade has been expanding at a rapid rate since then (see Figure 3.1; A). The value of the imports of goods and services in euro terms in 2004 was 218 percent higher than in 1999. And the exports of goods and services were not far behind, at 209 percent in 2004 relative to 1999.

3.7 As the Bulgarian economy was turning towards a vigorous recovery in 1999, and Bulgarian exports began a slow recovery in 1999-2000, the world economy entered a downturn in 2001. Growth rates in high income economies fell sharply from above 3.5 percent in 2000 to less than 1 percent in 2001. The downturn in the world economy in 2001 and the sluggish recovery since then have had a negative impact on the export performance of most CEEC. Figure 3.1; D shows the sizable decline in exports of goods of Hungary, which declined between 2000 and 2001 by 1.9 billion euros or about 8.7 percent and the slow growth in the world economy; in Romania the decline was by 1.1 billion euro or about 6.1 percent during the same period. However, the magnitude of decline was higher in Bulgaria—about 10 percent (Figure 3.1: D). The sluggish recovery of the world economy continued to have an impact in Hungary and Bulgaria, as both economies experienced further declines in their exports of goods in 2002 and started to recover only in 2003. Romania's recovery, however, started one year earlier.

3.8 Trade performance has been increasingly shaping Bulgaria's GDP growth performance. The links between GDP growth and the ratio of exports to imports have become stronger, with GDP growth responding to trade developments with a lag of one year (Figure 3.1: B and C). GDP growth is highly correlated with changes in the ratio of exports to imports with one lagged period. The simple correlation coefficient between GDP growth and the ratio of exports to imports is 0.72, with GDP growth responding to developments in exports to imports one year later. This implies that increasing the adaptability of the Bulgarian economy to adjust to changes in external market conditions is becoming critical to growth performance. Specifically, reforms of the policy and institutional framework need to improve the ability of firms located in Bulgaria to adjust production levels, cut costs, or increase productivity growth, as well as to exit sunset industries and enter into activities that will take advantage of new opportunities emerging in the external markets. The centrality of these reforms is well illustrated by the path of export adjustment of Bulgaria relative to other countries in the region to the downturn in the world economy in 2001 and the slow recovery since then.

Figure 3.1 Bulgaria's Trade Performance, 1999-2003

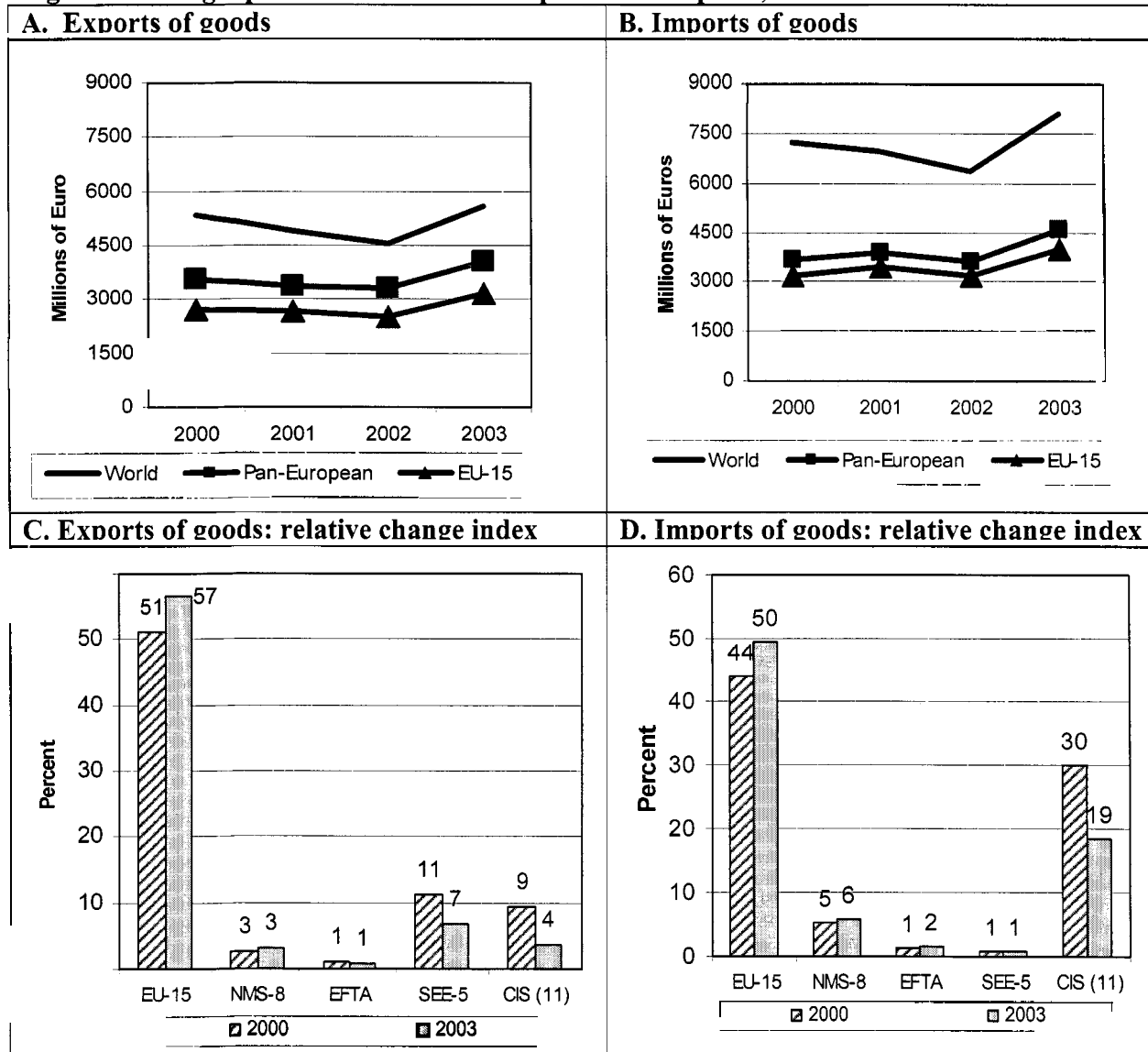


Source: World Bank staff estimates based on NSI, BNB.

3.9 Economic growth and the ratio of exports to imports exhibit relatively large fluctuations around their average rate of expansion (see Figure 3.1: B). One important implication of output and trade volatility is that output and trade performance has been lower compared to strong performers in the region, such as Estonia, whose economies have sufficient flexibility and adaptability to smooth out adjustments to changes in market conditions. These fluctuations are partly explained by external developments but for the most part are the result of the limited adaptability of the Bulgarian economy to changes in external market conditions.

3.10 **Bulgaria's trade integration into EU and Pan-European markets has proceeded at fast pace (see Figure 3.2).** During the period 2000-03, Bulgaria expanded its trade with the EU and the Pan-European markets, with imports expanding more rapidly than exports of goods. The deceleration of growth in the EU-15 in 2000-02 had a significant impact on the slowing down of exports to these markets, while imports from these markets kept up a rapid pace of growth (see Figure 3.2: A and B). Similarly, the recovery of growth in the EU in 2003 provided new momentum to the expansion of exports to the EU and Pan-European markets and accelerated the growth of imports from those markets.

Figure 3.2 Geographical Orientation of Exports and Imports, 2000-03



Source: World Bank estimates based on UN COMTRADE database as reported by Bulgaria.

3.11 **The rapid expansion of preferential trade in products with the EU and Pan-European markets indicates that competitive pressures on domestic productive structure**

have increased. With the Bulgarian economy growing twice as fast as the EU and undergoing major economic restructuring, the share of imports from EU and Pan-European markets increased more than that of exports of goods to these markets (Figure 3.2: A and B). The share of imports of goods from EU-15 and Pan-European markets increased from 44 and 58 percent each in 2000 to 50 and 65 percent, respectively, in 2003 (Figure 3.2: D). Not surprisingly, the expansion was mainly due to industrial imports—the share of Pan-European suppliers rose from 58 percent in 2000 to 77 percent in 2003. In contrast, the share of exports of goods to the EU and Pan-European markets expanded from 51 and 67 percent each in 2000 to 57 and 73 percent, respectively, in 2003. Two observations can be made. One is that deeper integration with EU markets implies significant competitive pressures on producers located in Bulgaria. These competitive pressures are contributing to increasing the productivity gains of outward oriented activities. Indeed, as shown in Chapter 2, labor productivity and the productivity of investment in outward-oriented activities are growing faster than in inward-oriented activities. The other observation is that the deepening trade integration into Pan-European and global markets is the key determinant for expanding productivity gains more broadly across Bulgaria's economy.

3.12 There has been significant geographical reorientation in Bulgaria's merchandise trade. The dynamics of the geographical reorientation of Bulgaria's merchandise trade are illustrated in Figure 3.2: C and D by the shares in total exports and imports of the goods of trading partners in 2003 compared to 2000. Only exports to the EU and NMS-8 markets expanded in 2003 relative to 2000 while shares of exports to EFTA, SEE-5, and CIS-11 declined. The largest expansion of exports was to EU markets, with the share growing from 51 to 57 percent between 2000 and 2003. By 2004, exports to the EU-15 represented 54 percent of total exports and the share of exports to Pan-European markets was 61 percent.

3.13 However, as shown in Chapter 1, Bulgaria has a relatively limited export capacity compared to the NMS-8. During 1999-2003, exports of goods from Bulgaria were 37 percent of GDP compared to the average for the NMS-8 of 46 percent of GDP. Two observations can be made. One is that exporters located in Bulgaria have yet to develop and export capacity in the highly competitive markets of Europe. The other is that Bulgaria needs to maintain the reform momentum in order to catch up with its peers in the NMS-8 to compete in the EU-15 market.

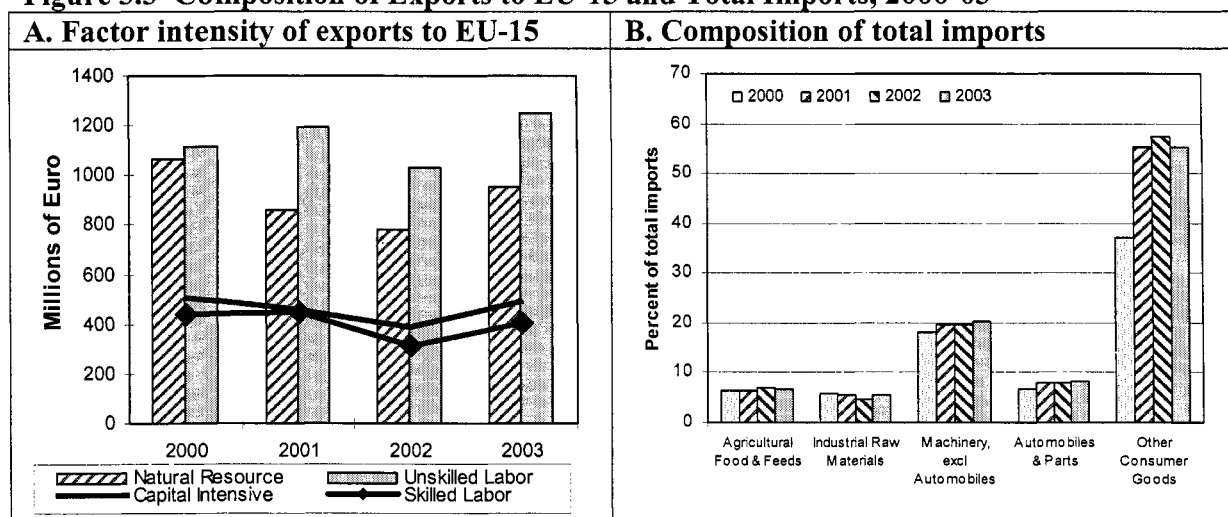
3.14 In contrast to export geographical dynamics, imports from markets other than the EU-15 expanded except from the SEE-5 and CIS-11. In contrast to exports of goods, imports are more diversified across trading partners. The largest expansion was in imports from the EU-15, with an increase of 6 percentage points between 2000 and 2003. The shares of imports from the NMS-8 and EFTA increased by 1 percentage point each. The share of imports from the CIS-11, where Russia remains the most important trading partner, in total imports declined to 19 percent in 2003 compared to 30 percent in 2000.

3.15 Unskilled labor intensive products continue to be the levers of Bulgaria's export performance, with Bulgaria's revealed comparative advantage strongly anchored in unskilled labor and natural resource intensive activities. These two groups accounted for 66 percent of total exports in 2003, up from 62 percent in 2000. The increase in their aggregate share was exclusively due to unskilled labor intensive exports whose share increased from 27 to

32 percent. The share of other groups declined, with capital-intensive products registering the largest contraction.

3.16 **The dominance of unskilled labor intensive products is even more pronounced in Bulgaria’s exports to the EU-15, accounting for 40 percent of EU-destined exports—up from 36 percent in 2000 (Figure 3.3: A).** Together with natural resource intensive products, they jointly accounted for 71 percent of these exports in 2003—up from 70 percent in 2000. In contrast, the aggregate share of skilled labor and capital intensive products contracted slightly from 30 percent in 2000 to 29 percent in 2003. Hence, industrial restructuring has yet to produce shifts in specialization towards skilled labor and capital intensive products similar to those already experienced by the NMS-8 economies.

Figure 3.3 Composition of Exports to EU-15 and Total Imports, 2000-03



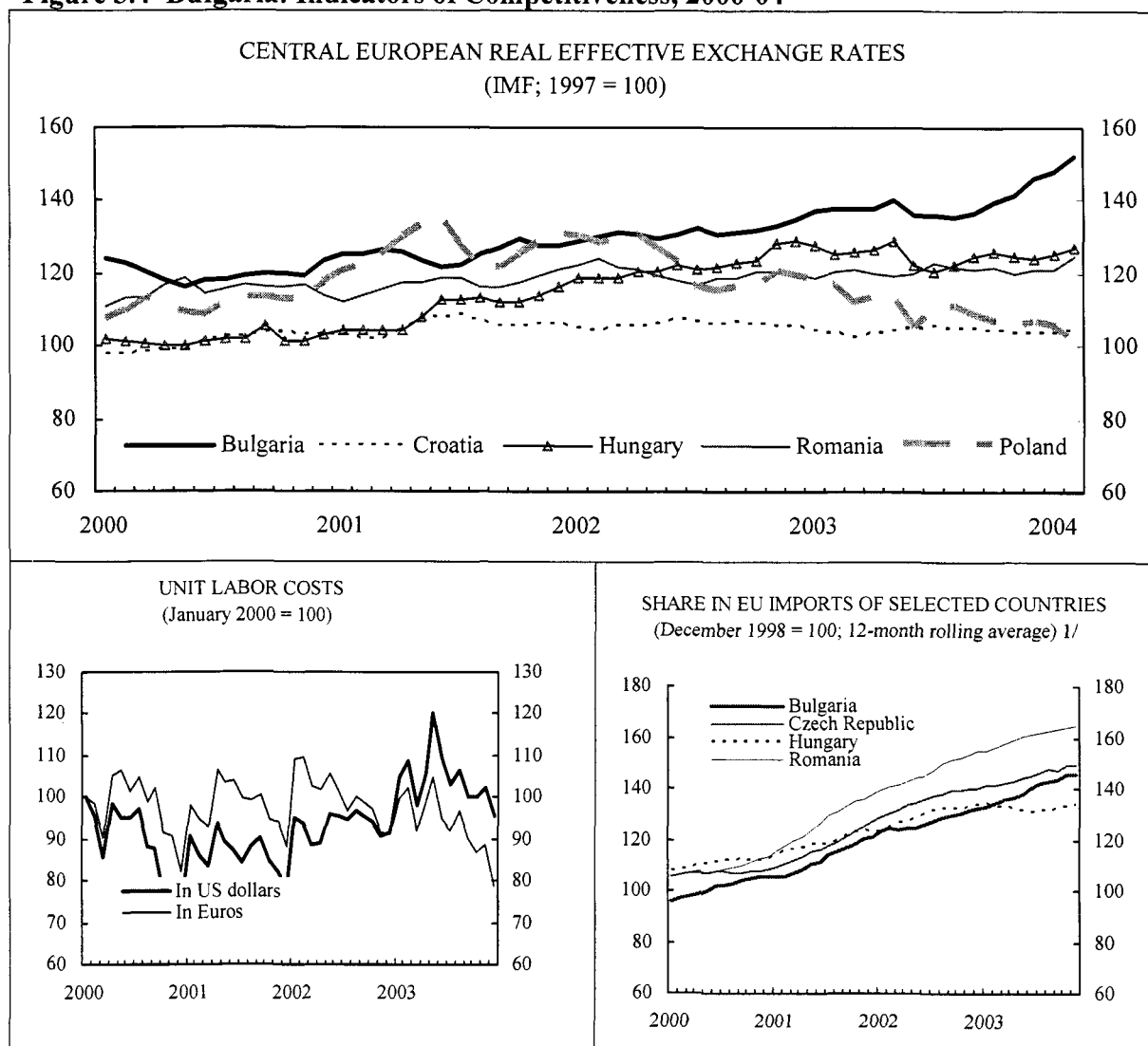
Source: World Bank staff estimates based on UN COMTRADE database as reported by Bulgaria.

3.17 **The composition of imports indicates limited activity in expanding industrial export capacities (see Figure 3.3: B).** While imports of final manufactured consumer goods strongly expanded between 2000 and 2004, the share of machinery (excluding automobiles and parts) has been stuck at around 20 percent of total imports from the EU since 2001. Imports of capital goods may be contributing to developing more productive activities, but, as shown in Chapter 2, these seem to be at an early stage of development and have not reached a critical mass so as to be observed in productivity measures at aggregate levels. To a large extent, the composition of imports has yet to contribute to the building up of an export capacity beyond unskilled labor intensive exports. These trends reflect the fact that Bulgaria has yet to benefit more fully from its integration with the EU and global markets.

3.18 **The limited progress in entering new forms of the global division of labor based on the outsourcing of manufacturing activities provides another illustration of untapped benefits offered by integration into Pan-European markets.** Participation in international networks—in both traditional (clothing and footwear) and more advanced (automotive, Information Communications Technology [ICT] and electro-engineering parts)—brings outside managerial and technological expertise to a local company and offers a “cheap way” to market

products, as firms do not incur marketing costs. Last, but not least, since parent companies sell their products in many different markets, the suppliers are no longer dependent on the vicissitudes of import demand in any single market. While Bulgarian firms have become parts of traditional global value chains, with textiles and clothing and footwear accounting for 35 percent of EU-destined exports, their involvement in more sophisticated supply chains remains limited. The share of exports of automotive network products has remained below 1 percent. But in two other networks there are signs of change, albeit from a very modest base: the share of ICT network products rose from 0.8 percent of EU-destined exports in 2000 to 1.3 percent in 2003 and that of engineering parts rose from 3.5 percent to 5.4 percent over the same period.

Figure 3.4 Bulgaria: Indicators of Competitiveness, 2000-04



1/ Bulgaria, Czech Republic, and Hungary: Authorities' data; and Romania: Direction of Trade Statistics.
 Source: IMF Staff Report on Bulgaria, August 2004.

C. Competitiveness, trade, and FDI dynamics

3.19 Assessing and maintaining competitiveness under a Currency Board Arrangement (CBA) is central to policymakers in Bulgaria. According to the *European Competitiveness Report* of 2003,¹⁹ Bulgaria shows low productivity levels and competes on the basis of lower labor costs. Indeed, as discussed above, Bulgaria has a strong revealed comparative advantage in labor intensive products, albeit only in unskilled labor intensive products. These findings prompt concerns about the risk that Bulgaria may be locked into low labor cost, low productivity specialization patterns. However, as discussed in the previous chapter, Bulgaria is undergoing significant economic transformation and is following a growth cycle dominated by TFP while rebuilding its capital stock. It is therefore important to further the trends in the fundamentals of Bulgaria's competitiveness.

3.20 Competitiveness has been defined in several different ways. The EC has defined it as "the ability of an economy to provide its people with high and rising standards of living and high rates of employment on a sustainable level." The OECD has defined it as "the degree to which a country can, under free trade and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term." And the World Economic Forum defines competitiveness as "a country's ability to maintain high rates of growth and employment in the medium term." Analytically, in the short run, an appropriate level of competitiveness is associated with the value of the exchange rate, given certain domestic policies, that ensures both sustainable internal and external balances. In this sense, exchange rate misalignment and competitiveness problems are interchangeable. In the short run, improvements can be made in competitiveness by reducing costs. However, in the medium term competitiveness is determined by the trend of productivity growth. Hence, competitiveness is determined by the ability of firms to increase productivity.²⁰

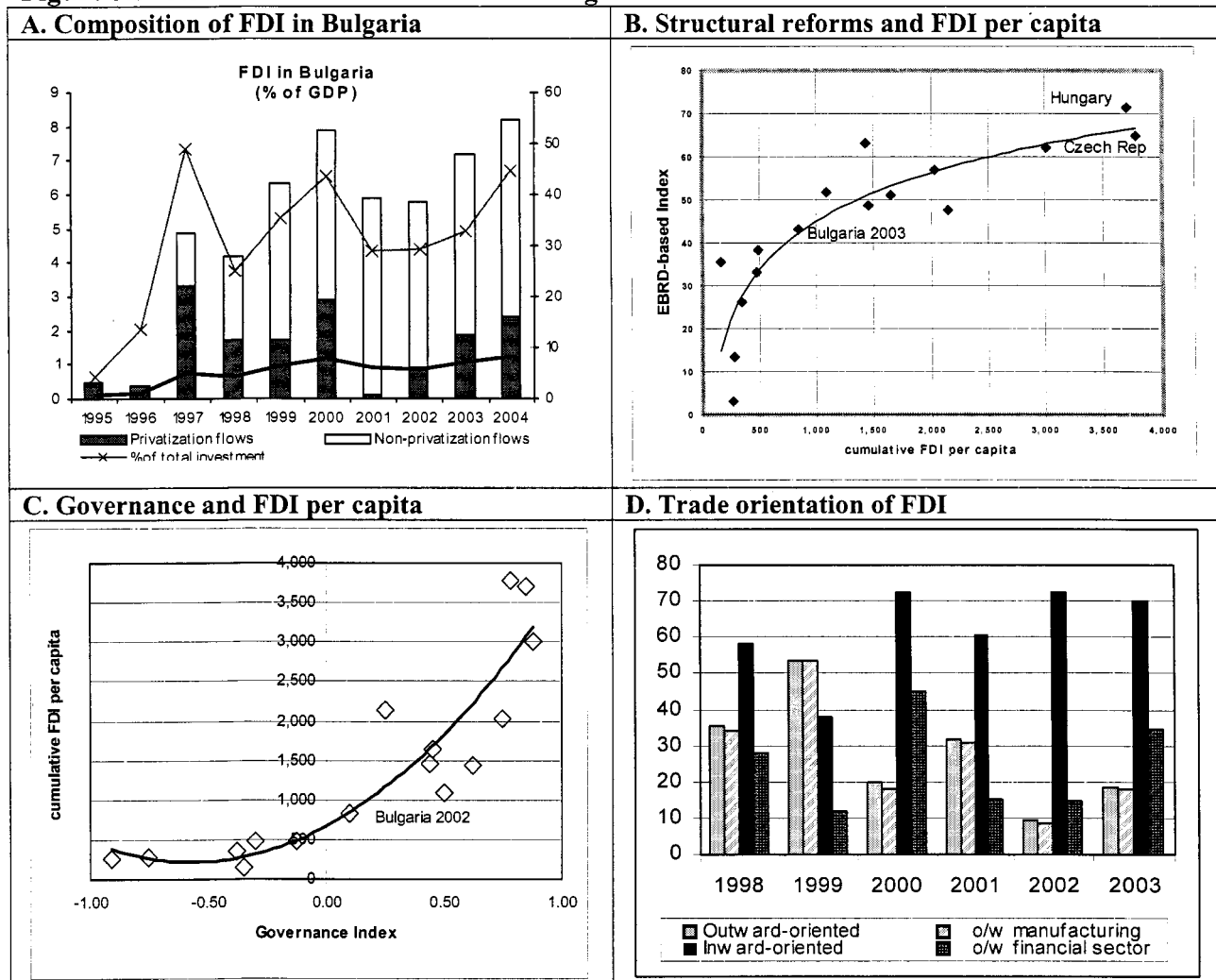
3.21 The CBA combined with the euro appreciation against the US dollar has compounded a price bias in favor of nontradables which has not been compensated by a more adaptable economy that reallocates resources from lower to higher productivity activities. Based on recent estimates of the IMF, the real effective exchange rate based on the CPI has continued to appreciate. Hence, there has been some loss of competitiveness compared to several CEEC countries. However, this trend is tempered by declining unit labor costs in manufacturing and an increasing share in EU imports (see Figure 3.4). While wages and salaries are grossly under-reported, there is no evidence that actual unit labor costs are not declining. However, as shown in Chapter 2, investment and economic restructuring show a bias in favor of nontradables. Furthermore, as discussed in the previous chapter, no more than half of the accumulated real exchange appreciation of the lev to the euro can be attributed to the

¹⁹ Commission Staff Working Document, 2003, *European Competitiveness Report 2003*, European Commission, SEC (2003)1299.

²⁰ Indicators of competitiveness range from relative price and cost indicators, and development of trade market shares—produced by national statistical offices, OECD, and the IMF—to survey indicators produced by the World Economic Forum and the Lausanne Institute for Management Development. Survey indicators take into account a wide range of characteristics of countries and countries' competitiveness is rated relative to other countries.

productivity differentials of tradables to nontradables. The other half is related to the combined effects of important impediments to resource reallocation towards more productive activities. These impediments are mainly deficiencies in basic infrastructure (discussed in Chapter 4), limited labor market adjustment (discussed in Chapter 5), limited competition in the domestic markets, and the remaining deficiencies in the institutional quality (discussed in Chapter 6), which contribute to a price bias in favor of nontradables. In this context, FDI flows have a central role in deepening trade integration.

Figure 3.5 Structural Reforms and FDI: Bulgaria and Selected CEEC



Source: World Bank staff estimates based on NSI, BNB, EBRD transition indicators database and World Bank governance indicators.

3.22 Following the progress in structural reforms, foreign direct investment inflows have increased rapidly and play a central role in building up the assets of the economy (see Figure 3.5). Stability and progress in structural reforms have contributed to a rapid and sustained increase in FDI flows to Bulgaria. These flows increased from less than 1 percent of GDP in 1995-96 to an average of close to 6 percent in 1997-2004 (see Figure 3.5: A). On a cumulative basis, FDI per capita in Bulgaria has now surpassed the US \$500 mark, indicating

that new FDI-driven investments are reaching a critical mass needed in order to have a sizable impact on Bulgaria's improved capacity to compete in external markets. However, the gap vis-à-vis strong trade performers among the NMS remains large—cumulative FDI per capita in Hungary is about US \$3,700 and is close to US \$3,800 in the Czech Republic (see Figure 3.5 B). To improve competitiveness, Bulgaria needs to implement reforms to continue to attract FDI flows. Among these reforms, improving the policy and institutional framework is central. A simple correlation between governance and FDI flows among the CEEC shows that improvements in governance have a non-linear correlation with FDI performance (see Figure 3.5: C). This illustrates the large potential benefits related to improving the quality of institutions. While the overall governance index of Bulgaria improved from -0.15 in 1996 to 0.26 in 2002, as illustrated in Figure 3.5: C, substantial progress is needed to provide an environment on a par with the NMS-8. The institutional and regulatory environment is discussed in Chapter 6 of this report.

3.23 Thus far, a large share of FDI flows to Bulgaria is in inward oriented sectors. Figure 3.5: D shows the large share of FDI flows concentrated in inward-oriented activities. During 1998-2003, about 60 percent of FDI flows were to inward-oriented activities. To some extent this is explained by the fact that some of the best opportunities in Bulgaria for foreign investors have been in sectors that primarily the domestic market, such as banking, business services, and electricity distribution. This has resulted in a strong inward orientation of FDI. However, it also reflects impediments to outward-oriented investment. As discussed in the previous chapter, costly inefficiencies in Bulgaria's economy can be transferred to domestic consumers via higher prices but not to consumers in external markets where there is stronger competition. This underscores the centrality of upgrading basic infrastructure, reducing regulatory complexity, and developing a reliable rules-based institutional framework.

D. Building on trade and investment integration: a reform agenda

3.24 Deepening trade integration with the EU and global markets is a key determinant in expanding productivity gains more broadly across Bulgaria's economy. The expansion of trade relative to GDP is exerting competitive pressures that contribute to increases in productivity in outward-oriented activities. However, investment in the outward-oriented sectors is low. As a result, export capacity is improving very slowly and exports are dominated by unskilled labor intensive products. To improve competitiveness, Bulgaria needs to implement a core reform agenda, which includes upgrading basic infrastructure and skills, enhancing labor market adjustment and improving the regulatory and institutional frameworks.

3.25 These reforms are needed to address the challenges of the present trends in trade performance and the composition of FDI flows. As a result of the process toward EU accession, Bulgaria has relatively liberal trade policies and exporters located in Bulgaria have easy access to global markets. Despite this supportive trade policy framework, the building of an export capacity beyond unskilled labor intensive and resource intensive commodities is progressing slowly. Moreover, the trends in the composition of imports indicate that these have yet to contribute to building up export capacity, given the relatively small share of imports of machinery and equipment in total imports. These factors are an indication that government

policies are not supportive of competitive markets that would reallocate resources from sectors with low productivity to industrial sectors with a potential comparative advantage.

3.26 The sustainability of the trends in trade performance is questionable. First, Bulgaria has a very large gap between imports and exports. Moreover, the fact that EU quantitative restrictions on textiles and clothing imports under the WTO Agreement on Textiles and Clothing ended on January 1, 2005 represents a significant challenge to the sustainability of export growth since these exports are dominated by unskilled labor intensive exports. In addition, while in most of the NMS-8, FDI inflows have been closing the gap between endowments in skilled labor and the dominance of unskilled labor-intensive products in their exports to EU markets, this however, is not yet the case with Bulgaria.

3.27 Reforms need to be implemented in a highly coordinated manner. Without a reduction in the regulatory complexity and improvements in the quality of the institutional framework, including trade facilitation measures, FDI flows are unlikely to move to outward-oriented sectors in Bulgaria. Similarly, without increased labor adjustment, the market mechanism cannot reallocate resources from low to higher productivity activities in the economy. Moreover, without reorienting public expenditures towards upgrading Bulgaria's skills and its transport network so as to facilitate trade, the competitiveness of the country's producers will continue to depend on the availability of low-wage unskilled labor. Consequently, competing with suppliers from developing countries will become increasingly difficult. Reforms that would address these deficiencies in the policy framework are strong complements of each other. Thus, their effectiveness in improving the competitiveness of producers in Bulgaria depends on a highly coordinated approach to their implementation.

3.28 The key areas of reforms aimed at deepening trade and investment integration include the following:

- *Upgrading the transport network and trade facilitation system to reduce the costs of competing in external markets (see Chapter 4)*
- *Upgrading skills to enable the development of export capacity beyond unskilled labor intensive exports (see Chapter 4)*
- *Increasing labor market flexibility to facilitate the reallocation of resources from low to higher productivity activities in the economy (see Chapter 5)*
- *Reducing regulatory complexity and improving the quality of institutions to attract FDI flows to outward-oriented sectors (see Chapter 6)*
- *Maintaining macroeconomic stability to provide an environment supportive of the private sector undertaking investments needed to compete in the global markets (see Chapter 7).*

3.29 To upgrade its transport network and trade facilitation system and skills of the labor force, Bulgaria will need to restructure public expenditures and reorient them

towards these two high priority areas. As shown in the next chapter, for the restructuring of public expenditures to be effective these efforts need to be supported by public sector reform to improve efficiency and transparency of public administration.

4. RESTRUCTURING PUBLIC EXPENDITURES

4.1 The public expenditure policy reform underpinning fiscal adjustment is central to Bulgaria's productivity and growth prospects. With 40 percent of GDP in the command of the public sector, improving the efficiency and effectiveness of public expenditure policies is a central consideration if Bulgaria's growth prospects are to be realized. First, inefficiencies in public expenditures are particularly detrimental to productivity and growth prospects, since they affect efficiency across a wide spectrum of activities in the economy. Second, given such a large share of public expenditures in the economy, improvements in efficiency in the private will not compensate for the costs associated with inefficient public expenditures. The strategy of having the public sector focus on the efficient delivery of public goods, including an efficient and effective social safety net, while the private sector leads in the expansion of investment, output, and employment, has served Bulgaria well. Bulgaria should remain on this path and should accelerate progress towards this end if economic performance is to continue to improve. The size and the role of public finances are at the center of the reforms, specifically, the overall economic efficiency with which revenues are collected and the cost-benefits of budgetary allocations (inputs) and their outcomes (results). This would include the efficiency and sustainability of the social protection system aimed at preserving social cohesion.

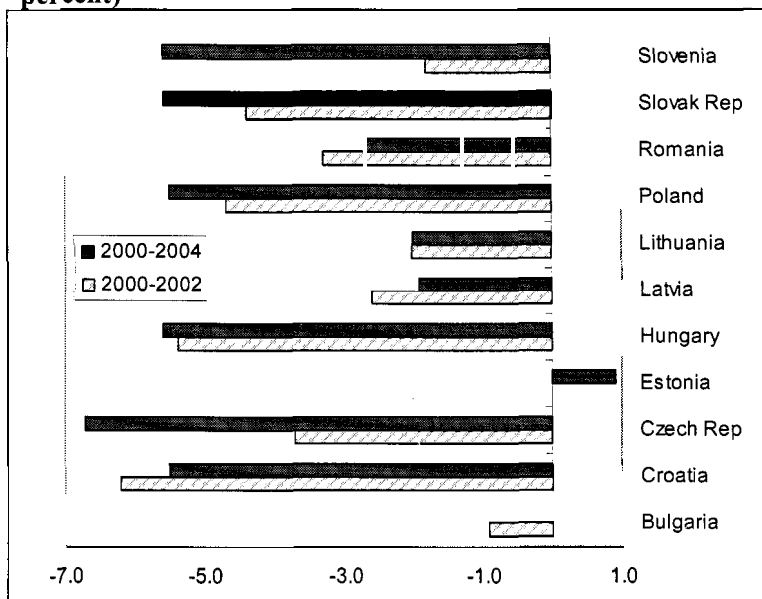
4.2 Bulgaria needs to build on its fiscal achievements to date to increase the efficiency and effectiveness of public expenditures. As shown in the previous chapters, Bulgaria faces an investment challenge, particularly as regards improving basic public infrastructure, and the challenge of improving competitiveness, particularly as regards expanding its export capacity beyond unskilled labor intensive activities. Public expenditure policy reform is at the center of upgrading skills, upgrading basic public infrastructure, and laying a solid foundation for sustainable reductions in the tax burden on the economy. Similarly, tax policy reform has a significant impact on resource allocation and efficiency. As shown in the next chapter, implementing reforms so as to enable sustainable reductions in payroll taxes, together with labor market reform, can play a central role in enhancing labor adjustment and employment. Furthermore, improvements are needed in key dimensions of public sector reform. This chapter first provides an overview of Bulgaria's fiscal adjustment over the last eight years. The second section discusses public expenditure policy reform focusing on basic infrastructure and education. The next section examines the key areas of public sector reform needed to support the effectiveness of public expenditures, including public expenditure management, public administration, public governance and financial accountability. The chapter ends with a summary of a reform agenda.

A. Fiscal adjustment

4.3 Although Bulgaria has strengthened its fiscal position the last few years, challenges still remain. Figure 4.1 shows the annual average overall fiscal balance relative to GDP for the periods 2000-02 and 2000-04. Bulgaria's overall fiscal balance compares favorably with the NMS-8. Both Bulgaria and Estonia registered overall fiscal surpluses in 2004. Latvia and Lithuania have overall fiscal deficits of around 2 percent of GDP, followed by Romania with a deficit of around 3 percent of GDP. Other CEEC countries face overall fiscal deficits larger than 5 percent of GDP. As a result, considerable fiscal adjustment will be necessary in

countries with relatively large fiscal deficits, with potentially dampening effects on growth. As discussed in the previous chapters, large fluctuations in macroeconomic imbalances carry a heavy toll on growth in particular and on economic performance in general. This experience underscores the importance to Bulgaria of maintaining a prudent fiscal stance while improving the quality of fiscal adjustment. Public expenditure policy reform supported by public sector reform is central to reorienting expenditures towards high priority areas needed to deepen trade integration with the EU and to use large EU funds efficiently while preserving stability.

Figure 4.1 Average Annual, Overall Fiscal Balance to GDP of Bulgaria and Selected Countries 2000-02 and 2000-04 (in percent)



Source: World Bank staff estimates based on Eurostat and MOF.

4.4 Following the 1996-97 crisis, fiscal stabilization was achieved by revenue expansion rather than the rationalization of expenditures (see Table 4.1). Public revenues increased from 33 percent of GDP in 1996 to over 41 percent in 2000. Public expenditures to GDP declined sharply from 43 to 38 percent between 1996 and 1998, but later increased to about their 1996 level by 2000. In the last four years, however, public expenditures to GDP declined from 42 percent in 2000 to 40 percent in 2004 largely because of containment in the growth of public expenditures relative to GDP growth and to the some limited rationalization of public expenditures.

4.5 Over the last four years Bulgaria made progress towards tax policy reform while safeguarding stability and growth. In the last four years several tax rates were reduced consistent with the strategy of reducing reliance on direct taxation and expanding the role of indirect taxation in tax revenues (see Table 4.2). Tax rates were reduced to become more supportive of growth and investment.

Table 4.1 Bulgaria: Summary of General Government Operations,^{a/} 1996-2004 (% of GDP)

	1996	1997	1998	1999	2000	2001	2002	2003	2004p
Total revenue and grants	32.9	37.5	39.7	40.7	41.4	39.8	38.7	40.7	41.7
Tax revenues	26.8	28.9	31.6	31.4	32.5	30.9	29.7	32.2	33.6
Non-tax revenues	6.1	8.0	7.5	8.4	8.0	7.6	8.1	7.7	6.9
Grants	0.0	0.6	0.6	0.9	0.8	1.2	0.9	0.9	1.2
Total expenditures	43.2	38.6	38.4	40.5	42.0	40.4	39.4	40.7	40.0
Current expenditures	41.8	35.2	34.3	35.6	37.6	36.2	35.6	36.8	35.8
Capital expenditures	0.7	2.7	4.1	4.9	4.3	4.2	3.8	3.9	4.2
Primary balance	9.2	7.1	5.5	3.9	3.4	3.0	1.6	2.1	3.6
Overall fiscal balance	-10.3	-1.2	1.3	0.2	-0.6	-0.6	-0.6	0.0	1.8
Financing	10.3	1.2	-1.3	-0.2	0.6	0.6	0.6	0.0	-1.7
External	-2.8	0.3	-0.6	1.2	-1.5	-0.3	1.5	0.0	-1.6
Domestic	13.2	-2.3	-2.2	-3.5	0.9	0.3	-1.7	-0.5	-3.2
Privatization revenues	0.0	3.1	1.6	2.2	1.3	0.6	0.9	0.5	3.1

From 1998 onwards, follows the National Classification, cash basis; 2004 are preliminary estimates

Source: Ministry of Finance, National Classification, cash basis. Notes: a/ 1996-1997 data based on PEIR (2002).

4.6 While several tax rates have been reduced during the last four years, the reduction of the tax burden on the economy has stalled. Despite progress to date, the tax burden on the economy is high at about 34 percent of GDP. To a large extent the rise in tax collection from indirect taxes is due to the rapid rise of imports. In addition, a minimum social insurance threshold matrix setting minimum wages by activities (17) and by professions (9) increased the number of registered contracts in the first few months of its introduction in 2003. Hence, the collection of social security contributions rose sharply between 2002 and 2003. Their sustainability, however, is unclear, as employees may redefine their contracts seeking the lowest possible wages in the minimum levels of the threshold matrix.

Table 4.2 Selected Tax Rates in Bulgaria, 1997-2005 (percent)^{a/}

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Corporate tax	40.2	37.0	34.3	32.5	28.0	23.5	23.5	19.5	15.0
Income tax:									
Lowest rate	20.0	20.0	20.0	20.0	20.0	18.0	15.0	12.0	10.0
Highest rate	40.0	40.0	40.0	40.0	38.0	29.0	29.0	29.0	24.0
Social insurance contributions (3rd category of jobs)	42.0	41.5b/	45.7c/	45.7	42.7	42.7	42.7	42.7	42.2
VAT	22.0	22.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Tax revenues/GDP	28.9	31.6	31.4	32.5	30.9	29.7	32.2	33.6	

Notes: a/ Statutory tax rates for corporate taxation (combined rate for local and central budgets for 1997-2002, single rate for central budget since 2003), personal income tax, social security contributions rates for both employee and employer (including pensions, health insurance, and unemployment), and VAT; b/ Refers to July-December 1998. c/ Refers to July-December 1999; health insurance introduced since July 1, 1999.

Source: Ministry of Finance.

Box 4.1 Bulgaria's Informal Economy and Tax Policy

The size and trend of the informal economy reflect, to large extent, the performance of the policy and institutional frameworks. There are many factors that create incentives for the development of an informal economy, including an excessive and cumbersome regulatory framework, weak or costly contract enforcement, widespread corruption, and tax policy. The focus here is on the last. A low tax base and weak tax collection capacity are typically accompanied by an excessive tax burden which creates substantial incentives for a large informal economy. At the same time, a large and growing informal economy undermines fiscal stability, as a number of non-tax payers benefit from public services but do not share with tax payers the burden of the costs.

Annex E presents a model used to estimate the informal economy in Bulgaria. The key elements of the model are time series data on currency holdings and an error correction model. This approach is based on the pioneering work of Cagan (1958), which was further developed by Tanzi (1980, 1983). The underlying assumption is that transactions related to the informal economy are undertaken in the form of cash payments in domestic currency. In turn, individuals and firms underreport economic activity to avoid taxation. Two alternative specifications of the opportunity cost of money were used. Model 1 (continuous line in the graph) used the weighted interest rate and Model 2 (dotted line in the graph) used the Lev/US\$ exchange rate. The results indicate that Model 2 provides a better statistical fit of the data, and estimates of the informal economy under this model are in line with other estimates for Bulgaria.

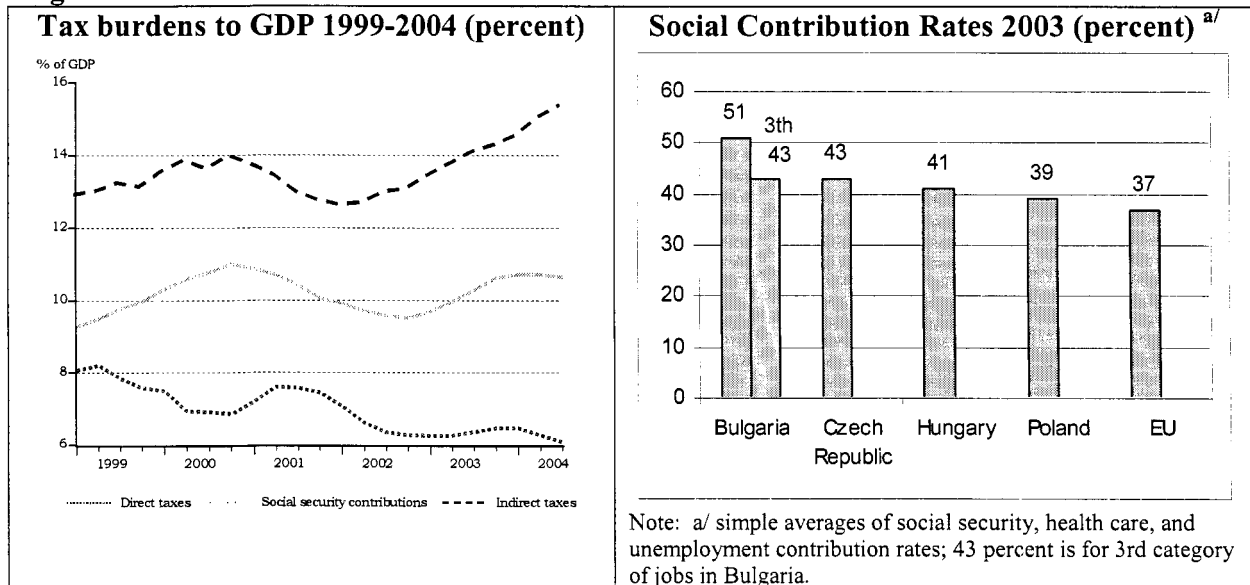
Estimates obtained with Model 2 indicate that the size of the informal economy is declining, but at 32 percent of GDP it remains large. These results are slightly lower than those recently obtained by Doing Business (2004) that estimates the informal economy at about 36.9 percent of GDP and is consistent with earlier estimates from Enste and Schneider (2000).



Information on tax compliance from the FIAS firm survey of 2004 is used to analyze the determinants and correlates of informality at the firm level. The results indicate that (i) higher tax rates (ii) differential enforcement of tax law for small and large firms and in different areas of the country and (iii) systemic bribing practices give firms an incentive not to comply with taxation law. Firm level analysis indicates that incorporated firms subject to a uniform 19.5 percent corporate tax comply substantially more with tax requirements. However, smaller firms and variances in tax policy and enforcement across regions are associated with substantially lower shares of their turnover to tax authorities.

4.7 To support a rapid increase in social security outlays, Bulgaria has one of the highest payroll taxes, before income tax, in the region and compared to the average in the EU (see Figure 4.2). Bulgaria's payroll tax, at 51 percent before income tax, is excessively high compared to the much lower rates in the Czech Republic (43 percent), Hungary (41 percent) or Poland (39 percent), or the EU average of 37 percent.

Figure 4.2 Taxes



Source: World Bank estimates based on NSI, MOLSP, and MOF data.

4.8 **Despite reductions in tax rates, deficiencies in tax policy--particularly in revenue administration--contribute to a sizable, albeit declining, informal economy, to tax evasion, and limiting employment creation.** Research on the informal economy carried out for this report indicates that while the informal economy is declining, its size remains high, largely because of deficiencies in tax policy and revenue administration (see Box 4.1). There are six major pieces of legislation pending approval in the Parliament that are aimed at broadening the revenue base and improving its administration, to enable a sustainable reduction of the tax burden. As a result, the operationalization of the National Revenue Agency (NRA), a central piece in the broadening of the revenue base, has been delayed.

B. Public expenditure policy reform

4.9 **The record of public expenditure restructuring, on the other hand, has been mixed.** Indeed, there has been a large increase in primary expenditures (i.e., non-interest expenditures) compared to 1996. Interest payments were close to 20 percent of GDP in 1996 and declined to under 2 percent of GDP by 2004. While public expenditures to GDP declined by only 3 percentage points of GDP, from 43 percent in 1996 to 40 percent in 2004, most of the savings from debt service were redirected towards social spending. As a result of restructuring in public expenditures, the largest expansion has been in the social protection system and the fastest growing expenditures are on health care and medical assistance. Public expenditures on the

social protection system increased from 8 percent of GDP in 1996 to more than 16 percent by 2004 and now account for about 39 percent of the budget.

4.10 Given the rapidly aging population, there is an urgent need to reform public expenditure policies in the social protection system to eliminate inefficiencies, and in some cases abuse, and to make them fiscally sustainable. The rapid expansion of social spending is due to a combination of demographic trends and a rapidly aging population, high unemployment, the broad scope of the social assistance system and increases in health care expenditures. However, the efficiency and effectiveness of the social protection system has significant room for improvement—8 of every 10 Bulgarians receive at least one social benefit, including pensions, but only 1 in 3 is poor or old. Pensions are the largest social protection expenditure component, including a variety of contributory and non-contributory benefits. With one of the fastest aging populations in the region, the financial pressures are large, are increasing rapidly, and have contributed to the very high payroll taxes as shown in the previous section. At the same time, recent research²¹ shows that the social assistance system²² is largely ineffective in poverty alleviation. As a result, poverty alleviation in Bulgaria is heavily dependent on pensions while the social assistance system has a negligible impact. This implies that pensions, which are not means-tested and therefore not an efficient or effective instrument for poverty alleviation, are compensating for costly inefficiencies in the social assistance system. At about 5 percent of GDP, the costs of the social assistance system are too high for its negligible impact on poverty alleviation.

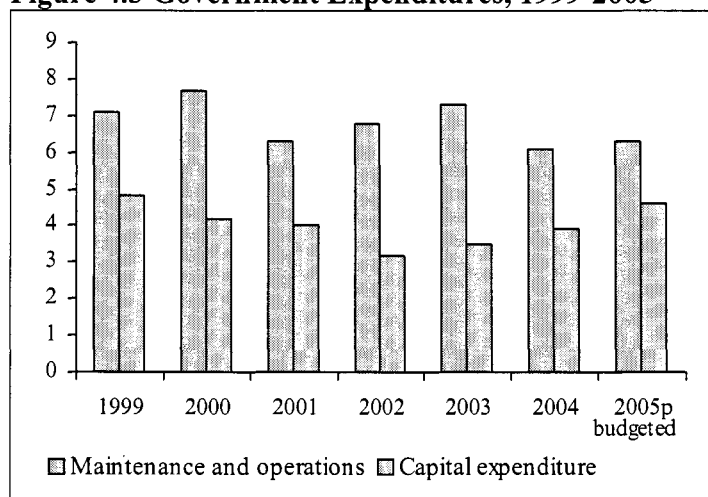
4.11 That being said, the balance between current and capital expenditures has started to improve (see Figure 4.3). This is an important first step towards addressing the legacy of rundown infrastructure and public assets. However, there has been a tendency to cut public capital expenditures and supporting expenditures on operations and maintenance when fiscal tightening has been necessary. Public capital expenditure expanded rapidly from under 1 percent of GDP in 1996 to 4.9 percent in 1999. Their share to GDP has followed a declining trend since 1999: public capital expenditures to GDP declined from 4.9 percent in 1999 to 3.8 percent in 2002. This trend, however, was reversed only in 2003 and the share to GDP has continued to increase since then with a projected allocation of close to 5 percent of GDP in 2005.²³ As result, private investment lacks an essential complement owing to deficiencies in basic public infrastructure, particularly in the transport network. While cutting public capital expenditures when fiscal tightening is needed is common in many developing countries, this practice is particularly detrimental to investment and growth in the case of Bulgaria because of the poor state of public infrastructure and public assets. Furthermore, for public capital expenditures to be effective in addressing these long-standing needs, capital outlays need to be supported by appropriate levels of expenditures in operations and maintenance.

²¹ Tesliuc, Cornelia (2004), "Social Protection and Poverty Reduction in Bulgaria – an Update," mimeo.

²² The Guaranteed Minimum Income program (GMI) is the main national safety net and is complemented by the energy benefit program and numerous other programs targeting specific groups.

²³ 2005 figures as per IMF program.

Figure 4.3 Government Expenditures, 1999-2005



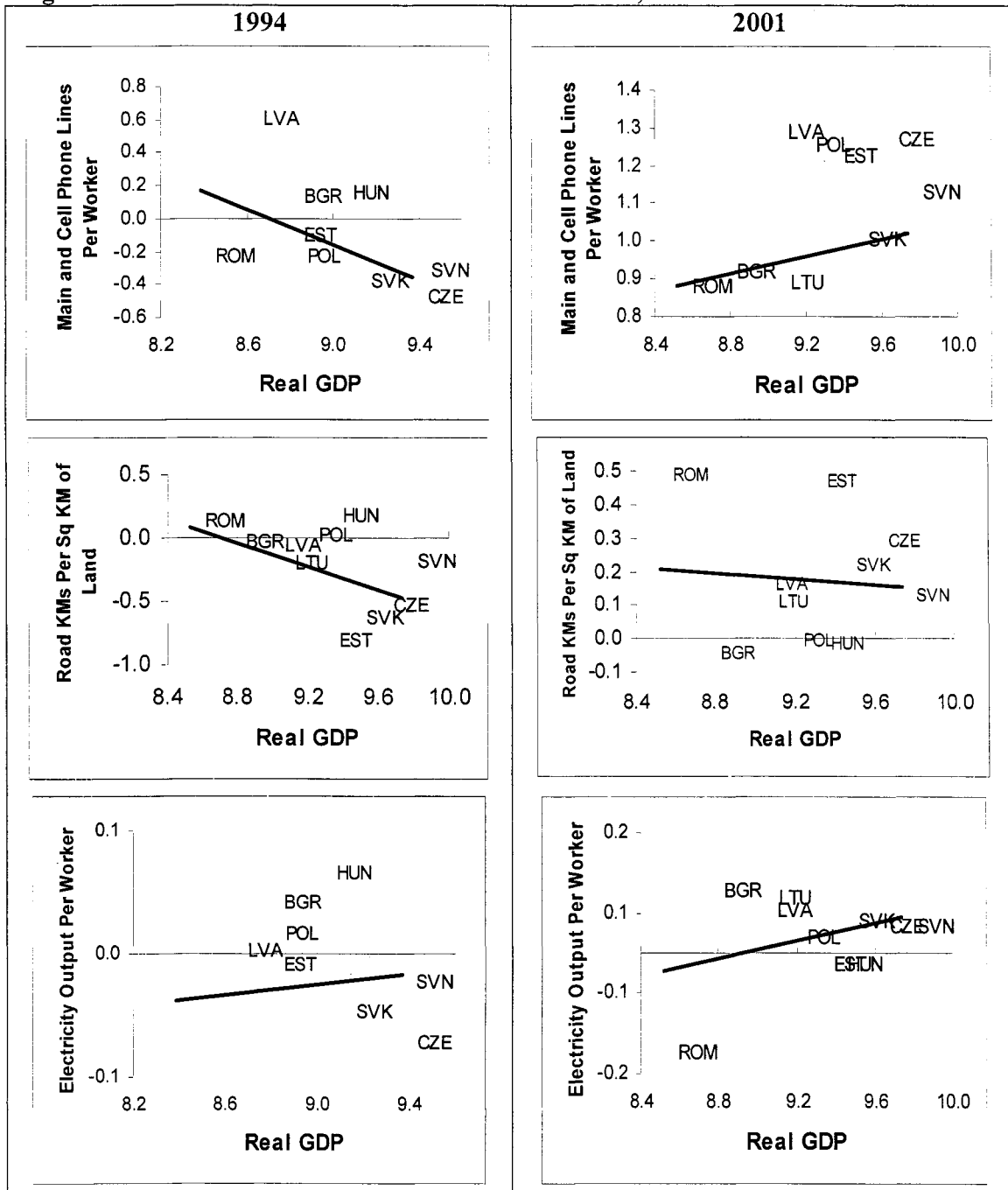
Source: World Bank staff estimates based on MOF data

4.12 Indeed, there is evidence that Bulgaria needs to upgrade its transport network and trade facilitation facilities (see Figure 4.4). Infrastructure data suggest that Bulgaria's growth rate is being constrained by low levels of investment in basic public infrastructure.²⁴ While more up-to-date information is lacking with which to evaluate current circumstances, Figure 4.4 relate the level of real per capita GDP in Bulgaria, Romania and the New Member States of the EU to the stock of roads, electricity capacity, and telecommunications development. The first panel shows the stock of infrastructure in 1994, and the second shows the situation in 2001.²⁵ In the case of electricity, Bulgaria has retained a relatively favorable position for meeting the needs of both households and producers. In fact, Bulgaria has the highest electricity per worker relative to GDP among the CEEC. The number of main and cell lines are indicative that Bulgaria compares well with the other CEEC. However, between 1994 and 2001 the number of new main and cell phone lines increased faster in the CEEC than in Bulgaria. Recent reforms in telecommunications in Bulgaria will help the country to catch up. In terms of road systems, the country's relative position in relation to the other CEEC has deteriorated (see Figure 4.4). The number of kilometers per square kilometer of land is indicative that Bulgaria compares poorly with the average in the CEEC and also in relation to the size of its economy.

²⁴ The link between public capital outlays and economic growth is not conclusive. Many studies have analyzed this relationship from several different angles and have reached different conclusions. For a review of this literature, see Ter-Minassian and Allen (2004). However, tests of the relationship between physical infrastructure and growth have been more robust in pointing towards a positive association. See, for example, Calderon and Servén (2004).

²⁵ The data are adjusted for country characteristics. A panel regression was used to "extract" the effect of the size of the labor force, and land area, and level of urbanization on each type of infrastructure. The residuals from this regression constitute the adjusted values. The trend lines in the charts are derived using OLS regression.

Figure 4.4 Selected Indicators of Basic Infrastructure, 1994 and 2001

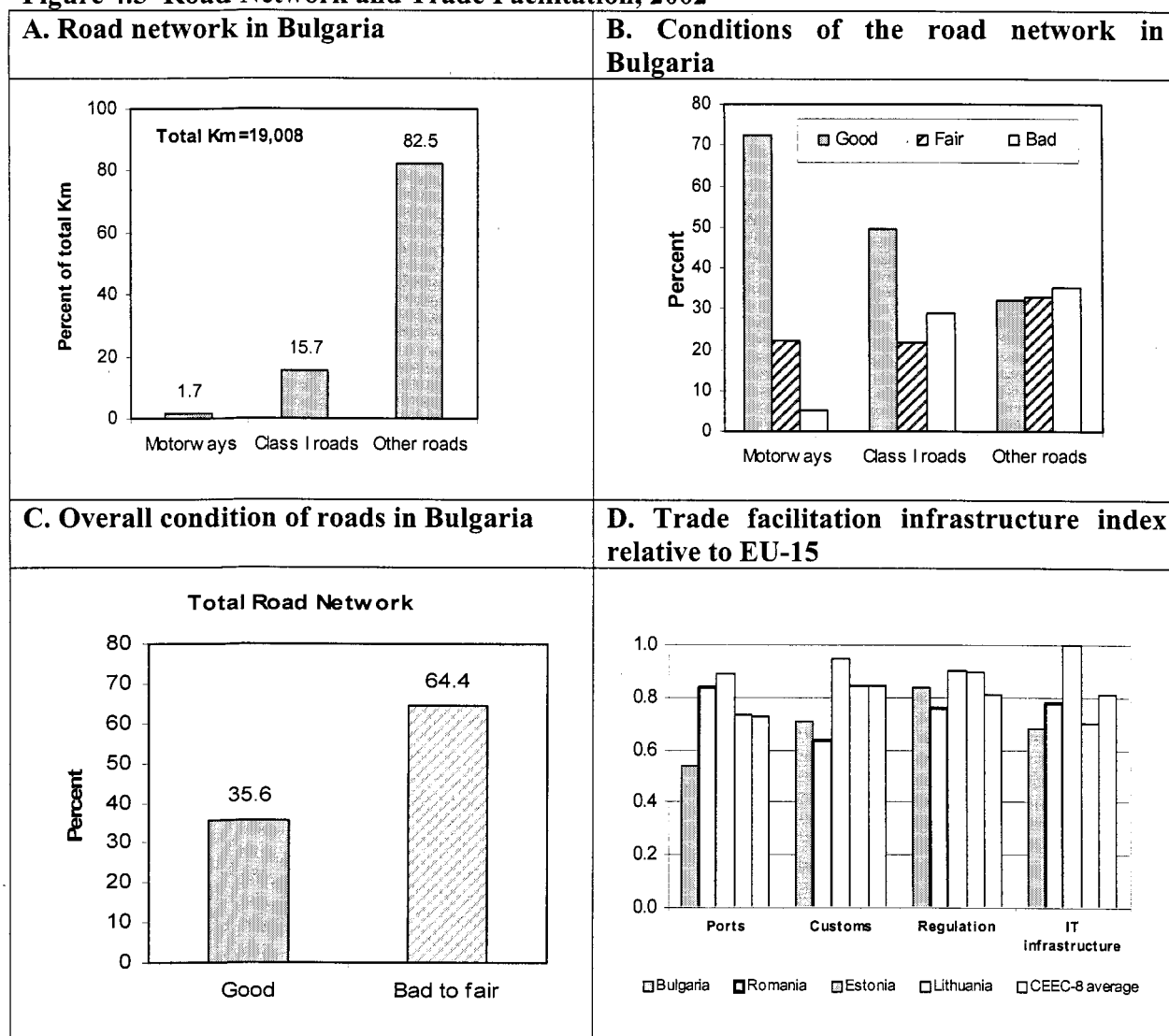


Source: National Statistical Institute, Calderon and Servén (2004) database, and United Nations Energy Statistics Yearbook.

4.13 Indeed, the road network is ill equipped to support long distance international traffic and is in general in poor condition (see Figure 4.5). The road system in Bulgaria is not supportive of long distance international traffic and is in poor condition. The network consists mostly of roads other than motorways and Class I roads. The percent in total

kilometers of motorways is less than 2 percent and the share of Class I roads is under 16 percent of the total. The share in kilometers of others roads is about 83 percent (see Figure 4.5: A). For the most part, the condition of the limited kilometers of motorways is good, while the condition of Class I roads is good in about half of them. In contrast, the conditions are poor in about 68 percent of the roads other than motorways and Class I roads (see Figure 4.5: B). All together, the conditions are poor in close to two-thirds of the road network (see Figure 4.5: C). According to a recent World Bank field survey, bottlenecks are starting to emerge along road segments which carry international traffic and in other cases the traffic volume seems to be higher than that shown by other available data. Furthermore, the road system for international traffic passes through many small towns and villages, which raises potential conflicts between long distance international traffic and local traffic.

Figure 4.5 Road Network and Trade Facilitation, 2002



Source: Figures A, B, and C are World Bank staff estimates based on national sources; Figure D is World Bank staff estimates based on information on the road network compiled by ECSIE of the World Bank; and Wilson, Mann, Otsuki database (2004) and Wilson, Luo and Broadman (2004).

4.14 Ports is the area of trade facilitation in which Bulgaria seems to lag further behind the other CEEC. Port efficiency measures the quality of the infrastructure of maritime ports and airports relative to the efficiency levels of the EU-15 (see Figure 4.5: D). The development of port efficiency is about 54 percent relative to the EU-15, compared with 84 percent in Romania, 90 percent in Estonia and an average of 73 percent in the New Member States (NMS-8 or CEEC-8). Reforms in port management started in 2004. Bulgaria's Ministry of Transport and Communications issued a port operator's concession program notice in 2004.²⁶ The program invited interested parties to participate in the future bidding process for the operations and maintenance of port terminals, as well as for the investment program for the reconstruction and development of the existing and new terminals. To date, however, the focus has been almost exclusively on airports leaving aside maritime ports which are far more central to international trade and hence to competitiveness. A competitive tender, announced in August 2004, is limited to two airports in Burgas and Varna. As of the end of January 2005, the concession rights for Burgas and Varna airports, which are expected to attract investments of nearly 130 million euros over the next couple of years, have not been allotted. The best international practice for supporting international trade includes the introduction of the landlord port, with the separation of operational and commercial functions, the privatization of port services, and the concessioning of large container and bulk terminals to private operators.

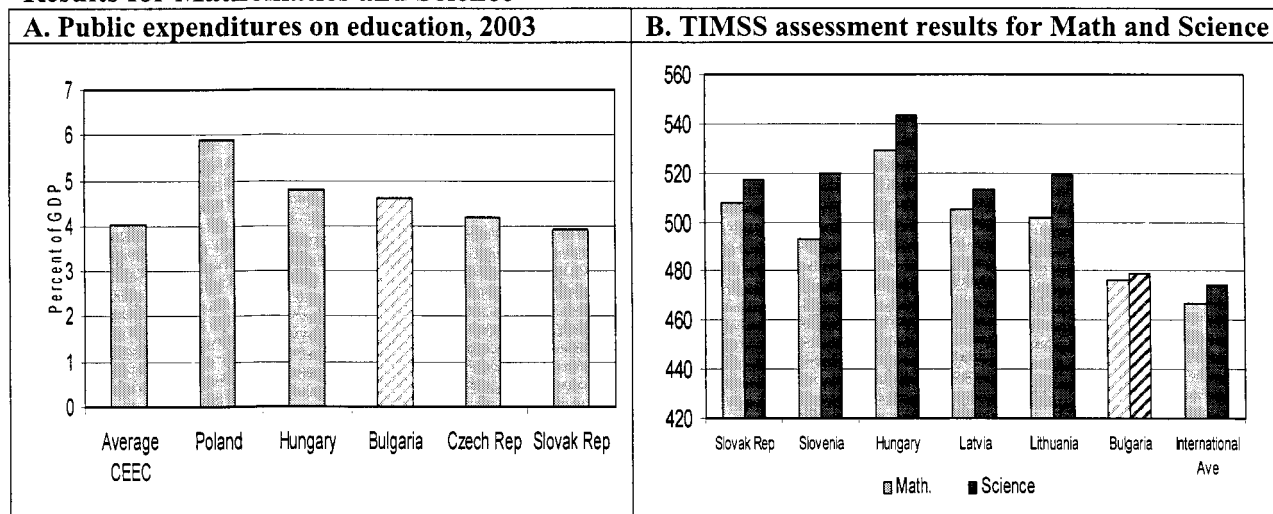
4.15 Deficiencies in the basic public infrastructure essential for international trade are probably contributing to a bias favoring activities that service domestic rather than external markets. The above analysis shows that there are important deficiencies in the basic infrastructure needed to reach international markets. In addition, as shown in previous chapters, Bulgaria's economy shows a bias favoring activities that mainly service the domestic rather than external markets. These features are closely related, since deficiencies in the transport network needed to reach international markets, together with the accumulated appreciation of the exchange rate, are all the more serious since they are likely to make selling in markets involving longer distances (such as the EU markets) more costly than for producers located closer to EU markets or with better trade facilitation infrastructures than the producers located in Bulgaria. Addressing these deficiencies is therefore central to improving Bulgaria's competitiveness.

4.16 Bulgaria also needs to improve the efficiency of public expenditures on education in order to upgrade its human capital (see Figure 4.6). The efficiency and effectiveness of public expenditures on education are particularly important, given the objectives of improving labor productivity. Better labor productivity is needed to raise wage income and to expand export capacity. However, there is evidence of serious issues concerning the efficiency and effectiveness of public expenditures on education. Specifically, expenditures per student are rising but the quality of education and the adequacy of skills relative to market needs are not improving. Education expenditures as a percentage of GDP have been rising gradually over the last few years to reach a level of about 4.4 percent in 2003, or about the average for selected CEEC. At the same time that outlays for education have increased, the size of each age cohort has continued to decrease. Even with this level of expenditures and the declining student population, there is evidence that the education system is performing poorly. Despite increased public expenditures, the quality of education is below the levels of other CEEC with similar

²⁶ See www.mtc.government.bg

levels of spending. Figure 4.6: A shows that Bulgaria spends about the same amount as other CEEC on education but, as shown in Figure 4.6: B, Bulgaria's average scores in math and science (476 and 479, respectively) are below the average scores for these countries. Moreover, as shown in the next chapter, there is strong evidence that the education system is producing significant skills inadequacies which contribute to a high unemployment rate for recent graduates.

Figure 4.6 Public Expenditures in Education and TIMSS 8th Grade Student Assessment Results for Mathematics and Science



Source: World Bank staff estimates based on databases of the World Bank and *TIMSS2003: International Mathematics Report*, International Association for the Evaluation of International Achievement, December, 2004, and *TIMSS2003: International Science Report*, International Association for the Evaluation of International Achievement, December, 2004.

4.17 The relatively poor outcomes for public expenditures on education are mainly due to inefficiencies in outlays and deficiencies in curricula.²⁷ The education system in Bulgaria has an overcapacity in staffing and facilities, as is illustrated by the very low student to teacher ratios. In addition, average student to teacher ratios mask a serious deficiency in the system of a large variance across schools. While many schools have very low levels of students, others, particularly in urban areas, are overcrowded. In primary education student to teacher ratios are about one-third below the average OECD levels; in secondary education Bulgaria's ratio is 30 percent below the OECD average; and in higher education Bulgaria's ratio is 55 percent below the OECD average. As a result, a large share of outlays of about two-thirds of total public expenditures on education goes to wages and salaries for staff. Because of this, limited resources are available to keep curricula and textbooks updated and to provide adequate teaching materials and maintain facilities. The Government is taking first steps to strengthen the links between budget allocations to education and its performance in terms of outcomes. This report recommends that an in-depth education reform is formulated to address (i) inefficiencies in education spending; (ii) declining student cohorts, and (iii) upgrade curricula. And it supports the initiative to expand private sector participation in the sector.

²⁷ See World Bank, "Public Expenditure and Institutional Reform," 2002; OECD, "Education at Glance," 2004; and OECD, "Review of National Policies for Education: Bulgaria," 2004.

4.18 To make room for such spending and maintain it in the face of an aging population, Bulgaria will need to rein in the rapid growth of expenditures on pensions, the health care system, and the social assistance system. Public expenditures on the social protection system increased from 9 percent of GDP in 1996 to close to 14 percent by 2004, and now account for about 35 percent of the budget. This is due to a combination of demographic trends, a rapidly aging population, high unemployment, the broad scope of the social assistance system, and increased health care expenditures. However, the efficiency and effectiveness of the social protection system has significant room for improvement—8 of every 10 Bulgarians receive at least one social benefit, including pensions, but only 1 in 3 is poor or old. With one of the fastest aging populations in the region, the financial pressures are large and are increasing rapidly. Reforms in the social protection system are urgently needed to enable the reduction of very high payroll taxes, which create significant incentives for the informal economy and for tax evasion, and which also limit job creation.

4.19 Recent reforms of the social security system. In the last few years important reforms have been implemented, including increasing the retirement ages, increasing the contribution-identity of the pension formula, and tightening the eligibility criteria. Contribution rates and benefit indexation rules are now specified in an amended Social Insurance Code rather than in the Budget Law. This has increased the system's predictability. However, despite recent amendments to the Social Insurance Code, the disability pension system is still open to fraud and often provides benefits without due justification. The social security system is a key long-term source of fiscal risk, owing to low coverage and low contribution levels into the system and rising dependency ratios. The rising dependency ratios are mostly driven by demographic trends but are also the result of high numbers of beneficiaries and low labor participation rates in the formal economy. Financial pressures are magnified by the common practice of under-reporting wages, which erodes the contributions to the system and jeopardizes the adequacy of future pension benefits. Without further reform, the system imbalances will continue to grow and to pose a serious threat to macroeconomic sustainability, particularly if the economy grows slowly. The urgency for reform is increasing owing to the demographic challenge of a rapidly aging population.

4.20 Recent reforms in the health care system. The financing of the health care system, particularly hospital care, has been a source of unexpected budgetary outlays and represents a central source of fiscal risk. The health care system is based on the separation of service provision and financing. Financing includes allocations from the central budget, a health insurance premium collected via payroll taxes, and out of pocket payments. The National Health Insurance Fund (NHIF) pools risks and purchases health care services through contracts with physicians, group practices, and hospitals. The system faces challenges in several areas including its financial sustainability, its quality and its ease of access.

4.21 Despite increases in public expenditures and attempts at rationalization, improvements in the efficiency of public expenditures on health care and health indicators have been at best modest. This is due to several factors, including the costly excess capacity in both facilities and health care specialists inherited from the socialist past; an inefficient use of resources, as manifested through both the excess capacity and the low utilization rates of

facilities; and the neglect of maintenance of facilities and equipment, as more than 90 percent of outlays represent current expenditures.

4.22 Reforming the social assistance system. Public expenditures in the social assistance system represent about 5 percent of GDP. However, recent research shows that the outlays of the social assistance system are largely ineffective in alleviating poverty. Instead poverty alleviation in Bulgaria is heavily dependent on pensions, while the social assistance system has a negligible impact. This implies that pensions, which are not means-tested and therefore are not an efficient or effective instrument for poverty alleviation, are compensating for costly inefficiencies in the social assistance system. At 4.4 percent of GDP, the costs of the social assistance system are too high for its negligible impact on poverty.

4.23 Deepening public sector reform is needed to support the restructuring of public expenditures. To achieve higher levels of efficiency and effectiveness in public expenditures, Bulgaria needs to deepen public sector reform. As shown in this section, larger budgetary allocations in education do not by themselves translate into better education outcomes. Similarly, fiscal consolidation is not supportive of investment and growth if it relies heavily on cuts in public capital expenditures and in outlays on operations and maintenance when fiscal tightening is needed, since such cuts result in deficiencies in basic public infrastructure. Nor do reductions in tax rates achieve their potential impact on investment, growth, and the creation of employment if there are major deficiencies in tax and revenue administration. From this perspective, several areas of reform are particularly important, including public expenditure management, public administration, and public sector governance and financial accountability. These areas are discussed in the next section.

C. Public sector reform

4.24 Progress in public sector reform plays a determining role in the extent to which public expenditure policy reform is translated into actual improvements in the efficiency and effectiveness of public resources. In the last two years Bulgaria has taken the first steps towards implementing its public sector reform program, which spans 2002-07. The program is aimed at strengthening public expenditure management, and improving public administration and public sector governance. A large number of legal and regulatory reforms aimed at these objectives were implemented in 2002-03. And the first steps in their implementation were taken in 2004 and early 2005.

4.25 Public expenditure management reform. In 2002, Bulgaria adopted a comprehensive reform program aimed at strengthening public expenditure management. The program has included actions to increase allocative efficiency and transparency in budget formulation; to strengthen budget execution and management; to strengthen the effectiveness of internal and external accountability arrangements; and to strengthen the system of inter governmental finances. The reform program aimed at adopting direct links between programs, budgeted allocations, and performance targets both planned and actual. The first pilot ministry was

created in 2002 and was extended to include seven other ministries.²⁸ Performance indicators and targets for pilot ministries were published in the 2005 budget. The authorities have also moved ahead with the development of the Medium Term Fiscal Framework (MTFF) in the 2005 budget. By end-2006, for the 2007 budget preparation cycle the objective is that the public expenditure management system will be based on the MTFF. By 2007, the objective is to see that the center of government decision-making and public expenditure management systems in place, to enable the Council of Ministers to prioritize and allocate resources more effectively.

4.26 A number of measures were taken to improve the management of capital expenditures and funding in intergovernmental finances. The 2003 draft guidelines for capital expenditure planning and appraisal were developed according to EU standards and distributed to all line ministries. These draft guidelines served as the basis for the guidelines approved by the MOF in 2004 and were used for the first time in analyzing and prioritizing the limited number of new capital expenditure proposals in the 2005 budget. Intergovernmental finances were also improved by fully funding, in the 2004 and 2005 budgets, all centrally mandated delegated functions based on agreed expenditure standards. The government has also adopted a transparent formula for allocating revenue equalization grants for the 2004 budget and has fully funded this equalization transfer in the 2005 budget.

4.27 Despite the progress to date in public expenditure management, important challenges remain. Bulgaria relies heavily on capping discretionary expenditures to achieve fiscal targets. Discretionary expenditures are capped below their budgeted levels for the first three quarters of the year as a way of providing flexibility in the budget to respond to potential inflationary pressures and external developments. The cap was 88-90 and 95 percent of the total planned budget in 2002-03, and 2004, respectively. The cap in 2005 is 93 percent of the total planned budget. While this practice has been an effective approach to achieving fiscal targets, in general it does not support the efficient use of resources. In the last few years a large amount of resources, reaching close to 2 percentage points of GDP, has been spent during the last quarter of the year. Furthermore, program budgeting has yet to cover all line ministries. Consequently, not all line ministries are subject to the discipline of the links between budget allocation and planned and actual performance outcomes. Moreover, the expenditure accounts of the judicial system have yet to be incorporated in to the budgetary payment system. And finally, Bulgaria cannot as yet count on a financial management system to support a more efficient approach to public expenditure management.

4.28 Public administration reform. The reform began with the adoption in 2003 of the *Strategy for State Administrative Modernization: From Accession to Integration*. This strategy is aimed at: adopting merit criteria for, and depoliticizing the hiring of, public employees; introducing performance and service criteria in the delivery of public services; optimizing government structures; and strengthening accountability and transparency in service delivery. The legislative framework for a merit-based and depoliticized civil service became effective in January 2003. This entailed introducing amendments to the *Civil Service Law* and the *Law on*

²⁸ These are the Ministry of Environment and Waters (MEW; first pilot in 2002), the Ministry of Transport and Communications (MTC), the Ministry of Labor and Social Policy (MOLSP), the Ministry of Education and Sciences (MES), the Ministry of Economy, the Ministry of Energy and Energy Resources, and the Ministry of Youth and Sports.

Administration. The authorities introduced a performance assessment system in all core ministries in January 2003. The share of competitive recruitment increased to 100 percent in 2004 from under 15 percent in 2002-03. The restructuring of all ministries is being carried out via functional reviews which started with three reviews in 2003 and increased to 13 reviews (7 ministries and 6 regional administrations) in 2004. On the e-governance action plan, on-line forms for tax and customs services have been introduced, an electronic registry of state institutions including the database of regulatory regimes and civil service positions was established; and one-stop shop pilots for public service delivery were put in place in more than half of the local administrations.

4.29 The challenge in public administration reform is to fully implement the new legislative and regulatory framework. To depoliticize civil service, hiring, promotion, and salary increases of public employees needs to implement fully the merit criteria of the new legislation embodied in the Civil Service Law and the Law on Administration. The functional reviews of all ministries and agencies supported by the central budget need to be completed, and, based on the findings, a restructuring program and the consolidation of the public sector need to be implemented. The new principles and regulatory framework also need to be fully implemented to achieve a significant increase in the extent to which administrative services are subject to formal competitive processes, in the outsourcing of services, and in the analyses of savings generated. Efficiency principles should guide decisions as to which services should be paid for and provided by the public sector and which should be provided by competitive private suppliers.

4.30 Public governance reform and financial accountability. Based on 2002 information, Bulgaria was characterized as a country with high levels of state capture and a medium level of administrative corruption.²⁹ The areas most affected have been customs, health services, higher education, tax administration, and the courts. In 2001 the authorities adopted the *National Anticorruption Strategy* which aims at combating corruption in all areas of the public sector. In 2002-2003, specific sectoral anticorruption strategies were adopted for education and health, and the Supreme Judicial Council (SJC) approved a linked anticorruption strategy for the judiciary. Measures were taken to address weaknesses relating to conflicts of interest and asset declarations. A code of ethics intended to improve administrative procedures, reduce inappropriate discretion on the part of civil servants, and clarify accountability arrangements was introduced in 2004.

4.31 Financial accountability and procurement reform. Accountability is being strengthened by improving evaluation: the first evaluation report by the National Audit Office (NAO) on the 2002 program budget of the Ministry of Environment and Water was released in 2004. Improvements in procurement include the enactment of a new *Public Procurement Act* and related secondary legislation. In addition, a public procurement register is being established, and rules and procedures for arbitration in procurement-related disputes are in place. Similarly, internal and external audit practices are being improved by locating internal audit teams in all central and local government entities, ensuring that the annual internal audits were carried out in all government entities, and that reporting on internal audits was also carried out. The new legislative and regulatory framework needs to be implemented fully to make the

²⁹ World Bank, *Anticorruption in Transition 2*, 2004.

procurement system more efficient and transparent; and appropriate action by the MOF, including remedial, system, and management improvements, should follow from the reports by the NAO and the Public Internal Financial Central Agency (PIFCA). It is particularly important that transparent and competitive procurement be implemented for all civil works, including those that emerge from extrabudgetary funds.

4.32 To improve public sector governance and financial accountability, Bulgaria needs to focus on implementing certain strategies, regulations and frameworks. These include: (i) its national and sectoral anti-corruption strategies; (ii) the new regulations relating to conflicts of interest and asset declarations; (iii) the code of ethics introduced in 2004; and (iv) the new financial accountability framework. At a more fundamental level, as discussed in Chapter 6, Bulgaria needs to simplify its overly complex legislative and regulatory framework. This complexity impinges on economic efficiency and provides fertile ground for administrative corruption. These reforms will help reduce the levels of state capture and administrative corruption compared to 2002, and will contribute to achieving stronger external accountability and transparency in public administration.

D. Restructuring public expenditures: A reform agenda

4.33 The first core area of reform is to implement major public expenditure restructuring supported by deepening public sector reform, to ensure the increasing efficiency of public resources and the provision of basic public services. Inefficiencies in public resources are far more detrimental to productivity and growth than are inefficiencies in private activities, since the former affect a wider spectrum of activities in the economy. Moreover, their sustainability and flexibility are central to macroeconomic stability. Consequently, public expenditure restructuring reform needs to be driven by cost-benefit criteria for budgetary sources and allocations and their outcomes. First, the rationalization of public expenditures is needed to provide a solid foundation with which to continue to improve the efficiency of tax policy and reduce the tax burden on the economy. In this context, substantial reforms to the social protection system are needed to improve their efficiency and to ensure their fiscal sustainability. These reforms are essential to make it possible to reduce payroll taxes, which is central to growth and to net job creation. Second, public expenditure restructuring should give high priority to addressing deficiencies in the transport network and to upgrade skills of its human capital. As shown in the previous chapter, without upgrading the country's transport network and without upgrading skills, Bulgarian producers will continue to face difficulties in competing in the global markets. Similarly, Bulgaria will find it increasingly difficult to attract FDI flows into outward-oriented sectors in particular if deficiencies in basic infrastructure are not addressed, or if the profitability of economic activities remains limited mainly to unskilled labor intensive products. These reforms are all the more pressing as FDI flows driven by privatization will decline as the privatization program is coming to an end.

4.34 Upgrading skills. Bulgaria needs to implement a major shift in the paradigm of the education system, including universities and vocational schools, to generate the skills needed to compete in the global markets, to address the demographic challenge of the declining size of cohorts, and to improve access to education by disadvantage groups. Improving the efficiency and effectiveness of public expenditures on education is particularly important given the

objective of improving labor productivity, which is necessary to raise wage incomes and to expand export capacity beyond unskilled labor intensive products. The direction of reforms in the education system should be driven by three criteria: (i) improving the efficiency and effectiveness of public outlays on education, including enhancing the quality of education and ensuring access to education by vulnerable groups; (ii) strengthening the links between the skills acquired in the education system and those needed in the job market; and (iii) developing a reliable accreditation and certification system. Key reforms recommended include the following:

- *Reallocating resources from the surplus capacity in the teaching staff and underused facilities towards other essential quality-enhancing inputs, including the modernization of curricula, textbooks, and teaching materials.* The reallocation of resources is also needed to address the acute deterioration in education facilities and teaching equipment;
- *Implementing a composite per student resource allocation.* An efficient mechanism finances outcomes—in this case students and the quality of the education they acquire—rather than financing inputs which, in the case of Bulgaria, are mostly teachers. Per student allocations should be differentiated to reflect the differences in the costs of education levels and specialization, to improve the access to education of disadvantaged groups, and to account for cost differences arising from the learning needs of students. Designing differentiated per student financing formulas should be undertaken carefully to avoid simply reflecting current per student costs of different levels and facilities—which perpetuates inefficiencies. Measures that will increase cost recovery in universities to 30 percent, as specified by the law, including raising fees, should be implemented.
- *Moving towards a more advanced approach to education by financing educational results and not just enrollment levels.* Expanding the role of private education providers and strengthening competition based on outcomes can be an important force in improving quality of education. In general, countries using this approach condition payment to private education providers to agreed education targets in terms of learning achievements.
- *Consolidating the staffing and facilities of the education system.* A per student resource allocation policy needs to be complemented by a plan to consolidate staffing and facilities. Unless financial policy is supported by a program to consolidate staffing and facilities in the education system, Bulgaria will continue to have schools that are overcrowded in some of the urban areas and nearly empty in other facilities. Consolidating facilities will require providing transportation to students from smaller to larger facilities.
- *Addressing the skills mismatch gap.* The education reform strategy needs to shift toward adopting automatic mechanisms and feedback rules to link the education system and labor market conditions. First, the provision of education services should be demand-driven and based on academic attainment and job performance. Adopting a composite financing per student policy supports a system in which the demands of students and parents determine which educational programs expand and which ones contract. And second, stronger competition among educational institutions, including universities, for

public resources and private sector funding is needed. This would also help to attract the best teachers and students to the best schools and would improve the academic attainment and job performance of graduates. Both academic attainment and job performance should be monitored and disclosed at the level of individual institutions.

- *Developing a reliable system of accreditation and certification based on objective criteria.* Given the rapid changes in labor market conditions, developing a system of accreditation and certification should be driven by outcomes in terms of academic attainment and job performance. Basic standards, particularly for technical and higher education, should be defined in consultation with the private sector.

4.35 Upgrading the transport network. Addressing the network's large basic infrastructure needs will take time. The direction of reforms needs to be driven by undertaking a cost-benefit analysis of these investments and addressing the challenge arising from the liberalization of international trucking in the context of EU integration. Reforms intended to upgrade the transport network include the following:

- *High priority should be given to long distance international traffic.* Investments first need to address the emerging bottlenecks along road segments that carry international traffic. These investments would also need to address the problem that arises because the road system for international traffic passes through many small towns and villages.
- *In parallel, reforms of maritime ports are urgently needed.* These ports together with a road system for long distance international traffic, are essential to international trade and deepening integration with the EU. The best international practice for supporting international trade in this area includes the introduction of the landlord port, with the separation of operational and commercial functions, the privatization of port services, and the concessioning of large container and bulk terminals to private operators.
- *In setting priorities in road investment to support long distance international traffic, maintenance has the highest priority and new construction has the lowest.* Since road investments compete for limited resources, the preservation and rehabilitation of existing assets has a higher priority than new construction.
- *Bulgaria should adopt transparent and competitive procurement for all civil works.*
- *Public-private partnerships should be entered into only if they offer value for money as determined by a public sector comparator.*

4.36 Addressing the challenges of the social protection system. Bulgaria needs to develop a strategy to rein in the rapid growth of expenditures in pensions, the health care system, and the social assistance system. The direction of reforms should be driven by the efficiency of these expenditures and their fiscal sustainability.

4.37 Deepening social security reform. Despite substantial reforms since 1999 when Bulgaria moved to a three pillar system, its social security system is not aligned with

demographic trends. As a result, payroll taxes are very high and provide incentives to the informal economy, as well as to under-reporting of income both of which exacerbate the demographic trend of rising dependency ratios. There are two broad reform scenarios.

- *One reform path is to continue to implement reforms to contain financial imbalances, which would entail mainly further increasing further retirement ages or reducing benefits.* This reform path requires at least two additional measures: (i) implementing the strict discipline in the use of the disability pension system which is currently still prone to fraud and abuse; and (ii) implementing strict collection of contributions. The former needs strict certification and steep sanctions for fraud and abuse. The operationalization of the National Revenue Agency could help with the latter. Under this first reform scenario, reduction in the payroll taxes are likely to remain limited to the extent that the contribution base can be expanded. Risks to their financial and fiscal sustainability are increasing over time due to demographic trends and are magnified by periods of low economic growth.
- *At the other end of the reform spectrum, a more substantive reform could be to consider increasing the linking of benefits to contributions to the system.* At the limit, the reform could aim at a fully funded system supplemented by a citizen's pension or basic pension to avoid extreme poverty in the old age population. This option will imply large fiscal costs to honor commitments accrued to retired and active cohorts who have contributed to the system.

4.38 Given the substantial financial challenges involved, detailed actuarial work is needed to assess the implications and feasibility of alternative reform paths to deepening social security reform. Clearly, the most risky scenario financially, with a potentially serious outcome would be not to consider reform options to address the rapidly growing financial pressures.

4.39 **Reforming the health care system.** Despite increases in public expenditures and rationalization attempts, improvements in the efficiency of public expenditures in health care and health indicators have been, at best, modest. Under current trends, the fiscal sustainability of these expenditures is questionable. The direction of reforms should be aimed at addressing the concurrent problems of the rapid increases in health expenditures, the surplus capacity in health care staffing and facilities, the deterioration in the quality of the facilities, and the inadequate modernization of equipment. The government is developing a new strategy aimed at addressing financial sustainability in general and informal payments and corrupt practices in particular, as well as improving quality and access. The reforms being considered include the following:

- *Developing of a basic health care package. The reform envisions universal coverage under the basic package.*
- *Developing a private voluntary health care insurance supplemental to the basic health care package.*
- *Funding high tech and expensive treatments by the state in an amount of additional payment inversely proportional to the value of the services.*

- *Offering options in the ownership and management of hospitals. The reform envisions providing free choice of health care providers so that hospitals compete for them on the basis of the price and quality of their services.*
- *Subsidizing the NHIF for paying the full cost for medical services of disadvantaged citizens.*

4.40 As in the case of pensions, careful analysis of the reform options is needed in order to assess their implications in terms of financial sustainability and provision of health care services. However, as the experience with reforms over the last several years has shown financial policy will need to be supported by decisive measures to restructure and consolidate surplus capacity in health care staffing and facilities.

4.41 Reforming the social assistance system. There are large inefficiencies in the social assistance system, as illustrated by its negligible impact on poverty. The system is highly fragmented with more than 34 programs. The largest program is that of the Guaranteed Minimum Income (GMI) which in the last few years has improved its targeting and effectiveness. However, for the most part the social assistance system's targeting has considerable scope for improvement. The recommended reforms include the following:

- *Consolidating the social assistance system moving towards in-cash and income support mechanisms*
- *Training social workers to better identify poor households*
- *Improving information systems to facilitate means-testing and reduce the payment of duplicative benefits*
- *Expanding communications activities so as to inform beneficiaries about eligibility criteria and application procedures.*

4.42 Public sector reform. The way in which the public sector functions determines the extent to which public expenditure policy is translated into actual improvement in the efficiency and effectiveness of public expenditures. Over the last two years Bulgaria has implemented important reforms aimed at such improvement. With this objective in view, a large number of legal and regulatory reforms were implemented in 2002-03, and the first steps to implement them were taken in 2004 and early 2005. These measures included amendments to the *Civil Service Law* and the *Law on Administration*, the development of sectoral anti-corruption strategies, and enactment of the new *Public Procurement Act*. Similarly, further progress was made in developing the Medium Term Fiscal Framework (MTFF) by strengthening the links between budget allocations and performance indicators and implementing, for the 2005 budget, guidelines for capital expenditure planning and appraisal. The next stage of reforms should focus on the full implementation of the new legislative and regulatory framework. Key reform measures include the following:

- *Strengthening public expenditure management:* (i) completing the development and implementation of the MTFF to strengthen the links between budget allocations and performance indicators—program budgeting should be extended to all ministries; (ii) incorporating the expenditure accounts of the judicial system into the budgetary payment system; and (iii) developing and making fully operational a financial management system.
- *Improving public administration:* (i) implementing fully the merit criteria for hiring, promotion and salary increases provided by the new legislation embodied in the Civil Service Law and the Law on Administration, to depoliticize the civil service; (ii) completing functional reviews of all ministries and agencies supported by the central budget and, based on the findings, implementing a restructuring program for the public sector; and (iii) increasing the scope and number of administrative services subject to formal competitive processes, outsourcing these services, and generating the analyses of the savings generated.
- *Improving public sector governance and financial accountability:* (i) simplifying an overly complex legislative and regulatory framework (see Chapter 6); (ii) implementing national and sectoral anti-corruption strategies; (ii) enforcing fully the new regulations relating to conflicts of interest and asset declarations and the code of ethics introduced in 2004; (iii) implementing transparent and competitive procurement for all civil works including those emerging from extra budgetary funds; and (iv) implementing internal and external auditing in all government entities, making evaluation reports publicly by the NAO and PIFCA.

4.43 To translate the efficiency gains resulting from public expenditure policy and public sector reforms into higher productivity levels in the economy and improved competitiveness, the Bulgarian economy depends on labor market adjustment. Implementing public expenditure restructuring supported by public sector reform can substantially increase the overall economic efficiency with which revenues are collected and the cost-benefits of budgetary allocations and their outcomes. These reforms are essential in order to upgrade the country's transport network and the skill content of its human capital stock—actions that are needed if Bulgaria is to compete in the global market. An improved transport network and a well trained labor force would provide a solid foundation for increasing productivity in the economy. However, for these reforms to be translated into enhanced competitiveness, the Bulgarian economy would be dependent on the ability of the labor market to reallocate labor from lower to higher productivity activities. The extent to which labor market policies and institutions are supportive of these adjustments is examined in the next chapter.

5. ENHANCING LABOR MARKET ADJUSTMENT AND EMPLOYMENT

5.1 Enhancing labor market adjustment and employment is central if Bulgaria is to move towards a more solid path of convergence and improve its competitiveness. As discussed in the previous chapters, productivity is low in most activities in Bulgaria, except in unskilled labor-intensive activities which dominate exports. The deepening of Bulgaria's integration with the EU and global markets will be determined by its ability to reallocate resources from lower to higher productivity activities across the economy. Success will depend to a large extent on the functioning of the labor market. Without the enhancement of labor market flexibility, it is unlikely that the economy will be able to respond to the emerging challenges discussed in Chapters 2 and 3—mainly to improve competitiveness and move towards a Lisbon-growth path. Nor will the economy be able to improve the prospects for higher labor productivity and hence better labor income earnings.

5.2 As is shown in the following sections, there are signs of slow improvement in labor market performance since 2002.³⁰ However, the labor market remains performing poorly in terms of labor market participation and employment and unemployment rates, and inter-sectoral labor adjustment has been limited. A considerable share of employment is in largely unproductive segments in agriculture. Reform of labor market regulations to adopt some of the best practices in the EU can enhance creation of employment and the expansion of productivity gains more broadly across the economy, in order to benefit more fully from economic integration with the EU. Bulgaria has some of the most inflexible conditions of employment, with tight restrictions on working schedules. The terms of leave and working hours are more generous than the average for countries in the region. This chapter first presents an overview of labor market policies and institutions.³¹ It then assesses labor market adjustment on the basis of performance indicators over time and the extent of labor adjustment at the sectoral level compared to other countries in the region. The chapter ends with a summary of reforms needed to enhance both labor market adjustment and employment.

A. Labor market policies and institutions

5.3 Bulgaria's labor market policies and institutions need to be examined carefully given the labor market's poor performance relative to other countries in the region. Over the last several years, Bulgaria has implemented labor market reforms by enacting amendments to laws and changes to regulations which are in general consistent with EU directives. However, the persistence of high unemployment rates despite the strong sustained economic growth and rapid expansion of investment, and the poor performance of the labor market relative to other countries point to the country's need to examine its labor market policies and institutions.

³⁰ As in other transition economies, labor statistics in Bulgaria have shortcomings such as under-reporting of wages and salaries and the presence of a large informal sector also affects labor indicators. The information presented in this chapter is indicative of stylized trends and composition of the labor market in Bulgaria and other countries in the region.

³¹ For a comprehensive analysis of labor market performance in CEECs, see Jerald Schiff et al., 2005, *Labor Market Performance in Transition: the experience of Central and Eastern European Countries*, IMF, Washington, D.C.

5.4 The wage-setting mechanisms include collective bargaining, rules applied to the public sector, and a minimum wage. Collective bargaining is based on a tripartite system which includes the government, labor unions, and representatives of employers. Negotiations are undertaken at the national, branch, regional, and enterprise levels. Wages in the central government are completely centralized. The State Budget Act specifies the wages for budget institutions and companies. The wage bill growth regulation ties the financial performance of state-owned enterprises to their financial performance, including debt service. Collective agreements typically extend to non-union members, and in several sectors agreements are applied to the whole sector. A minimum monthly wage is set at the national level by the government in consultation with social partners. Union membership has declined and now its level of around 30 percent is comparable to that in the Slovak Republic and higher than the levels in Estonia, Latvia, and Poland which range between 10 and 20 percent.

5.5 High labor taxes are a serious impediment to labor adjustment and employment creation. Wages are low but labor costs are relatively high, since labor taxes are high to compensate for widespread tax evasion. As shown in Chapter 1, Bulgaria has one of the highest payroll taxes in the region and the tax burden on the economy contributes to a sizable informal economy. To avoid further erosion of revenue collection, in 2003 the authorities introduced a minimum social insurance threshold matrix setting minimum wages by activities (17) and by professions (9). This measure increased the number of registered contracts and, hence, the registered employment, in the first few months of its introduction in 2003, and the collection of social security contributions rose sharply between 2002 and 2003. The sustainability of these increases, however, is unclear, as employees may redefine their contracts, seeking the lowest possible wages at the minimum levels of the threshold matrix. To raise the employment and labor market participation of the labor force, Bulgaria needs to restructure public expenditures towards high priority areas, particularly towards upgrading skills and the transport network, implementing the structural reforms to its social protection system to increase its efficiency and fiscal sustainability, and expanding the tax and revenue collection base in order to be able to reduce labor taxes in particular and the tax burden on the economy in general.

5.6 Reforms of labor market regulations are needed to improve labor market performance and the creation of employment. Bulgaria has implemented reforms to its labor laws and regulations over the last several years.³² While current labor market regulations seem broadly in line with EU directives, the regulatory framework faces more serious challenges, in view of the poor performance of the labor market. The poor performance in the investment climate can no longer be blamed for the labor market, poor performance. Investment, exports, and imports are all growing at a faster rate than GDP growth. In contrast, labor adjustment and creation are very limited.

5.7 Regulations for work schedules are quite restrictive. Regulations regarding working schedules are quite restrictive, more so than the average for countries in the region. These regulations set precise rules regarding daily hours, and weekly holidays, and forbid overtime work except under certain circumstances. Since these regulations are inconsistent with the new

³² Bulgaria's Labor Code dates back to 1985 and had major revisions in 1992, and other more modest revisions have been made since then.

realities of Bulgaria's market economy, compliance is unclear and thus they tend to provide incentives to informality. The terms of working hours are more generous than the average for countries in the region.³³ The combination of over prescriptive rules for dismissal and generous sick leave benefits is a disincentive to work that hinders the creation of employment.

5.8 Regulations link wage increases to seniority rather than performance and labor productivity. The law mandates automatic increases in wages by seniority, which is applicable even in cases where previous work experience is unrelated to an employee's present job. This is a major constraint to employment creation in general and to the employment of the long-term unemployed in particular. Furthermore, it provides incentives to new businesses to offer low wages in anticipation of mandated wage increases by seniority. Together, these regulations result in low turnover, limiting labor adjustment to higher productivity jobs. This is a significant problem in such labor-intensive industries as textiles, where turnover is low and salaries continue to increase even though labor productivity is stagnant.

5.9 The combination of over prescriptive rules for dismissal and generous sick leave benefits is a major disincentive to work and hinders the creation of employment. The law provides for conditions for dismissal but dismissal is prohibited in the case of illness. At the same time, the law specifies that employees receive 80 percent of their wage income while on sick leave. But because they are not required to pay taxes on sick days, the net salary while on sick leave is higher than while at work. Moreover, there is no limit on the number of sick days an employee may take. Until recently, the employer paid the first three days of every sick leave. Recent budget legislation for 2004 reduced this period to one day, with the remainder being paid out of the government health insurance fund. These monetary incentives are a significant disincentive to work and are likely to consume a substantial portion of governmental resources. In addition, the fact that dismissal is prohibited in case of illness, combined with the rules on sick leave, creates substantial problems in managing absenteeism and de facto makes dismissal conditions quite restrictive. Amendments to the Health Act in 2004 are aimed at reducing the abuse of sick leave provisions. However, it is still too early to assess the full impact of these measures.

5.10 Unemployment insurance benefits are above the average of those in other countries in the region. Bulgaria is the only transition country that increased the maximum duration of unemployment insurance payments from 6 to 12 months between the beginning and the end of the 1990s.³⁴ Furthermore, the duration of unemployment benefits depends on the length of service and increases from 4 months of payment for the minimum service period (up to 3 years) to 12 months of payment for more than 25 years of service. Bulgaria decreased the initial replacement rate of unemployment insurance payments significantly over the 1990s, but at 60 percent it remains high compared to other countries in the region.

5.11 The minimum wage is among the highest in the region. The minimum wage was close to 40 percent of average wages in 2003, prior to the 25 percent increase adopted on January 1, 2004. By mid-2005, the minimum wage was about 53 percent of average wages. The measure of increasing minimum wages by 25 percent as of January 2004 was aimed at keeping minimum

³³ World Bank, *Bulgaria's Labor Market*, July 2004, mimeo, Labor Market Team, HDNSP.

³⁴ Estonia introduced three month extensions considered on an individual basis.

wages above social assistance allowances and at providing incentives for higher labor market participation. However, there are concerns that increases in minimum wages, which are now among the highest in the region, may have a negative impact on the employment opportunities of recent graduates—whose unemployment rate is 27 percent—and of other vulnerable groups including unskilled workers and the long-term unemployed. Furthermore, high minimum wages relative to average wages typically hurt more small and medium enterprises, and there are concerns that informality may increase. While it is too early to assess the full impact of this measure, sustainable improvements in wage income are ultimately determined by labor productivity which in turn depends on upgrading skills and labor adjustment from lower to higher productivity activities.

5.12 Inadequate skills are an important obstacle to employment creation and trade diversification beyond unskilled labor intensive products. The persistence of unemployment, the large proportion of discouraged workers, and the high unemployment rate of recent graduates are consistent with evidence that the skills provided at school, especially vocational skills, are inadequate for the needs of firms involved in new technologies. A survey conducted for this report, updating the survey of 2002, indicates that foreign investors are experiencing considerable difficulty in finding workers with the skills they need. The skills gap applies to technical specialists, qualified business managers, and others needed to operate modern competitive businesses. The source of this problem is the disconnection between the skills taught by schools, technical institutes, and universities and the skill requirements of businesses, particularly those that need to compete in the external markets. As result of the skills mismatch, firms must incur high costs to train new hires, which in the case of software companies and other high-tech companies could include three to six months of no productive input from these workers.

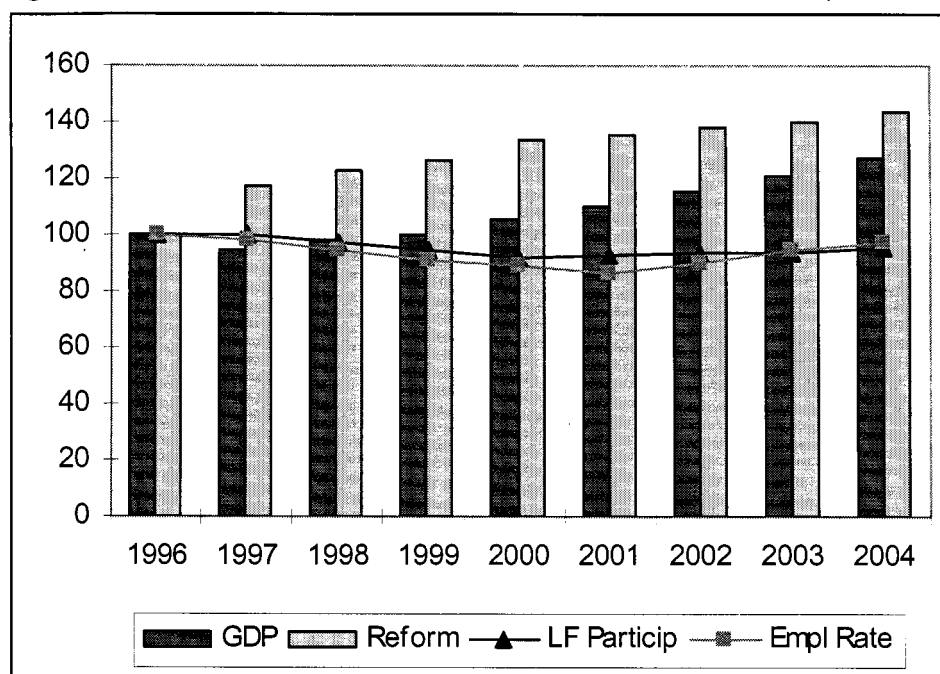
B. Growth, labor market adjustment, and employment

5.13 Bulgaria has had to bear high rates of unemployment since the early 1990s. As in other transition economies, economic restructuring in Bulgaria has led to considerable employment loss. However, in contrast to other countries in the region, the employment loss in Bulgaria was exacerbated by the protracted contraction of 1989-97. In the first half of the 1990s the initial transitional recession and associated industrial restructuring gave rise to unemployment rates that exceeded 20 percent. Long-term unemployment has been above 50 percent since the mid-1990s, and at 60 percent in 2003 was the highest among the CEEC. The unemployment rate reached a peak of 19 percent in 2001. Thanks in large part to macroeconomic discipline and in-depth structural reforms, number of employed persons began to increase in 2002. A trend that has continued since then and observed in 2005. In the second quarter of 2005 the employment rate of persons between 15 and 64 years old increased by 1.1 percentage points to 56.2 percent compared to 55.1 percent in the second quarter of 2004.

5.14 Despite the vigorous economic recovery since 1998 and slight improvement in number of persons employed, the labor market continues to face many difficulties in creating employment opportunities. Figure 5.1 shows the trends in reform, real GDP, labor force participation, and the employment rate. Notwithstanding positive developments in recent years, the labor market continues to face difficulties in creating employment opportunities. Structural reforms have advanced since 1997, and GDP has increased as a result by more than

one-fifth in relation to the level in 1996.³⁵ However, this has translated into relatively little job creation as indicated by the employment rate and labor participation. Following the 1996-97 crisis, both labor participation and the employment rate declined until 2000 and 2001. This reflects the process of the labor shedding of surplus labor by newly privatized enterprises and other firms now facing hard-budget constraints. This has been common to labor markets in transition economies. In general, transition economies have not yet produced sufficient new jobs to absorb the workers released by these enterprises. In Bulgaria, an average annual net employment growth of about 3 percent since 2000 has helped to reduce unemployment, but the drop in the rate of unemployment also reflects lower participation in the labor force, outward migration, and a temporary employment program financed by the government.

Figure 5.1 Reforms, GDP, and the Labor Market, 1996-2004 (1996=100)



Source: World Bank staff estimates based on NSI and EBRD

5.15 Bulgaria's labor market is performing poorly compared to other countries in the region. Bulgaria has low labor market participation, low employment and high unemployment rates, and a weak relationship among wages, employment, and unemployment. By these measures the labor market in Bulgaria is performing poorly. A labor market participation of 49 percent of the labor force in 2003 is the second lowest among selected countries in the region (see Table 5.1). The employment rate is 43.6 percent—the lowest among these countries. The unemployment rate, which has been persistently high since the early 1990s, has now started to decline and in 2004 was 11.8 percent, and about 60 percent of these unemployed are long-term

³⁵ This is the EBRD's measure of progress in transition. Percentage changes in the index, of course, should not be interpreted as a change in the "strength" of the policy effort.

unemployed ³⁶and youth unemployment is 27 percent. The unemployment rate continued to decline slowly in the first half of 2005 reaching 10 percent. However, this lower rate partially reflects seasonal variations associated with higher than normal levels of employment during the summer. As per the Employment Agency information, the number of registered unemployed in August 2005 was 10.77 percent.

5.16 While Bulgarian regions saw decreases in unemployment rates to varying degrees, these seem to have converged by 2003. The employment rate has been increasing slightly in all regions in recent years except in the North-West. Labor force participation has been declining across Bulgaria in recent years, but two regions stand out: the North-West has seen a decrease in participation, while the South-West has seen an increase.

Table 5.1 Labor market performance, 2003 (in percent)

	Participation	Employment	Unemployment		
			Total	Long-Term	Youth
Bulgaria	49.4	43.6	11.8	60.0	27.0
Czech Rep.	59.3	54.3	8.2	51.0	21.6
Denmark	65.5	61.5	5.7	19.5	9.1
France	56.0	51.3	8.9	41.6	20.4
Germany	57.3	51.7	9.8	50.0	11.0
Greece	48.7	47.8	10.2	54.7	26.5
Ireland	60.2	57.4	4.5	34.3	8.3
Italy	49.2	45.6	7.9	48.4	24.6
Latvia	57.5	52.5	10.0	45.5	17.4
Lithuania	58.2	51.0	10.6	49.9	23.2
Poland	54.7	44.9	18.2	56.8	37.9
Romania	54.7	51.6	7.6	58.4	21.6
Spain	54.3	49.4	10.9	32.2	22.4
United Kingdom	62.7	59.1	4.8	18.8	13.5

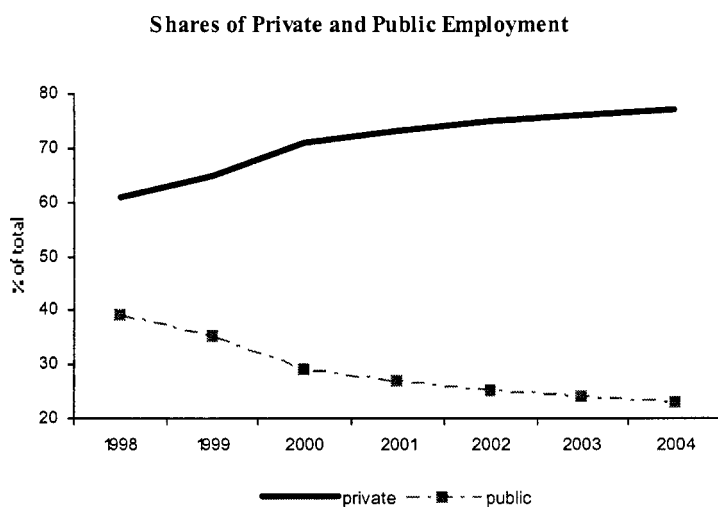
Source: National labor force surveys reported by Eurostat.

C. Inter-sectoral labor adjustment

5.17 The share of employment in the private sector has been increasing in recent years, but labor adjustment is slow (see Figure 5.2). By the end of 2004, the private sector share had risen to about 77 percent, and the public sector accounted for 23 percent as a result of privatization and new business creation. Figure 5.2 suggests that labor adjustment in Bulgaria is currently proceeding slowly. It shows the gradual change in employment structure for workers since 2000, which is the period that followed the major post-crisis reform drive. Most of the net job creation has been in the service sector, which was approaching 50 percent of total employment by mid-2004 as compared with 37 percent in 1990.

³⁶ The Employment Agency the long term unemployed was 56.2 percent of total unemployed persons in August 2005. However, the NSI, which in general provides more accurate information, reports that the long term unemployed is about 60 percent.

Figure 5.2 Recent Employment Trends: Private and Public Sectors



Source: World Bank staff estimates based on NSI data.

5.18 Bulgaria's inter-sectoral labor adjustment shows trends which differ from output restructuring, with some sectors diverging from the adjustments observed in New Member States. As shown in Chapter 2, economic restructuring in terms of output composition is evolving in the direction observed in New Member States. However, inter-sectoral labor adjustments in Bulgaria have followed a very different path from the labor adjustments observed in New Member States. The share of employment in industry fell sharply, from 45 percent in 1990 to 27 percent in 2003, and expanded in services from 37 to 47 percent during the same period. This labor adjustment is similar to that observed in the transition of the New Member States. In contrast to the New Member States, however, the share of employment in agriculture increased from 18.5 to 25.5 percent between 1990 and 2003 while the share of employment in agriculture in the New Member States declined on average from 19 to 17 percent.

5.19 Productivity remains lower than in the New Member States which is partly due, to a large extent, to poor labor market performance. In Bulgaria, employment is concentrated in services and agriculture which together represent 73 percent of total employment, producing about 70 percent of gross value added (GVA). In contrast in the New Member States employment is concentrated in services and industry which together represent 87 percent of total employment, producing 97 percent of GVA. With 25 percent of employment in agriculture where the share of the sector's GVA has declined sharply, a sizable share of employment is located in very low and declining productivity areas. In addition, the expansion of services has been more pronounced in Bulgaria than in the NMS-8. Between 1990 and 2004, the share of services in GVA increased from 31 to 59 percent, while the share of employment in services increased from 37 to 47 percent. The expansion of the share of services in GVA and its share of employment in the NMS-8 was 20 and 13 percentage points, respectively. As shown in Chapter 2, the labor productivity of investment in inward-oriented activities, including services, has stagnated. These estimates indicate that Bulgaria faces a significant challenge as regards the inter-sectoral restructuring needed to reallocate investment and labor to more productive

activities, given the large inefficiencies in agriculture and the relatively stagnant labor productivity in services.

5.20 Inter-sectoral labor market adjustment and sectoral employment imbalances in Bulgaria show worrisome trends. Table 5.2 presents estimates of departure indexes³⁷ for Bulgaria and selected CEEC for 1989, 2001, and 2003. The departure indexes provide an estimate of inter-sectoral labor adjustments relative to two comparators EU-North and EU-South. Since comparisons across countries and over time are relative to the same two benchmarks, estimates of departure indexes allow an examination of the extent of labor adjustment in Bulgaria compared to selected CEEC. In terms of initial conditions, Bulgaria's departure indexes are comparable to those of Poland in 1989. However, Bulgaria had the largest share of employment in manufacturing among these countries. These figures indicate that Bulgaria inherited the most distorted employment structure in manufacturing among the CEEC.

5.21 Estimates of labor adjustment across sectors show limited labor adjustment in Bulgaria compared to the New Member States (see Table 5.2). In terms of overall trends, inter-sectoral labor market adjustment in 1989-2003 shows very limited labor adjustment in Bulgaria compared to New Member States. The departure index in Bulgaria improved from 24 to 22, or about 2 points, during this period. In contrast, the departure index in Poland improved from 23 to 15, or about 6 points, or three times as much as Bulgaria. These differences cannot be explained by differences in initial conditions, since estimates of departure indexes of employment show that in 1989 Bulgaria inherited a similar level of distortion in its employment structure as Poland, compared to EU-North and EU-South. Furthermore, the trends in the structure of employment show that EU-South and EU-North continue to generate labor adjustment in line with changes in market conditions. Similarly, the departure indexes in New Member States continue to decline as their labor markets continue to adjust to market conditions. Given the substantial restructuring of the enterprise sector in Bulgaria, through privatization and liquidation, price and trade liberalization, and improvements in the investment climate, failure to adopt policies to enhance labor adjustment are taking a double toll on Bulgaria's economy—a toll that is related to the economic and social costs of inefficiencies and limited labor reallocation opportunities, and the costs of lagging behind the New Member States.

³⁷ The departure index measures the proportion of the workforce in a given country that would need to change sector to attain the same structure of employment as that of a comparable Western European economy in 1989. The departure index is a stylized indicator of employment structure that would prevail given the same factor endowments, technologies, and prices in a given country as those observed in the comparator economy. Hence, the departure index is a solid approximation of the extent of distortions relative to comparators.

Table 5.2 Structure of Employment by Main Sector in Selected CEEC, 1989, 2001, 2003 or most recent numbers (percent)

Sector	2003		Bulgaria		Czech Republic		Hungary		Poland		Romania		Slovak Republic				
	EU North	EU South	1989	2001	2003	1989	2001	2002	1989	2001	2003	1989	2001	2003	1989	2001	2003
Agriculture	2.1	6.9	19.0	26.3	25.5	11.7	4.7	4.8	16.6	6.2	5.5	26.8	19.1	18.4	27.9	42.3	35.7
Mining	0.3	0.3	2.6	1.2	1.1	3.6	1.4	1.3	2.0	0.3	0.3	3.4	1.9	1.8	2.3	1.4	1.5
Manufacturing	18.6	19.9	34.9	20.1	20.1	34.0	27.7	27.7	28.6	24.8	23.6	24.5	19.9	19.0	33.0	18.9	21.7
Electricity, gas, water	0.7	0.7	0.8	2.0	1.9	1.4	1.9	1.8	2.6	2.1	1.7	1.1	1.9	1.9	1.2	1.9	2.0
Construction	7.2	9.8	7.8	4.3	4.2	7.3	9.1	8.9	7.0	7.1	7.6	7.8	6.7	5.9	7.0	4.0	4.6
Trade	18.6	21.2	9.2	15.3	16.1	11.5	16.1	16.6	11.3	17.9	17.7	8.9	15.9	16.1	5.9	10.1	10.6
Transportation	6.1	5.5	6.8	7.3	6.7	6.5	7.7	7.7	7.7	8.1	7.7	7.2	6.0	6.0	6.9	4.9	5.0
Finance	14.0	10.1	0.6	5.6	5.9	0.5	7.6	7.6	0.8	7.7	8.6	1.0	6.8	7.2	0.3	1.9	2.5
Community services	32.4	25.6	18.4	17.8	18.6	23.5	23.9	23.6	23.4	25.9	27.3	19.3	21.7	23.7	15.3	14.6	16.4
DI-South	11.3	-	24.2	22.9	22.0	17.2	11.6	12.1	16.5	8.7	8.6	23.0	15.0	14.7	31.3	37.3	33.1
DI-North	-	11.3	27.3	27.7	27.5	19.6	15.8	17.2	19.6	12.4	11.4	27.7	19.9	19.4	33.4	42.3	39.2

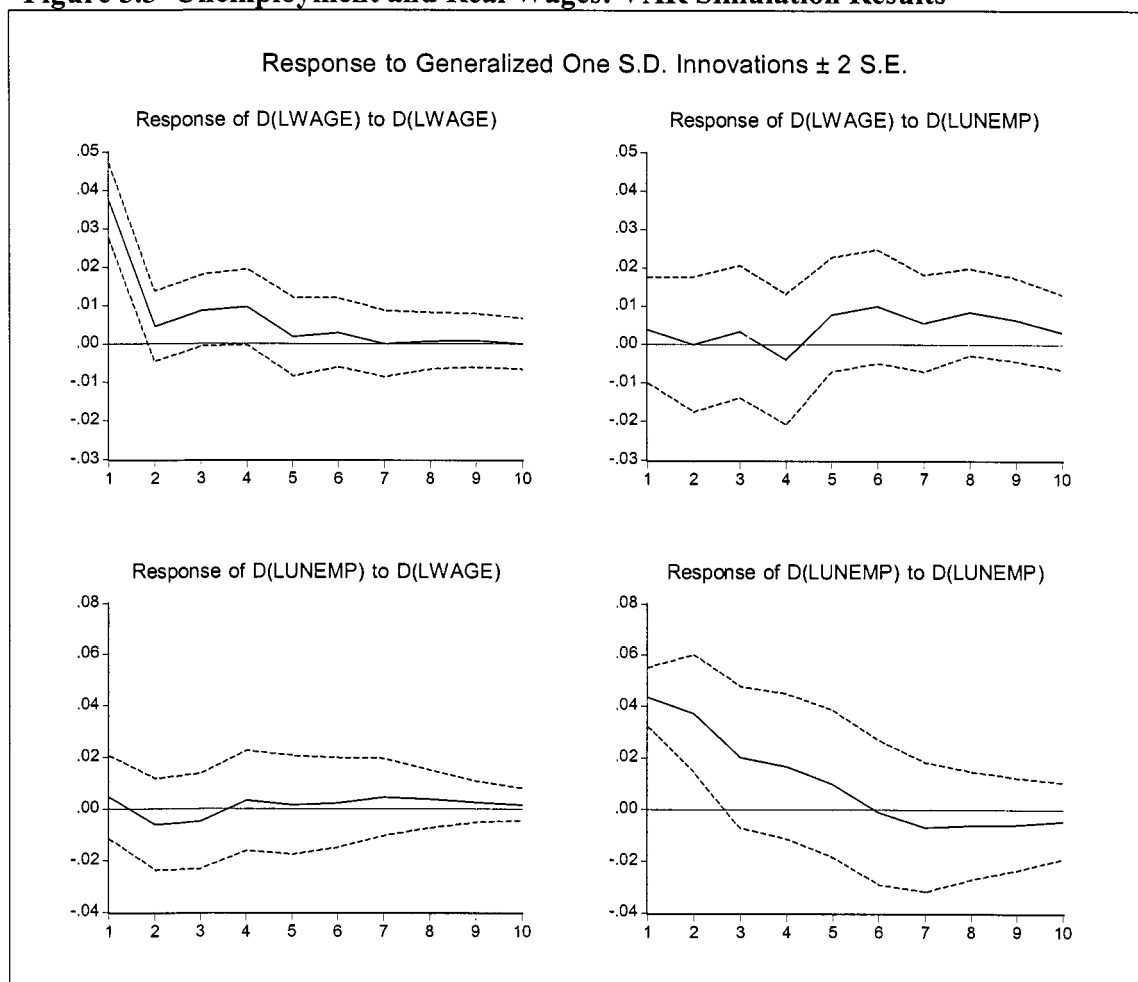
Note: The Departure Index (DI) is a coefficient of departure, defined as the overall excess employment in the sectors where employment in the Eastern European country exceeds mean employment in the comparator countries. EU North: Denmark, Germany, Netherlands, United Kingdom. EU South: Greece, Italy, Portugal, Spain.

Source: World Bank staff estimates based on OECD-Labor Force Statistics (1998), ILO, and country statistics

D. Employment, unemployment and wages

5.22 Another dimension of labor market inflexibility in Bulgaria is the weak relationship between wages, and unemployment and employment. To the extent that employment and unemployment have a close relation to wages, the labor market can adjust to changing market conditions. Productive firms offer higher wages than firms with lower levels of productivity, and higher (lower) wages are offered to highly (lower) productive workers. Hence, a close association between wages and the rate of unemployment can be observed, which many empirical studies have found to be an inverse relationship.³⁸ Statistical tests of this relationship, conducted for this report, which control for the effects of other variables such as productivity and inflation, confirm this conclusion (see Annex F).

Figure 5.3 Unemployment and Real Wages: VAR Simulation Results



Source: World Bank staff estimates (see Annex F).

³⁸ The nature of this association is subject to considerable theoretical debate, however. Many economists interpret supply and demand forces to be at play, while others emphasize the importance of bargaining strength and reservation wages. For a brief overview of the issues surrounding this so-called “wage curve,” see D. Blanchflower and A. Oswald, “An Introduction to the Wage Curve,” *Journal of Economic Perspectives*, Summer 1995, pp. 153-167.

5.23 Employment and unemployment rates exhibit no statistical relation with real wages in recent years (see Figure 5.3). Annex F presents three models used to examine the statistical relation between unemployment and employment rates, with real wages using quarterly data from 1997 to 2004. Two different Vector Autoregression models (VAR), one unrestricted and one restricted or Vector Error Correction (VEC), were used to test labor market flexibility through the observation of real wage and unemployment dynamics. The third model, an equation of demand for employment, was used to examine the responsiveness of employment to changes in the real wage. Figure 5.3 shows the predicted impulse response of the average real wage to a relatively sharp change in the rate of unemployment with statistical confidence bands indicated by dash lines. In this simple representation, which controls for seasonal factors and lagged effects, changes in the real wage appear to have no significant relation to changes in the rate of unemployment.³⁹ Controlling for the effect on the real wage of productivity and inflation yields a similar conclusion: namely, that the rate of unemployment has exhibited no connection with the real wage in recent years.

5.24 Despite relatively low wages which reflect low labor productivity levels, there are important disincentives to job creation. While wages are low, labor costs in Bulgaria are relatively high. There are disincentives on the demand side as well as on the supply side.

5.25 On the demand side, employment tends to be discouraged by extremely high payroll taxes and generous unemployment insurance payments. Payroll taxes in Bulgaria represent 42.7 percent⁴⁰ of the gross wage, 75 percent of which is paid by the employer. This comprises a 32.7 percent contribution to the pension fund (24.7 percent made by the employer), a 6 percent contribution to the health insurance fund (4.5 percent made by the employer), and a 4 percent contribution to the unemployment insurance fund (3 percent made by the employer). As shown in Chapter 1, social security contributions in Bulgaria are among the highest compared to New Member States, owing to some extent, to deficiencies in revenue administration.

5.26 On the supply side, seniority wage increases, and a relatively generous unemployment insurance system, combined with an over-extended social assistance system discourage labor market participation and mobility. As shown in the first section of this chapter, there is a regulation requiring automatic increases in wages by seniority, even for cases in which previous work experience is unrelated to an employee's present job. As a result, workers are reluctant to change jobs. There are several sectors, particularly labor-intensive sectors, where turnover is very low and the wage bill is rising. The relatively generous unemployment insurance system and the over-extended social assistance system may create a disincentive to work. In the case of the unemployment insurance system, employment is discouraged at least for the duration of eligibility for collecting payments. In Bulgaria, unemployment benefits are equal to 60 percent of the average during the 9 months prior to dismissal. Internationally, the average is around 30 percent. In OECD countries, which tend to

³⁹ Controlling for the effect of reforms does not change this conclusion.

⁴⁰ For 3-rd category of labor.

have the highest replacement rates, the average is about 45 percent.⁴¹ The length of benefit ranges from 4 months (minimum service period) to 12 months (more than 25 years of service).

5.27 In the end, policies aimed at establishing strong income and employment security are likely to have contributed to high unemployment. The 27 percent rate of youth unemployment in Bulgaria, for example, is double the rate in the United Kingdom and nearly three times the rate in Denmark and Ireland, countries whose labor markets have half the rate of unemployment in Europe. Furthermore, the percentage of unemployed without work for a year or more is over three times the rate in the United Kingdom and Denmark. If the example of Spain is any indication, restrictions on temporary work contracts in Bulgaria may needlessly contribute to a significant part of the unemployment. Reforms that liberalized the use of such contracts in the early 1990s helped to lower the Spanish unemployment rate from around 20 percent to about 11 percent at the end of 2004.

5.28 Reforms on several fronts are needed to enhance labor market adjustment if Bulgaria is to improve its productivity and competitiveness. If Bulgaria were to meet the Lisbon targets by 2010, employment would need to increase by about 8 percent per year in 2005-2010; and labor market participation would have to increase by about 2 percent per year during the same period. Bulgaria would face significant challenges even if it were to meet the Lisbon targets by 2020. Lack of reform in this area poses considerable risks for the sustainability of growth and stability. Reforms in labor market institutions and policies are needed to enhance labor market adjustment and net job creation.

E. Enhancing labor market adjustment and employment: A reform agenda

5.29 Labor market reforms are urgently needed to better balance the enhancement of labor adjustment, the creation of employment, and the management of unemployment risks. The current framework provides large benefits for those with labor contracts and seniority, leaving behind a large share of long-term unemployed with few job opportunities and a larger share of workers in the informal sector with almost no coverage of social risks. This is not equitable, efficient, or sustainable. While labor market reforms are essentially a social compact and are hence determined by country context reflecting social preferences and tolerance, the experiences of other countries in the region offer useful points of reference.⁴² The reforms recommended in this report include, the following:

- *Strengthening the links between wages and salaries, and performance.* Wages should be better aligned to performance and labor productivity rather than seniority. The legislation in Bulgaria, however, includes the provision of an annual seniority bonus, which, over time, led to the creation of a second tier component in workers' remuneration—the cumulated seniority premium that often account for a significant share of total pay for

⁴¹ See Wayne Vroman, "International Evidence on Unemployment Compensation Prevalence and Costs," 2004, Urban Institute, United States.

⁴² The 2004 Report of the EU Economy by the European Commission shows that the labor market reforms of the United Kingdom, Denmark, the Netherlands, and Ireland have been successful in terms of employment and labor market participation.

older workers. Many firms discount the seniority premium from the basic salary, and pay a total wage that is the same for workers in the same occupation and with same skills regardless of their cumulated work experience. But this practice is not possible in labor intensive industries (e.g. textile) where many workers are at the minimum wage, reducing job creation especially among older workers. The seniority premium should be folded into the basic wage in a once-and-for-all change, and the practice and portability of the seniority premium should be eliminated. Similarly, given the wide variance in productivity by sectors and firms, the links between wages and salaries and performance should be strengthened at the firm level rather than being mandated these at the sectoral or economy-wide level.

- *Adopting policies for a flexible use of fixed-term contracts and working schedules.* The current Bulgarian labor code includes fairly restrictive rules on working time. In particular, there are precise rules regarding daily hours and weekly holidays and only limited possibilities are offered to firms for adjusting working time during the year. Moreover, overtime work is forbidden by the law, except for certain cases enumerated by the law. Creating greater flexibility in working time is important for firms to face fluctuation in demand. One option would be to follow the experience of several EU countries with the annualization of working time. Under annualization, employers set normal weekly hours at varying levels over the year, subject to a fixed annual total. Only when these limits are exceeded do overtime premia become payable. The modulation of hours over the year may be organized in different ways. The full schedule of hours may be fixed in advance, or there may be a working-time corridor of minimum and maximum hours of work, with overtime payments being paid when the average level of weekly or daily hours, taken over the year, exceeds an agreed limit.⁴³
- *Increasing entry and exit from employment based on performance and economic rationale beyond firm closure and allowing more flexible terms of hiring and firing owing to fluctuations in production levels, performance, and absenteeism.* The current rules are highly protective of employment. As a result, net job creation is limited and firms carry large costs due to idle capacity (see Chapter 2). The benefits of current rules accrue to those with labor contracts and seniority at the expense of workers and young graduates seeking jobs, and lead to low levels of competitiveness. Rules for entry and exit from employment should be linked to economic rationales including adjustment in production levels, performance, and absenteeism.
- *Eliminating disincentives to work.* Two areas of reform need to be implemented. Relatively large unemployment benefits may have been justified during the period of large privatization programs. However, now the focus needs to shift to enhancing labor market supply and net job creation in a growing economy. Unemployment benefits should be adjusted (currently 60 percent of average wages) towards a level no higher than the average for OECD countries (the average is 45 percent of average wages). The

⁴³ Annualization may be thought of as a special case of “averaging” in which the reference period is a year. In general, three key elements in the averaging of working hours are the “unit” of work time employed as the basis of the averaging procedure, the “reference period” over which the averaging is done, and the “limitations” that apply.

duration of unemployment benefits should also be reduced—the current duration of 4 months for those with up to 3 years of service, and 12 months for more than 25 years of service is too high. The second area of reform applies to the rules for dismissal and sick leave benefits. The current rules combined result in a higher net income while absent from work on sick leave than while working. The number of sick days should be limited, and taxes on wage income should be the same whether wages are earned while sick or by working.

- *Reducing disincentives to employment creation on the demand side.* Very high payroll taxes are a major disincentive to employment creation. For type 3 jobs, payroll taxes are 43 percent of wage income, of which 75 percent is paid by the employer. As discussed in the previous chapter, reducing payroll taxes is highly desirable not only for net job creation but also for reducing the size of the informal economy and reducing tax evasion. Several reforms, however, need to precede payroll tax reduction, including a major rationalization, and, in particular, the reform of social spending.
- *Increasing labor participation by bringing a large percentage of the working-age population back into the labor market.* Disincentives to work beyond retirement age should be eliminated by allowing flexible use of temporary and part-time contracts and temporary work arrangements. To reincorporate the long-term unemployed, the government should consider relying on effective retraining programs, including on-the-job retraining.

5.30 The restructuring of public expenditure to upgrade the transport network and improve the skill content of the labor force, together with the reform of the labor market, could have a large payoff in terms of improving competitiveness, if these measures are supported by an efficient institutional framework. As discussed in the next chapter, Bulgaria faces substantial challenges in accelerating the development of an efficient rules-based system if its policy and institutional framework is to be supportive of resource reallocation to improve economic performance. Further improvements in the regulatory framework are needed to bring the investment climate on a par with that of Bulgaria's peers in the region. Moreover, as shown in the next chapter simplifying the legislative and regulatory framework and providing an efficient judicial system are essential components of the core agenda proposed in this report. To the extent that the regulatory and legislative framework is simplified to support stronger competition in the domestic markets, and the judicial institutions enforce the law efficiently in terms of cost and time, Bulgaria will be able to move towards a predictable rules-based system, thereby substantially enhancing its economic performance.

6. ACCELERATING THE DEVELOPMENT OF AN EFFICIENT RULES-BASED SYSTEM

6.1 **Bulgaria has been implementing a broad institutional reform agenda anchored in its process for EU accession.** On June 15, 2004, Bulgaria provisionally closed all 31 chapters of the *acquis communautaire*. And in April 2005 Bulgaria's Accession Treaty was ratified by Parliament. Notwithstanding the fact that important progress has been made over the last few years, these commitments imply that Bulgaria needs to make significant progress in institutional reforms in the medium term. Furthermore, as shown in the previous chapters, Bulgaria needs to improve its productivity, growth and employment performance if its economy is to move towards a Lisbon-growth path. This is unlikely to happen without major improvements in the quality of institutions. The scope of this chapter is limited to examining a few selected dimensions of two areas of institutional development central to Bulgaria's productivity and growth agenda: the regulatory framework for the functioning of domestic markets and the judiciary system.

A. Institutional development and economic performance

6.2 **Institutional development is of key importance to economic performance.** The importance of institutions and governance to growth and economic development has long been recognized. Much of the economic development of Western high-income economies and much of the reason that they have been able to generate high levels in the standard of living is due to about their efforts to create institutions that support growth.⁴⁴ The market price mechanisms for resource allocation, binding contracts, tax policy and administration, the protection of property rights, the accountability of public officials, and so on, are institutions which have been developed and adopted to support the efficient use of resources and growth as the basis for improving the standard of living.

6.3 **There is a wide range of possible approaches to examining institutions and their relation to growth.** North (1990)⁴⁵ defines institutions for economic performance as the formal and informal constraints on political, economic, and social interactions. Institutions for economic performance are thus an incentive structure that reduces uncertainty and promotes efficiency. At the other end of the spectrum, institutions for growth include organizational principles, procedural mechanisms, and regulatory frameworks aimed at producing better policy choices. In practice, both the incentive framework (i.e., policies) and its management system (i.e., regulations, organizations, and procedures) matter since both dimensions are closely related.⁴⁶ The effectiveness of policies depends on the ability of institutions to implement those policies. For example, tax policy reform may aim at facilitating investment and growth but it is unlikely to achieve its objectives if tax administration is deficient. Similarly, institutions

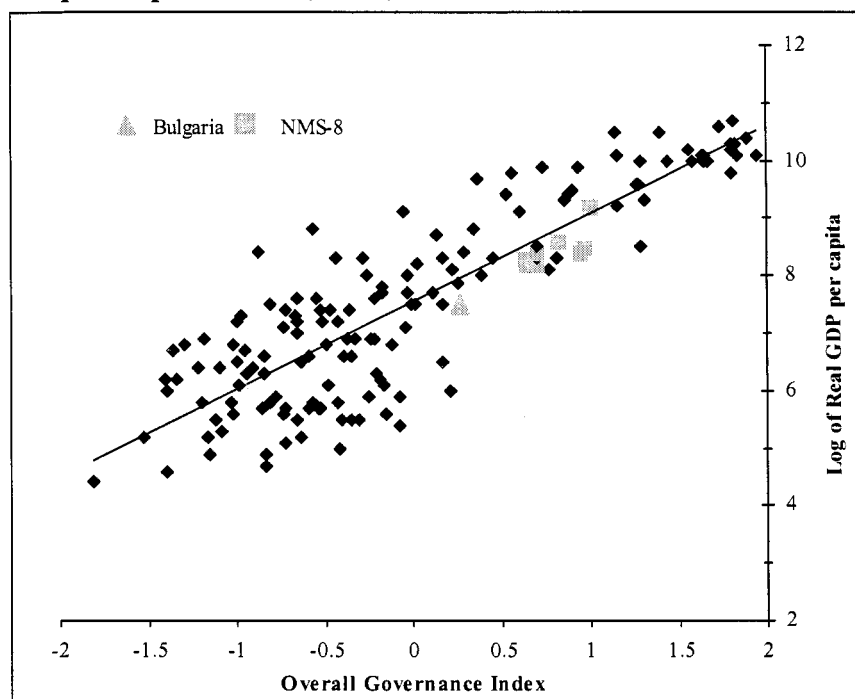
⁴⁴ These countries include the United States, Canada, and Western European countries.

⁴⁵ North, Douglass C., 1990, *Institutions, Institutional Change and Economic Performance*, New York:Cambridge University Press.

⁴⁶ Hall, Robert E., and Charles I. Jones, 1999, "Why Do Some Countries Produce So Much More Output per Worker Than Others?" *Quarterly Journal of Economics*, Vol. 114, February; Easterly, William, 2001, *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*, MIT Press; Barro, Robert J., 1997, *Determinants of Economic Growth: A Cross-Country Empirical Study*, MIT Press.

contribute to reducing the uncertainty of economic and financial transactions provided the policies being implemented support the efficient use of resources and growth.⁴⁷ For example, a liberal trade regime supported by an efficient customs administration is the cornerstone of export-led growth economies. Similarly, a good budgetary process resulting in a solid fiscal performance is likely to have a limited impact on growth performance if there are important inefficiencies in public finance policies. Or good educational attainment is unlikely to have a solid impact on growth performance if, in the absence of goods market distortions and open trade, labor market policies do not support labor market adjustment in the economy, with higher productivity being compensated by higher wages.

Figure 6.1 Institutions and Economic Performance: Institutions and per Capita Income, 2002, All Countries



Source: World Bank staff estimates based on databases of the World Bank.

6.4 Institutional quality is positively associated with economic performance⁴⁸ (see Figure 6.1). There is evidence that institutional quality and policy quality are positively associated with economic performance. Figure 6.1 shows the relationship between real per capita income, at 1995 prices, and the index of governance in 2002. The governance index is the average of six governance indicators which are measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance outcomes.⁴⁹ The relationship between institutional

⁴⁷ Frankel, Jeffrey A., and David Romer, 1999, "Does Trade Cause Growth?" *American Economic Review*, Vol. 89, June; Berg, Andrew, and Anne Krueger, 2003, "Trade, Growth, and Poverty—A Selective Survey," IMF Working Paper 03/30; Temple, Jonathan, 1999, "The New Growth Evidence," *Journal of Economic Literature*, Vol. 37, March;

⁴⁸ The World Bank, 2003, *World Development Report 2002: Building Institutions for Markets*, Washington.

⁴⁹ The six dimensions of governance are: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. See D. Kaufmann, A. Kraay, and M. Mastruzzi, 2003,

quality and economic performance shows a strong positive correlation. This positive relationship is valid whether economic performance is measured by differences in per capita income, growth rates, or the volatility of growth. Moreover, the relationship is robust, as it holds valid across several years and across countries.

6.5 Domestic and external factors play a determining role in the pace of institutional development. The country's context and its underlying social and political realities are central in determining the relative weights given to one or another dimension of institutional development. For example, Bulgaria's demographic challenge includes the fastest aging population in the region; consequently, reforms that will increase the productivity of those in the working age segment of the population are far more urgent than in countries where aging population is not growing as rapidly. However, productivity is unlikely to improve to its full extent without an institutional framework that secures private property rights and contracts efficiently. In addition to domestic factors, external anchors are also important factors affecting institutional development and performance. The process of EU accession has contributed markedly to improvements in the institutional framework in Bulgaria and other CEEC.

6.6 Institutional development is central to growth prospects in Bulgaria. Perceptions and assessments of institutional quality play a determining role in attracting and retaining foreign direct investment (see Chapter 3) and in the investment climate in general (see section B of this chapter). This is all the more important for Bulgaria since, as discussed in Chapter 1, its economy depends on foreign direct investment flows to fill the gap between domestic savings and investment needs and to improve its competitiveness. Similarly, as discussed in Chapter 2, for Bulgaria to move towards a Lisbon-growth path it needs to create a policy and institutional framework supportive of attracting investment in outward-oriented activities.

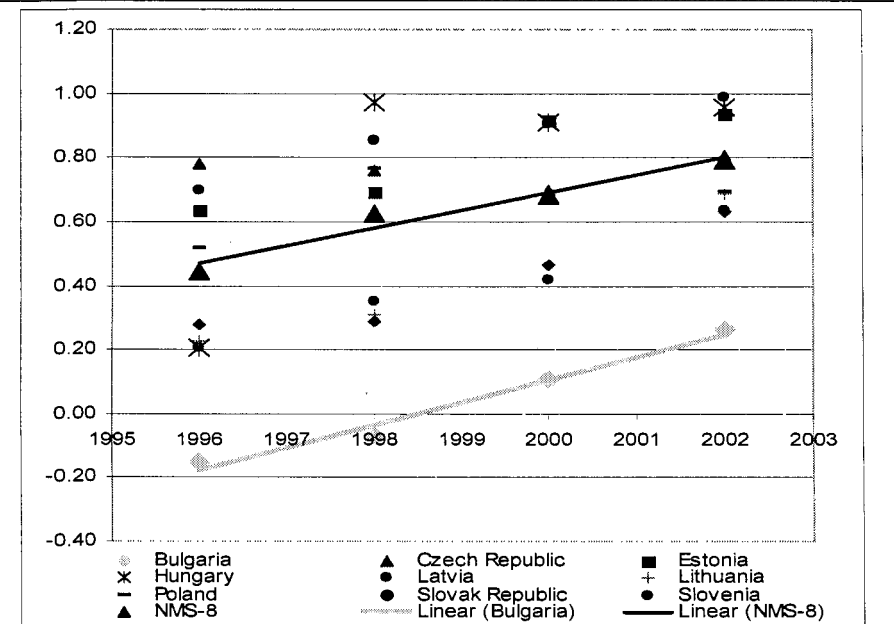
6.7 Since 1998 Bulgaria has been implementing reforms aimed at strengthening its institutional framework. Indeed, in the case of Bulgaria, improvements in overall economic performance and per capita income have been accompanied by improvements in the country's policy and institutional framework (see Chapter 1). The institutional dimensions of the reform program have included streamlining its regulatory framework to improve the functioning of domestic goods markets; completing banking restructuring and improving the legal framework to deepen financial intermediation; strengthening public administration, public expenditure management, accountability and transparency; introducing measures to reduce corruption; and undertaking reforms aimed at improving the judiciary system. To a large extent, however, institutional reform is at an early stage in Bulgaria compared to other countries in the region.⁵⁰

"Governance Matters III: Governance Indicators for 1996–2002," World Bank Policy Research Working Paper 3106.

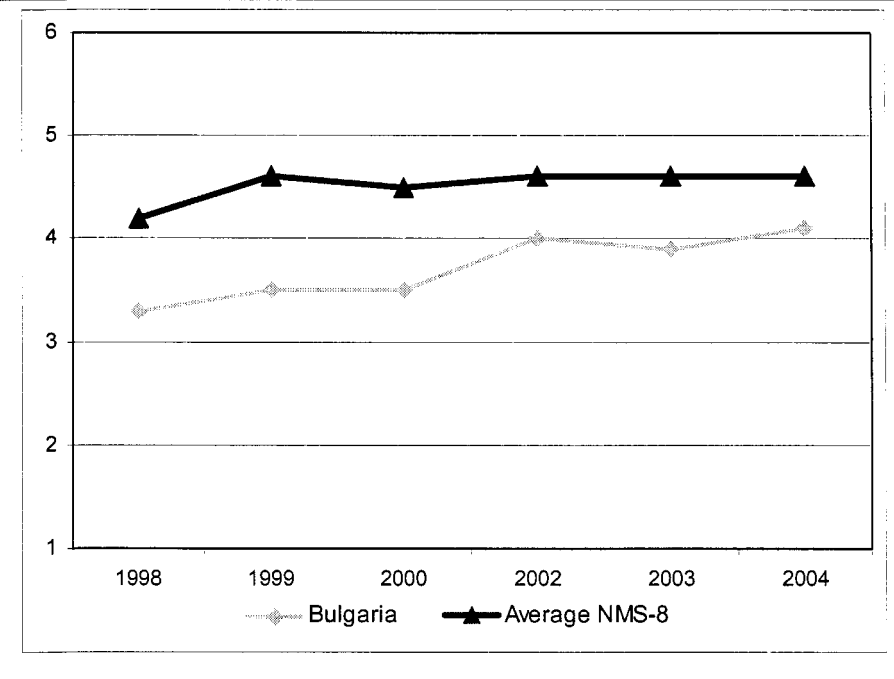
⁵⁰ A detailed description and assessment of the reforms implemented since 1998 are presented in the PAL 1, PAL 2, and PAL 3 of the World Bank and the Regular Reports of the European Commission. World Bank, *Program Document for a Proposed Programmatic Adjustment Loan to the Republic of Bulgaria*, January 23, 2003; *Program Document for a Proposed Second Programmatic Adjustment Loan to the Republic of Bulgaria*, World Bank, May 4, 2004; *Program Document for a Proposed Third Programmatic Adjustment Loan to the Republic of Bulgaria*, World Bank, May 5, 2005; and European Commission, *Regular Reports on Bulgaria's Progress Towards Accession*, 2002, 2003, 2004.

Figure 6.2 Governance Indicators: Bulgaria and NMS-8

A. Overall governance index: Bulgaria and NMS-8, 1996-2002



B. Corruption perception index: Bulgaria and NMS-8, 1998-2004



Source: World Bank staff estimates based on databases of the World Bank and Transparency International corruption perception indexes.

6.8 Bulgaria has made progress in improving several dimensions of its institutional framework but lags behind other countries in the region. Bulgaria's overall governance index has been improving over the last few years (see Figure 6.2). Governance in Bulgaria was

very poor in the 1990s, and Bulgaria's governance index was negative— -0.15 in 1996 and -0.07 in 1998. Institutional reforms improved governance in the early 2000s and the governance index had increased to 0.26 by 2002. However, as shown in Figure 6.2: B, Bulgaria faces a large gap in the quality of institutions relative to the New Member States. The average overall governance index of the NMS-8 improved to 0.80 in 2002 from 0.44 in 1996. In 2002, governance indicators for Bulgaria are lower than those for the New Member States in 1996. Similarly, indicators of perception of corruption show that Bulgaria has been improving since 1998. Preliminary estimates of BEEPS 2005 indicate that this trend towards improving has been maintained over the last several years. Further efforts, however, are needed to close the gap relative to NMS-8 average.

6.9 Institutional reform has a large potential impact in economic performance. Over the last seven years Bulgaria has adopted a large number of new laws and regulations covering a wide range of areas, including licensing and business registration, bankruptcy, civil service, state administration, procurement, public financial accountability, anti-corruption, and the judiciary system. This overarching new legislative and regulatory framework relies on the functioning of the judiciary system for its implementation. To the extent that the regulatory and legislative framework is simplified to support stronger competition in the domestic markets, and to the extent that judicial institutions enforce the law efficiently, in terms of cost and time, Bulgaria will be able to move towards a predictable rules-based system.

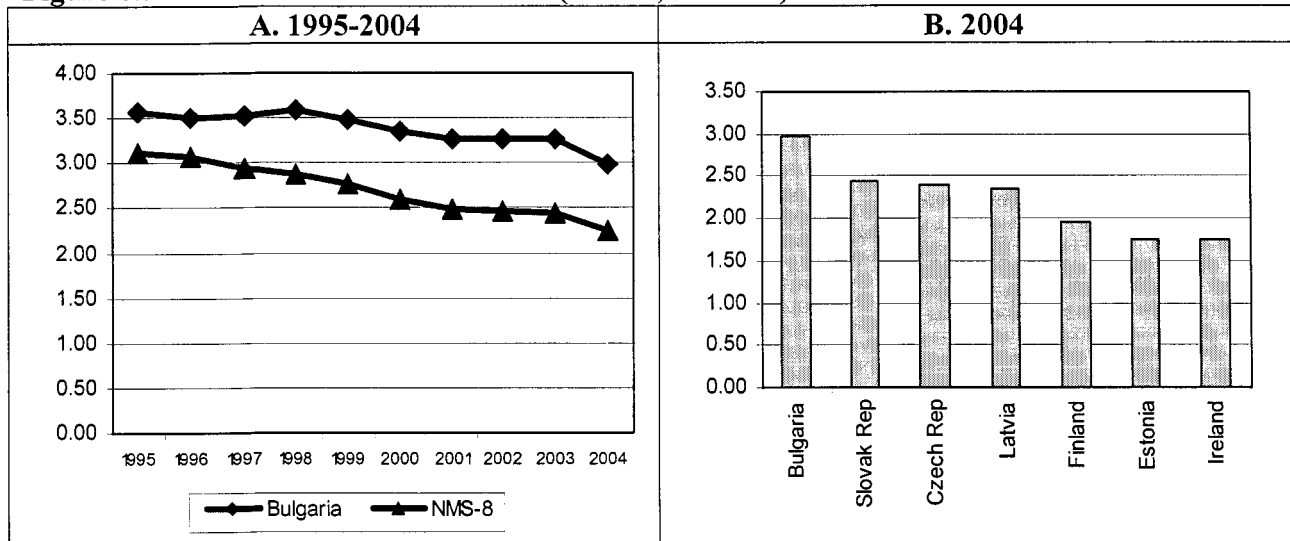
B. Domestic competition: The regulatory framework

6.10 Bulgaria has been implementing reforms aimed at improving the functioning of domestic markets. These reforms have included measures to simplify and modernize the regulatory framework, measures to reduce entry constraints, and measures to improve the efficiency of the insolvency regime. These reforms have helped improve economic performance and the business climate. The index of economic freedom⁵¹ is indicative of progress in the policy and institutional underpinnings of the functioning of domestic markets (see Figure 6.3). The index ranges from 4, which is the worst rating and represents the most restrictive policy and institutional environment, to 1, which is the best rating and represents the most supportive environment for well functioning markets. Bulgaria has made significant progress over the last few years: its index of economic freedom improved to 3.0 in 2004 from 3.6 in 1998 (see Figure 6.3: A).

6.11 However, the pace of reforms needs to accelerate to improve the functioning of domestic markets if Bulgaria is to close the gap with the NMS-8. The New Member States continue to improve their policy and institutional frameworks to facilitate a better performance of their markets. The average index of economic freedom of the New Member States improved to 2.3 in 2004 from 2.9 in 1998. The gap of 0.7 between Bulgaria and the NMS-8 remained unchanged between 1998 and 2004. However, this gap is larger when compared to highly competitive countries in the region. The difference in the index of economic freedom is more than 1 point with Estonia, Ireland, and Finland (see Figure 6.3: B).

⁵¹ The index of economic freedom is produced by the Heritage Foundation and Dow Jones & Company, Inc., on an annual basis covering 161 countries and is based on 50 indicators.

Figure 6.3 Index of Economic Freedom (best=1; worst=4)



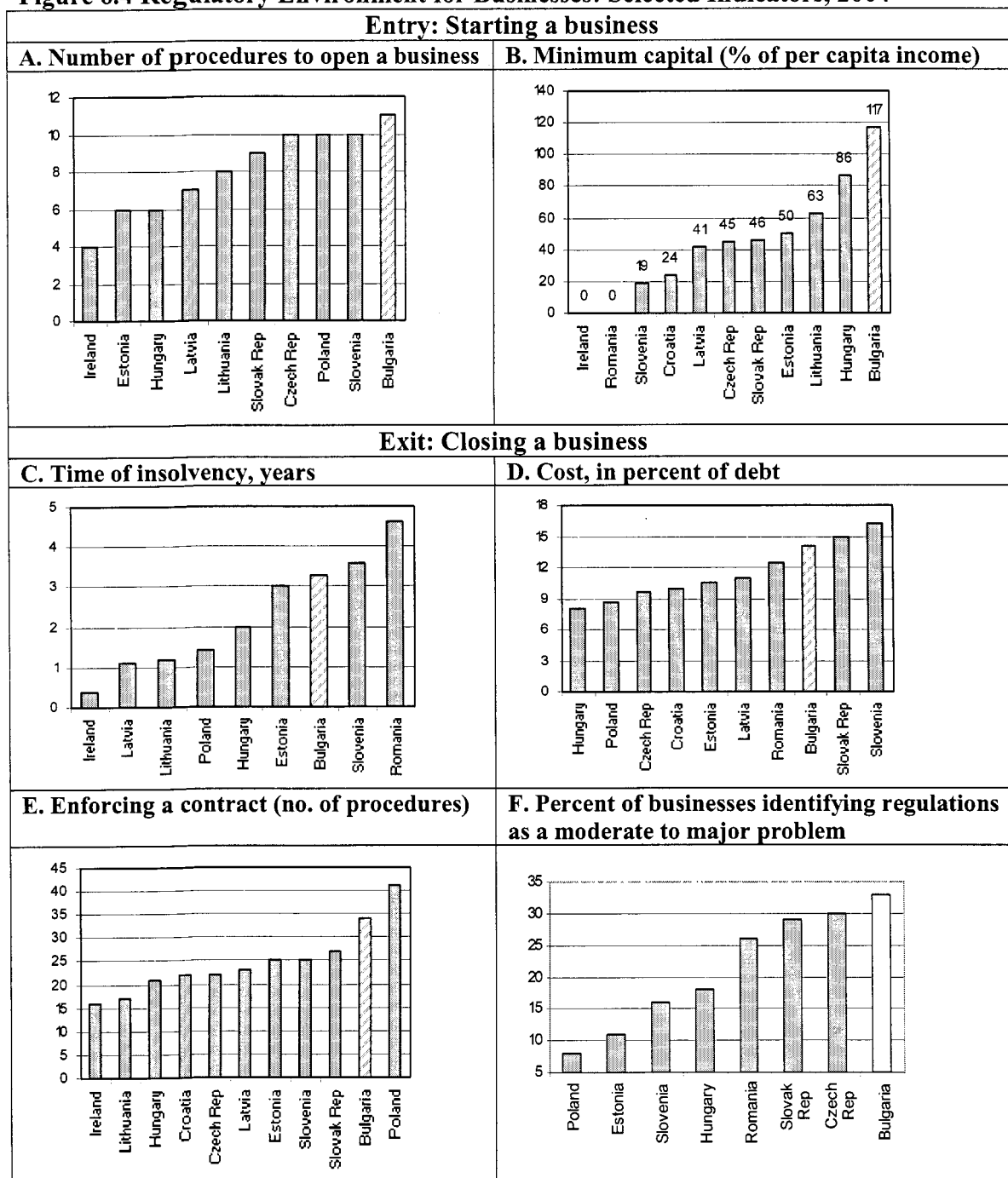
Source: World Bank staff estimates based on data of The Heritage Foundation and Dow Jones & Company, Inc.

6.12 Over the last few years Bulgaria implemented several reforms aimed at simplifying the regulation of business activities. In 2002-03, the government addressed reducing the costs of doing business by applying a two-pronged strategy for regulatory reform. *First*, the Inter-ministerial Group for Optimization of Regulatory Regimes reviewed all national-level regulations in 2002-03. The Group reviewed 361 national-level regimes coming up for parliamentary legislation as well as decrees from the line ministries. The Group prepared a program aimed at eliminating 75 and modifying 117 of these regimes. To date, 52 regimes have been eliminated and 92 simplified.

6.13 *Second*, the review and simplification of regulations was followed up by the adoption in 2004 of the Law on Administrative Regulation and Administrative Control on Economic Activities. To safeguard the deregulation progress and to ensure that future regulatory regimes are based on a clear rationale, and have been subjected to cost-benefit analysis, the Law on Administrative Regulation and Administrative Control on Economic Activities was enacted last year. It has been viewed by businesses as a positive development. The Law renders all existing procedures for the creation of new licensing regimes invalid. New regulation can only be passed with parliamentary approval. The Law establishes the basic principles for the introduction of new regulatory regimes. This would limit new regulation to the initiative of line ministries and other government agencies.

6.14 The new Law also streamlined the language in existing laws and codes, thereby providing consistency. For example, the working group identified 19 different terms synonymous with “license” used in over 1,500 existing pieces of legislation. These terms have been replaced with a single term, thereby providing consistency. The Law aims to define general rules and principles to underpin the introduction of new administrative regulations for economic activities. The Law also requires new legislation to be accompanied by the assessment of compliance costs. Finally, statutory limits on the processing of licensing requests have been mandated. An attempt has been made to introduce the “silent consent” principle. All of these actions reduce the administrative burden on business.

Figure 6.4 Regulatory Environment for Businesses: Selected Indicators, 2004



Source: World Bank staff estimates based on *Doing Business, 2005*, and BEEPS 2002.

6.15. However, the regulatory reform agenda is far from complete. Figure 6.4 shows that notwithstanding the progress made to date the regulatory framework for businesses places producers in Bulgaria at a substantial disadvantage compared to their peers in other countries in the region. The number of procedures required to open a business in Bulgaria is more numerous

than in selected countries in the region—11 procedures in Bulgaria compared to 6 in Estonia and 4 in Ireland (see Figure 6.4: A). The procedures include the following: (1) check whether the proposed name of the business already exist and get a certificate for the registered name; (2) notarize statutes; (3) deposit capital in a bank; (4) pay the court fee at the Treasury; (5) register with the Commercial Register at the District Court; (6) publish in the State Gazette; (7) make a company seal; (8) register with BULSTAT; (9) register with the Regional Social Security Institute within 7 days of court registration; (10) register with the territorial tax authorities within 14 days of registration; and (11) register for VAT.

6.16 Bulgaria has the highest minimum capital requirement as a share of per capita income in Europe (see Figure 6.4: B). The Bulgarian Company Law has borrowed extensively from the German law, adopting, among other statutes, a minimum capital requirement for limited liability companies to open a business. Minimum capital has been cited in a number of studies as an outdated legal concept,⁵² and its problems are further amplified in Bulgaria, where the required amount (5,000 lev) is the highest in Europe as a share of average income (Figure 6.4: B). The high capital requirement for limited liability companies prevents many would-be entrepreneurs from starting up a business. Moreover, the ability of the entrepreneur to withdraw the capital immediately after registration is completed overrides its designed purpose. Consequently, the high minimum capital requirement serves no useful purpose other than preventing poorer would-be entrepreneurs from starting up new businesses.

6.17 These features of business regulations for opening a business hamper the competitiveness and productivity of Bulgarian firms. Regulatory reform has accelerated in several recent EU entrants, most notably in Hungary, Latvia, Lithuania, Poland and the Slovak Republic. In January 2004, the Polish Parliament adopted the Law on Economic Freedom, which reduces the number of licensing regimes from 9 to 5, introduces a silent consent rule in business registration and other areas of administrative regulation, and limits the number and duration of various inspections. By comparison, 39 licensing regimes are still in place in Bulgaria,⁵³ the silent consent applies only to a handful of licenses, and there is no legislation on inspections.

6.18 Measures simplifying insolvency procedures have improved costs of closing a business but Bulgaria remains behind several countries in the region (see Figure 6.4: C and D). Several amendments to the Commercial Code and Civil Procedure Code were introduced in the 2003 to reduce the time taken by insolvency procedures, to introduce binding deadlines and more stringent criteria for the licensing and dismissal of trustees, to improve the powers of creditors, and to limit opportunities for appeals. As a result, the number of years to execute insolvency was reduced from 3.8 to 3.3, and the cost was reduced from 18 to 14 percent of debt between 2003 and 2004. Notwithstanding this progress, closing a business in Bulgaria is far more expensive than in other countries in the region. The time taken to execute insolvency in Estonia is 3 years, in Hungary it is 2 years, in Latvia it is 1.1 years, and in Ireland it is only 0.4 years. A PHARE project supporting further amendments to the insolvency legislation which

⁵² World Bank, *Doing Business in 2004*: “Understanding Regulation,” Chapter 2.

⁵³ Some experts argue that de facto there are 60 licensing regimes, however several of them were lumped together under broader categories.

would help Bulgaria to catch up with other countries in the region has been at a preparatory stage for some time without making much progress.

6.19 Enforcing a contract is overly complex and presents a significant obstacle to doing business in Bulgaria (see Figure 6.4: E). The procedures for contract enforcement are significantly more complex than in other countries in the region. The number of procedures required to enforce a contract in Bulgaria is 34 compared to 25 in Estonia, 21 in Hungary, and 16 in Ireland. Furthermore, Bulgarian courts place a heavy reliance on written over oral procedures, and impose extensive requirements for legal justification at different stages of enforcement. Most notably, appeals can be introduced at any stage of the process. On September 23, 2003, changes to the Constitution were introduced to expedite reforms. These are discussed in the third section of this chapter.

6.20 In addition, court inefficiencies magnify the difficulties of enforcing contracts. Both banks and businesses report that court inefficiency is a significant obstacle to doing business in Bulgaria. Enforcing a simple debt contract takes 440 days on average in Bulgaria, compared with 252 days in EU countries, 335 in Romania, 330 in Russia, and 184 in Germany. There are no out-of-court settlement options, no specialized commercial courts, no summary proceedings or default judgments for enforcement, and extensive opportunities exist for debtors to appeal and delay the process. Through Article 348 of the Civil Procedure Code, it takes 19 months to enforce a mortgage. The process can also, in effect, be delayed indefinitely by the debtor; this can be done through persistent rescheduling simply through not showing up. (Judicial reform is examined in the next section.)

6.21 Continuing implementation of deregulation should be made part of the core reform agenda for Bulgaria. In 2002 more than one-third of businesses report regulations as a major obstacle to doing business in Bulgaria. Regulatory reform has taken the first steps towards improving the investment climate but, as shown above, the regulatory reform agenda is extensive. The progress achieved thus far must evolve into a sustained process. According to the results of a recent enterprise survey conducted by the World Bank, the cost of licensing in terms of time and monetary concerns is still high – in 2003 the enterprises surveyed spent, on average, 26 staff days, 37.5 calendar days, and 1,279 leva to obtain licenses and permits.

6.22 Bulgaria needs to choose its approach to creating an independent body that can champion and lead deregulatory reforms. The OECD report on regulatory reform concluded that the “specialized mechanisms for overseeing regulatory reform activities... seem most effective when responsibility for regulatory reform is at the ministerial level or higher... Experience shows that such capacities are most effective if they are *independent* from regulators (not tied to specific regulatory missions), *horizontal* across government, *expert* (have the capacity for independent judgment), able to *take the initiative* in promoting reform, and *linked to political authorities or existing centers of oversight authority* (such as centers of government and finance and trade ministries).”⁵⁴ There are different options for setting up an institutional framework for deregulation. In some countries this issue is addressed by creating a Better Regulation Unit in the government—as in the United Kingdom, Australia and Canada; in others

⁵⁴ The OECD Report on Regulatory Reform, *Synthesis, Organization for Economic Cooperation and Development*, Paris, 1997.

by establishing an independent agency which screens all proposed legislation—as in Denmark and the Netherlands.⁵⁵

C. Judicial reform

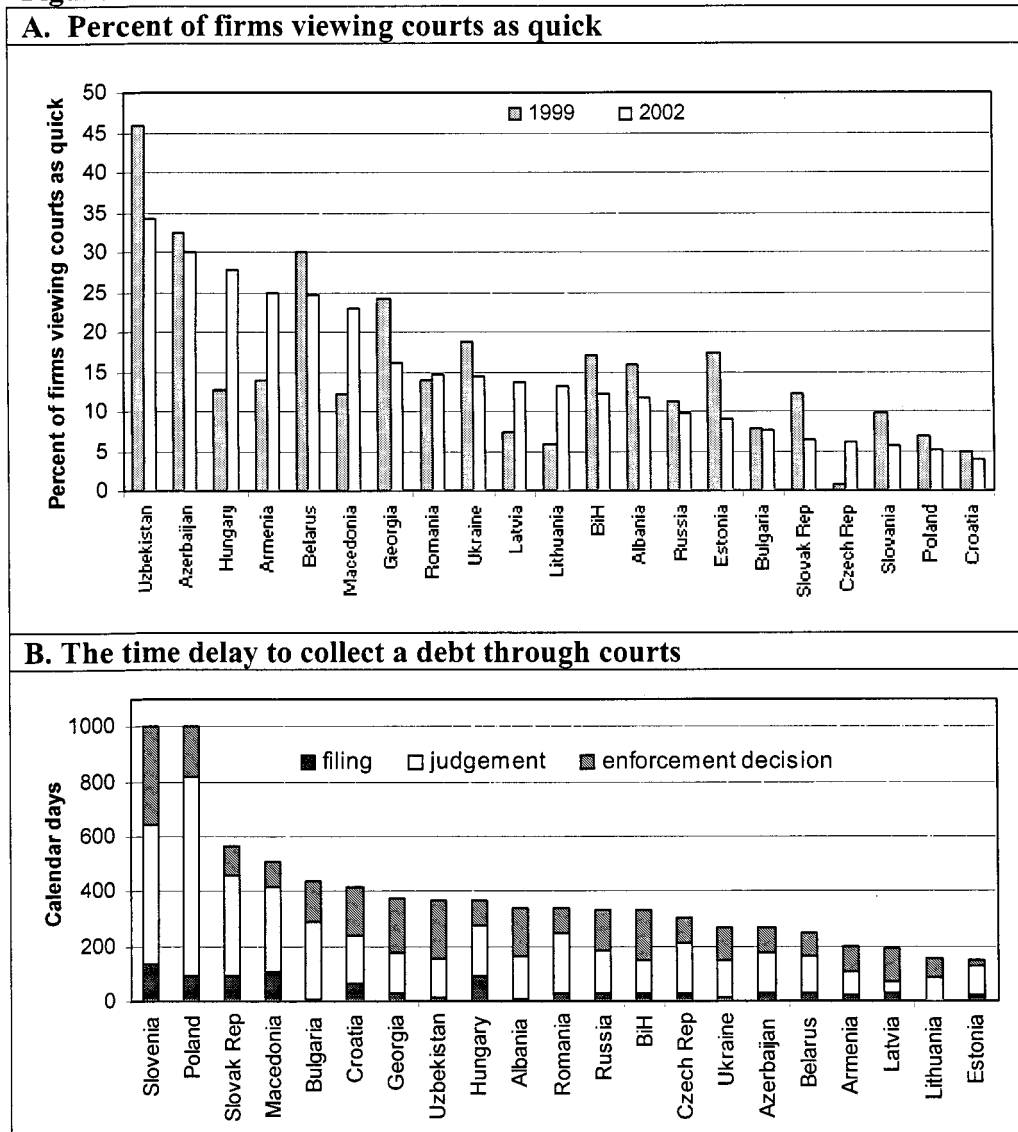
6.23 Bulgaria has made important progress in the area of judicial reform in the last two years. Well functioning judiciary institutions are necessary, to establish a rules-based system needed for markets to function, to protect economic and social rights, to provide efficient and reliable dispute resolution mechanisms, and to ensure accountability. To this end, Bulgaria has taken important first steps over the last two years. In September 2003, amendments and additions to the *Constitution of the Republic of Bulgaria*, central to judicial reform, were promulgated. In March 2004, the National Assembly enacted consequential amendments to the *Judiciary Act* to bring it into line with the amendments and additions to the Constitution. These are major steps towards an appropriate framework for the judiciary in terms of immunity, mandate, and replaceability. The amendment to Article 123 of the Constitution now limits the immunity of members of the judiciary to acts undertaken in the exercise of their judiciary prerogatives. The addition of Paragraph 5 to Article 129 of the Constitution on mandates limits senior judicial appointments to five years with eligibility for a second five year period in office. For other members of the judiciary, irreplaceability is provided under an amendment to Paragraph 3 of Article 129 of the Constitution by decision of the Supreme Judicial Council after five years of service and taking into account a performance appraisal. Irreplaceability is further limited in that dismissal will occur on completion of 65 years of age; upon resignation; upon entry into force of a prison sentence; or following a serious violation or systematic failure to perform their official duties, as well as actions bringing disrepute to the judicial system. Moreover, the Supreme Judicial Council approved regulations on the terms and conditions for the holding of competitions for the appointment of magistrates. It also approved an Anti-Corruption Program for the Judiciary. The program envisions measures to strengthen the accountability of magistrates and the introduction of a random case assignment system to prevent corrupt practices within the judiciary, and also more transparent access to court documentation and files. The Attorney's Act was adopted in June 2004.

6.24 Although a comprehensive legislative framework for a more independent and efficient judiciary has been put in place, significant efforts are still needed to implement the enacted changes. Regulations and management systems are needed to implement the enacted changes, particularly in the areas of anti-corruption efforts, improvement of the court organization, reduction of court delays, and enhancement of the quality of justice. The draft regulations to support the implementation of the Attorney's Act for qualification exams are being prepared by the Bulgarian Bar Association. The draft of the Mediation Law passed its first reading in the Parliament in April 2004, but there was very little progress for most of 2004. To the credit of the Bulgarian authorities, the Mediation Law entered into force in December 2004. Now the Bulgarian authorities need to focus on its implementation. As a result, the drafting of regulations for the Association of National Mediators has been delayed. Similarly, there have been delays in the submission of the Administrative Procedural

⁵⁵ A number of strategic institutional options for Bulgaria were considered in the Pre-Feasibility Study "On the Establishment of a Better Regulation Unit in Bulgaria," prepared in 2003 by the Institute for Market Economics.

Code (APC) to the Parliament and development of a plan for the establishment of the specialized administrative courts. The draft on the development of performance standards for judges is yet to be completed.⁵⁶

Figure 6.5 Courts Performance in Terms of Time



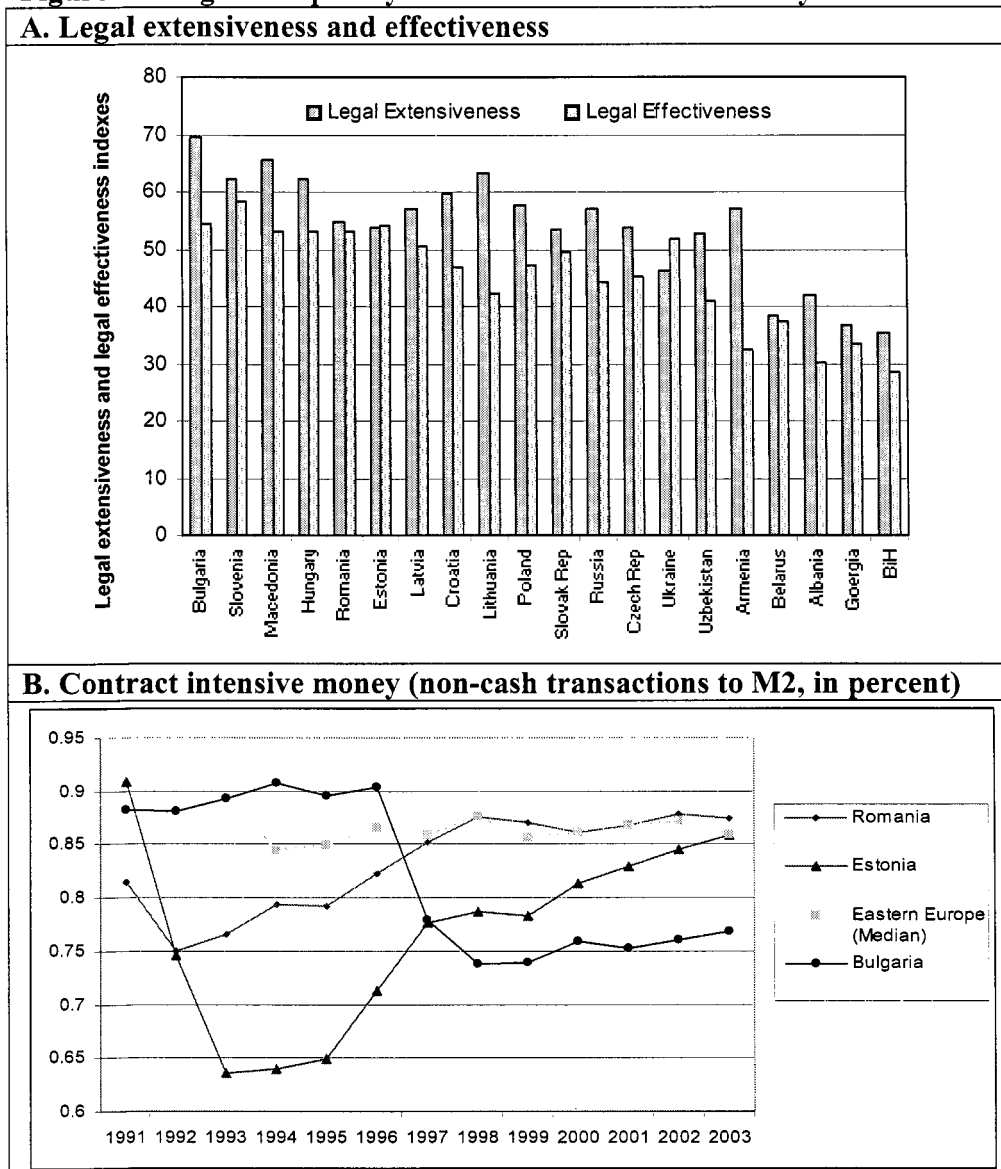
Source: *Judicial System in Transition Economies*, forthcoming 2005, ECSPE of the World Bank.

6.25 Compared to other countries in the region, courts in Bulgaria are slow in general, and enforcing a contract is overly complex and time-consuming (see Figure 6.5). Businesses report that courts in Bulgaria are in general slow and, as discussed in the previous

⁵⁶ In addition, the promulgation of Rules for Court Administration in October 2004, introducing the concept of a court administrator and defining the court clerical staff's performance appraisal mechanisms, ranks, etc., will bring additional professionalism and transparency to the courts while relieving judges and court presidents from time-consuming administrative tasks.

section, the time taken to put a debt through the courts is considerable. Enforcing a simple debt contract takes 440 days on average in Bulgaria, compared with 252 in EU countries, 335 in Romania, 330 in Russia, and 184 in Germany. There are no out-of-court settlement options, no specialized commercial courts, no summary proceedings or default judgments for enforcement, and extensive opportunities exist for debtors to appeal and delay the process. The delays in adopting a Mediation Law place businesses in Bulgaria at a disadvantage compared to other countries in the region.

Figure 6.6 Legal Complexity and Contract Intensive Money



Source: Figure A: *Judicial System in Transition Economies*, forthcoming 2005, ECSPE of the World Bank; Figure B: World Bank staff estimates based on databases of the World Bank.

6.26 **Bulgaria has the most complex system of legislation in the region and the gap between the system and its implementation is large (see Figure 6.6).** This complexity is a serious problem and hampers economic performance in Bulgaria (see Figure 6.6: A). The excessive level of complexity substantially increases the costs of doing business in Bulgaria and encourages informality. The complexity also contributes to problems in enforcing contracts. As a result, Bulgarians rely more heavily on cash transactions than on more efficient, sophisticated, contract-intensive forms of payment compared to other countries in the region (see Figure 6.6: B). Bulgaria shows low contract intensive money (CIM) or the ratio of the non-cash fraction to M2 over the last several years. In contrast in Estonia, which also has a Currency Board Arrangement, low inflation, and a solid fiscal position, the contract intensive money has been increasing rapidly over the last several years showing that Estonians rely more heavily on contracts than on cash to carry out transactions. Furthermore, Clague et al. (1999) argue that contract intensive money is a relatively simple but effective measure of the nature of property rights enforcement.⁵⁷

D. Accelerating development of a rules-based system: A reform agenda

6.27 **Reducing legislative and regulatory complexity.** Regulatory reforms have improved the investment climate in Bulgaria. Nevertheless, Bulgaria's legislative and regulatory system remains excessively complex and places producers in Bulgaria at a disadvantage relative to their peers in other countries in the region. To reduce legislative and regulatory complexity to support stronger competition in the domestic markets, the recommended reform include the following,

- ***Simplifying the procedures for contract enforcement.*** The procedures for contract enforcement are significantly more complex in Bulgaria than in other countries in the region. The number of procedures required to enforce a contract in Bulgaria is 34 compared to 25 in Estonia, 21 in Hungary, and 16 in Ireland.
- ***Completing streamlining of licensing regimes.*** Important progress was made in streamlining licensing regimes at the national level. The next step is to review and streamline sector-specific regimes and municipal regulations. The system governing construction permits needs to be modernized—businesses report that the current system represents a large burden on the costs of doing business. The reform should aim at simplifying the regimes by eliminating a multitude of overlapping regulatory structures, including sector-specific and municipal level regulatory structures.
- ***Making registration an administrative process.*** The current organization of Bulgaria's registration system is high in cost and low in efficiency. Its location in the courts is contrary to good European practices. It also damages economic growth by reducing the capacities of the commercial courts to deal with legal disputes. A more viable option would be the establishment of an expert registration agency, as foreseen in the Bulstat law.

⁵⁷ Clague, C., P. Keefer, S. Knack, and M. Olson (1999): "Contract-Intensive Money: Contract Enforcement, Property Rights, and Economic Performance." *Journal of Economic Growth* 4, 185-211.

- ***Eliminating or reducing the level of minimum capital for private limited companies.*** Minimum capital has been cited in a number of studies as an outdated legal concept and its problems are further amplified in Bulgaria, where the required amount (5,000 lev) is the highest in Europe as a share of average income. The high capital requirement for limited liability companies prevents many would-be entrepreneurs from starting up. Moreover, the ability of the entrepreneur to withdraw the capital immediately after registration is completed overrides its designed purpose. As a result, minimum capital requirements serve no useful purpose other than preventing poorer would-be entrepreneurs from doing business.
- ***Reducing the scope and complexity of the required documentation.*** There is a need to reduce the scope and complexity of the documents required to establish new businesses. To this end, several measures can be implemented including the use of standardized forms, single registration numbers, and notification and self-certification rather than authorization.
- ***Simplifying bankruptcy procedures.*** Notwithstanding reforms to date in this area, closing a business in Bulgaria is far more expensive than in other countries in the region. The number of years to execute insolvency was reduced from 3.8 to 3.3, and the cost was reduced from 18 to 14 percent of debt between 2003 and 2004. This places Bulgaria at a disadvantage relative to other countries in the region. The time taken to execute insolvency in Estonia is 3 years, in Hungary it is 2 years, in Latvia it is 1.1 years, and in Ireland it is only 0.4 years. The law needs to be amended and implemented to bring bankruptcy procedures in Bulgaria to a higher level of efficiency and strengthen exit/entry of firms in the economy.
- ***Introducing statutory response times (“silence is consent” rules).*** As adopted, the Law on Administrative Regulation and Administrative Control on Economic Activities does not provide for the use of the silent consent rule in business registration and most types of business licensing.
- ***Strengthening policy making on regulations.*** Bulgaria adopted the Law on Administrative Regulation and Administrative Control on Economic Activities in 2004. The Law establishes principles for the introduction of new regulatory regimes. Among other dimensions, the Law requires that proposals for new regulations be based on a clear rationale and to be subject to cost-benefit analysis.
- ***Introducing the use of internet sites.*** Bulgaria should start introducing internet sites to provide information, improve the availability of information for entrepreneurs: map all procedures and licenses; and consolidate information into a single electronic source.

6.28 Bulgaria needs to choose of its approach to creating an independent body that can champion and lead deregulatory reforms in a more systematic and sustained manner. There are different options for setting up an institutional framework for the effective and systematic simplification of the legislative system and for deregulation. In some countries this issue is addressed by creating a Better Regulation Unit in the government—as in the United

Kingdom, Australia and Canada, in others, by establishing an independent agency which screens all proposed legislation—as in Denmark and the Netherlands.

6.29 **Developing an efficient judicial system.** Bulgaria has made important progress in the area of judicial reform in the last two years. Although a comprehensive legislative framework for a more efficient judiciary has been put in place, significant efforts are still needed to implement the enacted changes. The most immediate and urgent reforms include the following:

- *Adopting the Mediation Law and drafting its corresponding regulations.*
- *Establishing specialized administrative courts*, provided by the new Administrative Procedure Code—the draft Code, however, is still pending the first reading in the Parliament.
- *Developing a comprehensive monitoring mechanism for evaluating judicial performance*, including re-designing the court statistics system and providing an objective and transparent evaluation of judges' performance.
- *Fully implementing the Rules for Court Administration* passed in October 2004. These rules introduce the concept of a court administrator and should help bring professionalism and transparency to court administration as well as relieve judges and court presidents from time-consuming administrative tasks.
- *Fully implementing a systematic approach to case management through automation*, this should reduce the length of court proceedings and bring more transparency and accountability to the performance of judges.
- *Upgrading judicial training*—for both newly appointed magistrates and continuous education.
- *Strengthen the new National Institute for Judiciary* established in December 2003.

6.30 Building on achievements to date, moving towards a Lisbon-growth path of higher productivity and growth by deepening integration with the EU and global markets is within reach provided the core reform agenda is supported by macroeconomic policies that address risks and vulnerabilities. Potential benefits are large but macroeconomic risks and vulnerabilities can not be underestimated.

7. MACROECONOMIC RISKS AND VULNERABILITIES

7.1 Macroeconomic policies need to address risks and vulnerabilities and to support progress towards monetary integration. Bulgaria's fiscal consolidation strategy of the last several years targeted gradual adjustment in the overall fiscal balance that was aimed at reaching a balanced budget and the external debt reduction needed to meet the Maastricht Treaty target of a public debt to GDP ratio of under 60 percent by 2005. The gradual adjustment in the overall balance has been accompanied by reductions in tax rates and significant reductions in public debt. Bulgaria reached the Maastricht Treaty target in 2002 and achieved a balanced budget in 2003. As a result, Bulgaria's macroeconomic financial position has strengthened. Nevertheless, Bulgaria faces significant risks and vulnerabilities, which are manageable provided macroeconomic discipline is maintained and the pace of structural reforms is kept up.

7.2 Risks and vulnerabilities are involved in sustaining macroeconomic stabilization and reform achievements to date, namely: (i) the pressures towards the widening of the external current account deficit and the rapid growth of credit to the private sector; (ii) protracted progress in public expenditure policy reform, particularly the lack of decisive measures that will increase the efficiency of social expenditures and their fiscal sustainability, and further delays in operationalizing the National Revenue Agency; and (iii) failure to maintain a flexible fiscal position to ensure gradual and sustained progress towards monetary integration. In the context of the domestic environment, there are risks of loss of momentum in the implementation of structural reforms and weakening in macroeconomic discipline. The economy is also vulnerable to external shocks, including further increases in oil prices and interest rate increases. There are also risks related to the adjustment from an accommodating to a more neutral monetary stance in high income economies and their growth prospects.

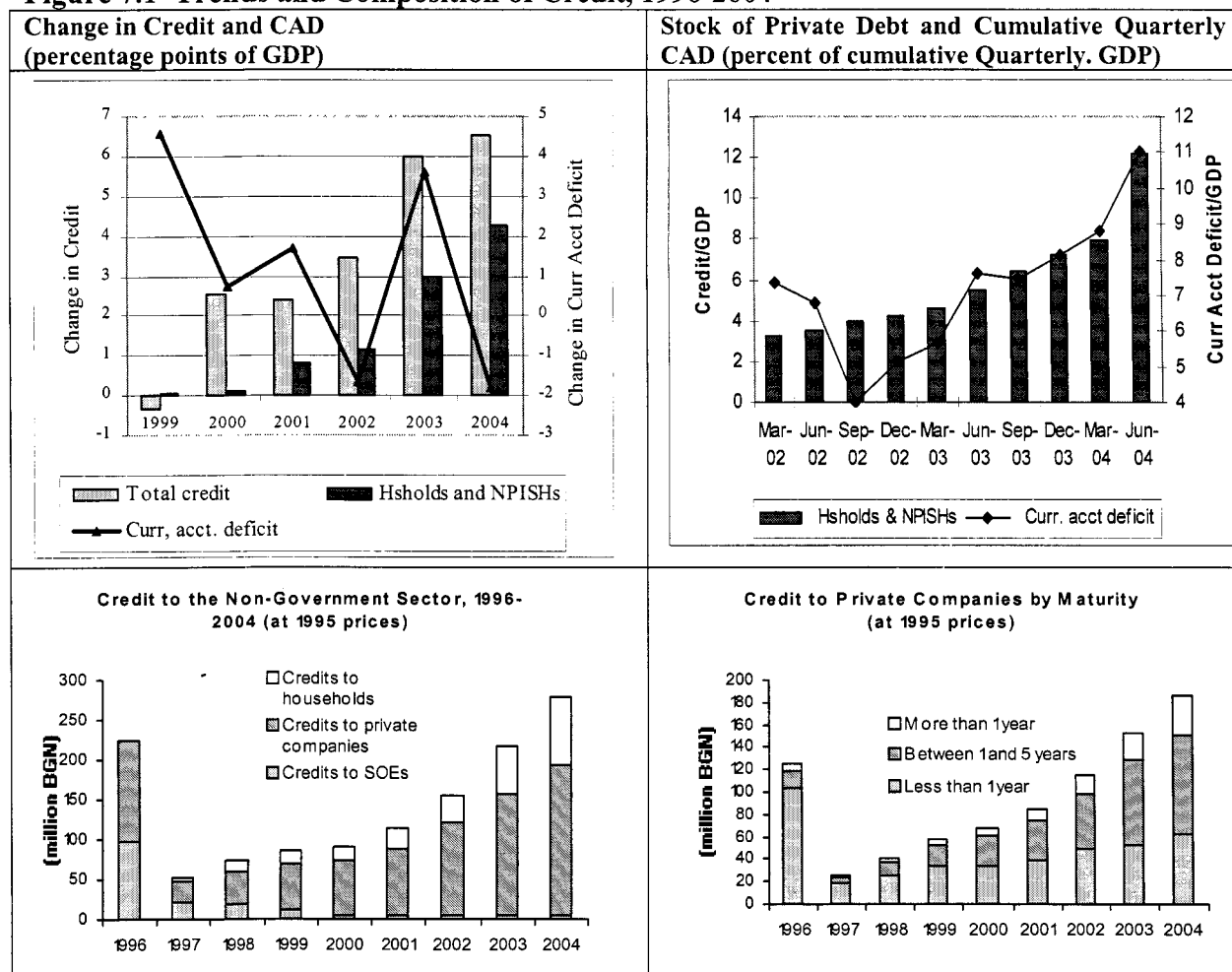
A. Addressing risks and vulnerabilities

7.3 Short-term and medium-term risks weigh heavily on the fiscal stance. In the short run, there are risks associated with the rapid growth of credit to the private sector. Similarly, the fiscal stance should remain sufficiently flexible to respond to such external risks as greater capital flow volatility or the falling short of FDI flows from levels needed to finance a relatively large external current account deficit. The mix of macroeconomic policies is further complicated by the rapid growth of relatively short term capital flows resulting from interest rate differentials between Bulgaria and the EU-25. In particular, either sufficiently effective measures to reduce the expansion of credit to the private are implemented or further tightening of the fiscal stance will be necessary to safeguard stability. This implies that if growth is to be sustained it will need to rely more heavily on productivity growth than on the continued expansion of financial outlays.

7.4 In the short term, the challenge is to strengthen macroeconomic adjustment to ensure that the external current account deficits remain at prudent levels. Macroeconomic management could be further complicated if there is greater capital flow volatility after capital controls are removed. Typically capital controls are removed well in advance of the EU

accession date. Bulgaria currently maintains controls on credit operations, real estate transactions, personal capital movements, money market instruments and other capital transactions.⁵⁸ The fiscal stance needs to remain sufficiently flexible to manage potential capital flow volatility. As mentioned in Chapter 1, FDI flows have been financing the external current account deficit and making a significant contribution to rebuilding the capital stock in the

Figure 7.1 Trends and Composition of Credit, 1996-2004



Source: World Bank staff estimates based on BNB and NSI data; 2004 is preliminary estimate.

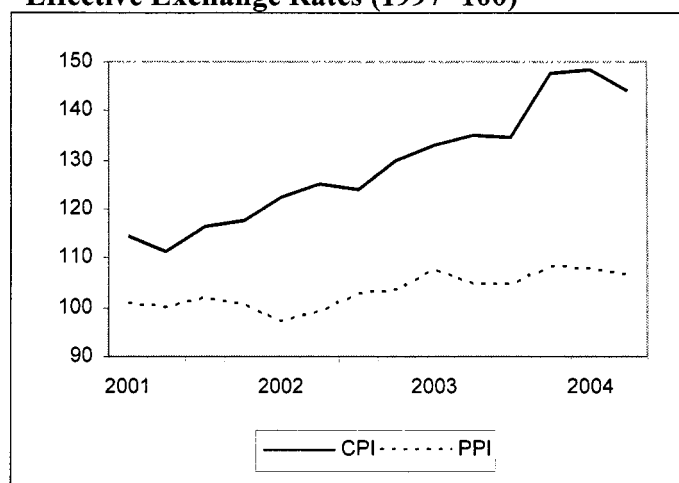
economy. With the privatization program coming to an end, stability and a solid business environment are becoming increasingly important for Bulgaria to remain competitive in attracting FDI flows. FDI flows are also affected by global economic developments and prospects. Hence, the risk of FDI flows falling short from expected levels due to shocks can not be entirely ruled out. Furthermore, short capital inflows are growing fast—both in terms of levels and as a share of external balances. Short-term capital inflows more than doubled, from 649 to 1,633 million euros, between 2003 and 2004. Their share in the external current account

⁵⁸ There is a view that these controls are not excessive in the case of Bulgaria. Nevertheless, given Bulgaria's vulnerability to a short fall in FDI and the rapid expansion of short-term capital inflows, this report supports a cautious policy stance as that followed by Bulgaria over the last few years.

deficit increased from 27 to 55 percent during the same period (see Figure 7.1). Much of these inflows represent money attracted to Bulgaria by the relatively high interest rates in relation to the returns on comparable securities/investments in the Eurozone. A sudden sharp reduction of these rates would reduce the differentials, which could produce a rapid capital outflow causing a considerable shock to the economy.

7.5 The short-term capital inflows are resulting in the rapid expansion of private debt, underscoring new policy challenges (see Figure 7.1). The foreign debt of private firms and households more than quadrupled between 1999 and 2004. Households have been enjoying rapidly rising standards of living since the crisis of the late 1990s, and may anticipate further increases in the years to come, with EU accession rapidly approaching. Similarly, with improvements in the investment climate and in anticipation of EU accession, private firms are undertaking investments at a rapid pace—to the extent that they have turned to the financial markets to finance productive investment that contributes to future productivity growth and the ability to repay obligations, both domestic and foreign.⁵⁹ While more than a third of the foreign debt growth is FDI-related, the capacity of lenders to correctly assess the risk associated with certain consumer loans determines, to a large extent, the quality of the rapid expansion of credit to households and private firms. While statistics on non-performing loans currently indicate that bank portfolios remain solid, there are often time lags before bad credits manifest themselves. It is important, therefore, to closely monitor the effectiveness of recent measures to reduce the growth of credit to the private sector. It is also important for banking supervision to continue to watch closely for signs of inordinate loan portfolio deterioration.

Figure 7.2 Difference in CPI and PPI Real Effective Exchange Rates (1997=100)



Source: World Bank staff estimates based on BNB and NSI data.

7.6 Furthermore, as part of the process of catching up in productivity and living standards, the trend towards the appreciation of the real exchange rate is likely to continue. Known as the Balassa-Samuelson effect, the relative productivity differentials between the traded and non-traded goods sectors may lead to faster inflation in Bulgaria than in

⁵⁹ Statistics on the composition of consumer credit, unfortunately, are currently unavailable.

its key trade partners.⁶⁰ The trend in real appreciation, of course, need not result in currency misalignment if the competitiveness of the economy is maintained, but in the future policymakers may feel compelled to maintain very restrictive fiscal policies in order to reach a lower inflation rate comparable to other countries in the region, if the Balassa-Samuelson effect is strong, putting at risk growth and employment.⁶¹

7.7 The relative productivity differentials between the traded and non-traded goods sectors indicate that the Balassa-Samuelson effect is relevant to inflationary dynamics in Bulgaria. Figure 7.2 shows the CPI-based and PPI-based real effective exchanges of the lev. Between 2001 and the middle of 2004, the lev appreciates in real terms by nearly 30 percent when nominal rates are deflated by CPI indices. At the same time, the PPI-based measure appreciated less than 10 percent. Since the CPI is constructed from both traded and non-traded prices and the PPI is thought to have a structure that is more representative of traded goods, the relative gap between the two indices indicates that the Balassa-Samuelson effect is relevant to inflationary dynamics in Bulgaria. Econometric studies measuring the importance of this effect in EU accession countries have estimated an inflationary impact ranging from 0.2 to 2.5 percentage points. However, the difference in annual growth of the two indices exceeds 4 percent. In the case of Bulgaria, at least half of the accumulated real exchange appreciation is related to the presence of significant impediments to resource reallocation from lower to higher productivity activities. As shown in Chapters 2 through 6, these are mainly deficiencies that are due to limited labor market adjustment, poor conditions of basic public infrastructure, relatively large skills mismatches, limited competition in the domestic markets, and the remaining deficiencies in institutional quality which contribute to a price bias in favor of nontradables.

B. Monetary integration

7.8 In addition to implementing reforms needed to move towards a Lisbon-growth path, enhanced macro-financial discipline is central to progressing gradually towards monetary integration. Bulgaria recently announced its decision to adopt the euro as early as possible upon EU accession. The expected date of adopting the Euro is mid-2009. Bulgaria's currency, the lev, was pegged to the Deutsche Mark at the exchange rate of one new lev for one Deutsche Mark in 1999. Hence, the lev is pegged to the euro under the Currency Board Arrangement. As Bulgaria integrates with the EU and becomes a member of the Eurozone, it will have greater opportunity to increase productivity through enhanced trade, greater competition, and transparency of prices. Other benefits could include a lower risk premium on interest rates. However, greater monetary integration presents new policy challenges and is not without risks. The preparation for and eventual adoption of the euro increases the need to implement reforms that will increase productivity and growth performance to accelerate real convergence, in

⁶⁰ More concretely, it is posited that an increase in the productivity of tradables relative to non-tradables, if larger than in other countries, will cause an appreciation of the real exchange rate. Higher productivity in the tradable goods sector, where price increases are generally kept in check through competition, will bid up wages in that sector and, with labor being mobile, wages in the entire economy will rise. Producers of non-tradables will be able to pay the higher wages only if the relative price of non-tradables rises, which will lead to an increase in the overall price level in the economy. For a discussion of the implications for euro zone membership, see Buiter and Grafe (2002).

⁶¹ Chobanov and Sorsa (2004) examined the real exchange and found no evidence of significant misalignment. Preliminary analysis conducted for this report confirms this conclusion.

addition to enhanced financial discipline to ensure adherence to the conditions for participation in the currency area.

7.9 There are three phases on the road to the adoption of the euro. The European Economic and Monetary Union (EMU) consists of three stages coordinating economic policy which culminate with the adoption of the euro, and hence with the participation in the Stability and Growth Pact. All member states of the European Union participate in the EMU. Twelve member states have reached the third stage and have adopted the euro. The United Kingdom and Denmark have opt-outs and need not adopt the euro. The other eleven member states are required to implement the reforms needed to move to the third stage and to eventually adopt the euro. The Copenhagen criteria require that entry members acceding to the EU be able to meet the necessary conditions for monetary union within a period of time—about 10 years. Prior to adopting the euro, member states participate in the European Exchange Rate Mechanism (ERM II) for about two years.

7.10 Bulgaria aims to progress as fast as possible towards adopting the euro. Bulgaria is currently in the EU pre-accession process whereby the candidate country makes irreversible progress towards a functioning market economy, competitiveness, and sustainable macroeconomic stability. By the time of accession, Bulgaria will need to remove all capital controls. The second phase, which commences after membership in the EU, entails entry in the ERM II. Bulgaria has taken the initiative of announcing its official position of keeping the Currency Board Arrangement for the minimum term provided for by EU legislation—generally interpreted to mean two years—without devaluing the lev against the currency of any other member state of the Eurozone.⁶² At the same time, this must be accomplished without employing capital or exchange controls which are to be eliminated before accession. The final phase is the full adoption of the euro and the implementation of the Stability and Growth Pact of the EU. This limits the size of the fiscal deficit to 3 percent of GDP, and calls for a public debt ratio of less than 60 percent of GDP, low inflation, and interest rates close to the EU average.⁶³ While Bulgaria currently meets the first two criteria, it has some distance to go on inflation, but a larger gap exists between the interest rates in Bulgaria and those of the countries in the Eurozone.

7.11 The challenges posed by the objective of progressing towards monetary integration involve real and financial convergence. While these dimensions have been present for sometime, it is timely to review them carefully to assess the impact of reforms Bulgaria has implemented over the last several years in terms of asymmetries. This is because the structural differences between Bulgaria and countries in the Eurozone result in significantly different effects of common external shocks—basically asymmetries, on both aggregate demand components and sectoral output. While they are declining, these asymmetries remain relatively large.

⁶² The ERM requires the establishment of a central parity and allows for a 15 percent fluctuation band.

⁶³ To be specific, the member state is to maintain an average inflation rate of no more than 1.5 percentage points above the rates of the three best performing members over a period of one year. Similarly, the interest rate criterion calls for a one-year average nominal long-term rate not exceeding 2 percentage points above the three best performing members in terms of price stability.

7.12 A potentially important macroeconomic asymmetry vis-à-vis major trade and financial partners is suggested by simple correlations. Table 7.1 shows the simple correlations of Bulgaria's business cycle with that of the EU-15, the Eurozone, and selected EU member countries. Over time, the patterns of consumption and imports in Bulgaria are becoming increasingly similar to those observed by important trade and financial partners. Business cycle correlations on consumption and on imports increased substantially in the last three years, reaching about 0.8 and 0.7, respectively. To some extent this reflects deeper integration with the EU, but it also reflects the rapid expansion of consumption and imports, where consumer goods represent the lion's share in total imports, led by the rapid growth of credit to the private sector. Hence, the foundation of these trends is less solid than it may at first appear. Indeed, the trend is not as strong on growth rates or on sectoral growth patterns. The business cycle correlation on GDP only increased from about 0.3 to 0.4 in the last three years, and a correlation of 0.4 reflects substantially large asymmetries in patterns of growth.

Table 7.1 Business Cycle Correlations, 1997-2004 and 2002-2004 ^{a/}

	1997/ 2004	2002/ 2004	1997/ 2004	2002/ 2004	1997/ 2004	2002/ 2004	1997/ 2004	2002/ 2004	1997/ 2004	2002/ 2004
Bulgaria with:	Household									
	GDP		Final Cons.		Consumption		Exports		Imports	
Bulgaria	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EU-15	0.29	0.40	0.58	0.77	..	..	-0.24	-0.06	0.37	0.66
Eurozone	0.29	0.40	0.56	0.76	..	..	-0.28	-0.10	0.34	0.63
Germany	0.86	0.90	0.58	0.82	0.72	0.72	-0.12	0.07	0.59	0.69
Greece	0.37	-0.35	0.56	-0.12	..	..	0.51	0.57	0.43	0.45
France	-0.26	-0.17	0.29	0.48	0.16	0.36	-0.64	-0.61	0.04	0.18
Italy	0.40	0.47	0.57	0.51	0.42	0.30	0.19	0.37	0.14	0.52
Bulgaria with:	Industry excl.									
	Agriculture		Construction		Construction		Services		Service, excl. FS, RE, BS	
Bulgaria	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EU-15	0.84	0.85	0.11	0.03	0.77	0.80	0.83	0.86	0.89	0.84
Eurozone	0.82	0.83	0.10	0.05	0.73	0.76	0.81	0.87	0.89	0.85
Germany	0.33	0.43	0.43	0.68	0.93	0.96	0.93	0.99	0.93	0.94
France	-0.47	-0.41	-0.05	-0.30	-0.04	0.03	0.26	0.37	0.15	0.07
Italy	0.82	0.85	-0.12	-0.33	-0.03	-0.04	0.84	0.88	0.85	0.93

Note: ^{a/} service sector excludes public administration; FS = financial services, RE = real estate, BS = business services.

Exports and imports include both merchandise and services. Periods of coverage are: 1997:Q3 to 2004:Q3 for expenditures, and 1998Q2 to 2004Q3; owing to data limitations, investment could not be examined.

Source: World Bank staff estimates based on data from Bulgarian National Institute of Statistics and Eurostat.

7.13 Progressing towards monetary integration implies that the core reform agenda should reduce structural differences, both real and financial, between Bulgaria and other Eurozone countries. Large structural differences can mean that macroeconomic policies aimed at promoting stability in the Eurozone as a whole need not correspond to short-run economic realities in Bulgaria. A shift in monetary policy, for example, in the Eurozone aimed at limiting the inflationary impact of higher energy costs, could result in a much more pronounced

contraction of growth and employment in Bulgaria than in the broader currency area.⁶⁴ This is because structural differences across countries can mean significantly different effects of common external shocks, which need not warrant the same direction or intensity of policy action at the national level.

7.14 Asymmetries of shocks and responses to shocks seem to be declining, but the gap remains large (see Table 7.2). The statistical analysis conducted for this report indicates that synchronization is less clear in the data on inflation and the responses to shocks.⁶⁵ There is mainly a lack of harmonization of inflation rates and of responsiveness to demand and supply disturbances, though in the case of demand the trend appears to be towards more co-movement.

Table 7.2 Asymmetry of Shocks and Responses to Shocks (correlations)^{a/} 1997-2004 and 2000-2004

	Shocks:							
	1997 – 2004		2002 – 2004		1997 – 2004		2000 – 2004	
	Growth	Inflation	Growth	Inflation	Demand	Supply	Demand	Supply
Bulgaria with:								
Bulgaria	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Euro Zone	0.29	-0.31	0.40	-0.29	0.03	-0.13	0.19	-0.24
EU-15	0.29	0.05	0.40	-0.18	0.05	0.19	0.18	0.02
France	-0.26	0.10	-0.17	-0.52	-0.14	0.10	0.01	-0.21
Germany	0.86	0.24	0.90	0.15	-0.01	-0.15	0.07	0.13
Greece	0.37	0.36	-0.35	0.28	0.09	0.13	0.30	0.14
Italy	0.40	-0.32	0.47	-0.13	0.02	0.12	0.06	-0.39

Notes: a/ Demand and supply shocks are derived from the residuals of structural VAR model with growth and inflation as endogenous variables and long-run demand shocks being restricted to equal zero. Estimates are based on quarterly data.

Source: World Bank staff estimates based on data from Eurostat.

7.15 Bulgaria has a considerable distance to go in catching up in its growth path toward EU efficiency.⁶⁶ This is suggested by the differences in productivity levels, utilization levels of factors of production, and the structure of production discussed in Chapter 2. The differences between Bulgaria and its major trading partners indicate that, even if they were to face common external shocks, the disparities in the structure of production could translate into significant asymmetric impacts on output and employment. For example, an adverse shock that affects agriculture more heavily than other sectors could lead to a relatively larger employment loss in Bulgaria than in the Eurozone, where agricultural output and employment are a fraction of the size in Bulgaria.

⁶⁴ The relevance of this example to current circumstances can be seen from the recent experience in Bulgaria with large inflows of relatively short-term capital. A strong tightening of monetary policy in the Eurozone could significantly reduce interest rate differentials, reverse large volumes of capital inflow, and dampen growth in Bulgaria.

⁶⁵ For a description of the statistical procedure used to estimate the shocks, see T. Bayoumi and B. Eichengreen (1992). They extend the methodology developed by Blanchard and Quah (1989) to examine the impact of demand and supply shocks on output and employment. In the long run, the cumulative impact of demand shocks on the change in output is assumed to be zero, while supply shocks are allowed to affect both prices and output in both the short run and the long run.

⁶⁶ The speed of harmonization could accelerate once Bulgaria has joined the EU and euro zone. It has been argued that membership in a currency union tends to lead to greater business cycle synchronization. Darvas and Szapary (2004) find that in the case of the Baltics synchronization has been weaker than in the rest of the new EU memberships, which may relate to initial conditions and trade patterns.

7.16 Greater adaptability of the economy, particularly in labor markets, is needed to minimize the negative impact on growth and employment caused by adverse circumstances. Given the lack of synchronization of economic developments in the medium term, the Currency Board Arrangement, and, later, a common monetary policy for a diverse set of countries, the adverse consequences of a macroeconomic shock on growth and employment can only be minimized through labor and product market flexibility. Greater flexibility is also needed to ensure that shocks do not tend to raise average unemployment over time. One way in which this could be done is if skills are upgraded and labor market participation increases, so that, in addition to making better use of the available labor force and facilitating net job creation by upgrading skills, labor market flexibility increases.⁶⁷ Similarly, reducing regulatory complexity and improving the quality of the institutional framework to facilitate competition in the domestic markets would be needed to improve the adaptability of product markets. Moreover, faster adaptability in labor and product markets would facilitate greater diversification of the economy and would reduce output volatility.

⁶⁷ See *Western Europe* by O. Blanchard and J. Wolfers (2000) for a discussion of the case where the skills of the long-term unemployed are so degraded that they become unemployable in their careers and as a group cease to have an impact on wage rates.

8. CONCLUSIONS

8.1 In the last seven years, Bulgaria has made impressive progress in stabilization, growth, and poverty reduction. Since 1997 Bulgaria has been implementing a comprehensive stabilization and structural reform program anchored in its process for EU accession. As a result, Bulgaria achieved, and has maintained macroeconomic stability since 1999; growth has ranged between 4 and 5 percent per year, contributing to increasing per capita income, at PPP, from US\$5,508 in 1998 to US\$8,260 in 2004; and unemployment has started to decline. The share of the private sector in the economy had increased to around 75 percent by 2004, and trade in goods and services relative to GDP has expanded to above 100 percent since 2002. FDI flows have increased to an average of 7 percent of GDP per year since 1998 compared to an average of 1 percent of GDP in the first nine years of transition. Investors' confidence has improved over time, both domestically and externally, with spreads of Brady and Euro bonds declining since 2002. During the summer of 2004, S&P and Fitch upgraded Bulgaria's long-term foreign currency debt to investment grade rating. Taken all together, Bulgaria has the unique opportunity of the momentum of its economic progress to deepen its economic transformation so as to accelerate real convergence.

8.2 The core reform agenda proposed in this report is centered on achieving successful integration with the EU and the global markets. Bulgaria should build on its achievements to date to accelerate real convergence by expanding efficiency gains and competitiveness more broadly across the economy. To this end, Bulgaria needs to continue to act on several fronts as it has done since 1998 and to implement a core agenda of reforms that will deepen trade integration with the EU and global markets. For Bulgaria to move towards potential output growth and become more competitive, policies and economic restructuring need to focus on achieving higher economic efficiency and productivity supported by a fiscally sustainable and well targeted social protection system.

8.3 The urgency of implementing a core reform agenda centered on productivity is more pressing for Bulgaria than for other countries in the region where the demographic discount is not as large and is not increasing as rapidly. It is estimated that in 20 years time the working age population will decline by 19 percent and the population older than 64 years of age will increase by 17 percent relative to 2005 levels. This implies that labor productivity needs to increase by about 1 percentage point per year just to compensate for the impact of the decline in the labor force on per capita income. This increase would need to be larger if labor market participation where it remains low.

8.4 This report proposes three intertwined areas for the core reform agenda: (i) improving the quantity and quality of physical and human capital accumulation, by focusing on upgrading skills and the transport network, and improving efficiency and transparency in public administration; (ii) enhancing labor market adjustment and the creation of employment by implementing labor market reforms that better balance labor adjustment, the creation of employment, and unemployment risks, and include the rationalization of the social protection system to enable the reduction of payroll taxes; and (iii) implementing institutional reforms in two areas—reducing legislative and regulatory complexity in order to improve competition in the domestic market, and moving toward a rules-based system by implementing judicial reform

to increase reliance of economic transactions on contracts and their efficient enforcement. This core agenda needs to be supported by macroeconomic policies that address risks and vulnerabilities and make progress towards monetary integration.

8.5 The first core area of reform is to upgrade the quantity and quality of human capital. To increase labor productivity, and hence improve prospects of wage income levels, as well as to continue expanding export capacity beyond unskilled labor-intensive products, there is a need to upgrade the skills of the labor force. This would call for a reform of the education system, including universities and vocational schools, to: (a) strengthen the links between the skills acquired in the education system and those needed in the job market through establishment of links and feedback mechanisms between the education system and labor markets; and (b) improve the efficiency and effectiveness of public outlays in education by reallocating resources from underused facilities and excess staffing to modernization of curriculum, textbooks, and teaching materials; implementing a composite per student resource allocation; and linking financing to educational results in addition to enrollment levels.

8.6 The second core area of reform is to upgrade the quantity and quality of physical capital. Bulgaria's transport network needs upgrading since maritime ports and close to two-thirds of roads are in poor condition. Priority in resource allocation would thus need to be given to maintenance rather than new investment. The sequencing of reforms in this area would need to be based on cost-benefit analysis, and take into account liberalization of international trucking in the context of EU integration. Priority reform areas would be as follows: (a) upgrading and addressing bottlenecks along road segments that carry long distance international traffic; and (b) reform of maritime ports, including introduction of landlocked port, with the separation of operational and commercial functions, privatization of port services, and concessioning of large container and bulk terminals to private operators.

8.7 The third core area of reform is to implement major public expenditure restructuring and promote efficient and transparent public sector management. The strategy of having the public sector focus on the efficient delivery of public goods, including an efficient and effective social safety net, while the private sector leads in the expansion of investment, output, and employment, has served Bulgaria well. Bulgaria should remain on this path and should accelerate progress towards this end to continue to improve the standard of living and accelerate convergence. The reforms recommended in this report focus on the following:

- *Implementing public expenditure restructuring to reorient resources to upgrade the transport network and trade facilitation system and to upgrade the skills of the labor force is necessary.* These measures are needed if Bulgaria is to expand outward oriented sectors and export capacity beyond unskilled labor-intensive activities. To make room for such spending and maintain it in the face of an aging population, Bulgaria will need to rein in the growth of social spending. Reforms in the social protection system are needed to improve its efficiency and fiscal sustainability and to enable the reduction of very high payroll taxes, which have created significant incentives for the informal economy and tax evasion, and which limit job creation. To this end, three areas are central: deepening the

reforms of the social security system, reforming the health care system, and reforming the social assistance system.

- *Implementing public sector reform plays a determining role in the extent to which public resources are translated into actual outcomes.* Three areas of reform are highlighted. Public expenditure management reform should strengthen the links between budget allocations and performance indicators; all expenditure accounts, including those of the judicial system, should be incorporated into the budgetary system; and reforms should aim at eliminating the practice of capping discretionary expenditures during the first three quarters of the year. Public administration reform should focus on implementing fully the new merit criteria provided by the law; upon the completion of functional reviews of ministries and public entities, the government should implement a program to consolidate the public sector; and the scope and number of administrative services should be increased subject to formal competitive processes. To improve public sector governance and financial accountability, the government should simplify an overly complex legislative and regulatory framework and implement fully the new financial accountability framework and the national and sectoral anti-corruption strategies.

8.8 The fourth core area of reform is to improve labor market adjustment and the creation of employment. The labor market in Bulgaria is performing poorly. Labor market regulations are a major constraint to creating of employment and expanding productivity gains more broadly across the economy, to benefit more fully from economic integration with the EU. The current framework provides large benefits to those with labor contracts and seniority, leaving behind a large share of the long-term unemployed with little job opportunities and even a larger share of workers in the informal sector with nearly no coverage of social risks. This is not equitable, efficient, or sustainable. The reforms recommended in this report include the following:

- *Increasing employment flexibility.* Entry and exit from employment should be based on performance and on economic rationale, including allowing more flexible terms in hiring and firing due to fluctuations in production levels, performance, and absenteeism. In addition to allowing a more flexible use of fixed contracts, reforms should include eliminating restrictions on working hours, holidays and overtime work. The links between wages and salaries and performance should be strengthened at the firm level rather than being mandated at sectoral or economy-wide levels. Disincentives to work beyond retirement age should be eliminated by allowing the flexible use of temporary and part-time contracts and temporary work arrangements. To reincorporate the long-term unemployed, the government should consider relying on effective retraining programs, including on-the-job retraining;
- *Eliminating disincentives to work.* Two areas of reform need to be implemented: (i) unemployment benefits and their duration should be adjusted to no more than OECD levels; (ii) the number of sick days should be limited, and taxes on wage income should be the same whether wages are earned while sick or by working.

- *Reducing disincentives to employment creation on the demand side.* Very high payroll taxes are a major disincentive to employment creation. For type 3 jobs, payroll taxes are 43 percent of wage income, of which 75 percent is paid by the employer. As discussed in the previous chapter, reducing payroll taxes is highly desirable not only for net job creation but also for reducing the size of the informal economy and reducing tax evasion. Several reforms, however, need to precede payroll tax reduction, including the major rationalization of public expenditures, and reforming social spending in particular.

8.9 The fifth area of reform is to implement institutional reform in two areas—the reduction of legislative and regulatory complexity, and judicial reform. Regulatory reforms have improved the investment climate in Bulgaria. Nevertheless, Bulgaria’s legislative and regulatory system remains excessively complex and places producers in Bulgaria at a disadvantage relative to their peers in other countries in the region.

- *To reduce legislative and regulatory complexity, Bulgaria needs to undertake the following:* to simplify regulatory regimes and municipality-implemented regulations; to simplify procedures for contract enforcement; to make registration into an administrative process (rather than one that is managed by the courts); to eliminate the requirement for a minimum capital for private limited companies; and to introduce statutory response times (“silence is consent” rules). To this end, Bulgaria needs to choose its approach to creating an independent body that can champion and lead deregulatory reforms in a more systematic and sustained manner..
- *To move to an efficient rules-based system, Bulgaria needs to implement judicial reform.* Although a comprehensive legislative framework for a more efficient judiciary has been put in place, significant efforts are still needed to implement the enacted changes. Regulations and management systems are needed, particularly in the areas of anti-corruption efforts, the improvement of the court organization, the reduction of court delays, and the enhancement of the quality of justice.

8.10 Enhanced macro-financial discipline and deeper economic restructuring are needed to address risks and vulnerabilities. There have been risks and vulnerabilities involved in sustaining macroeconomic stability and reform achievements to date, namely: (i) the pressures towards the widening of the external current account deficit and the rapid growth of credit to the private sector; (ii) protracted progress in public finance policy reform, particularly lack of decisive measures to increase the efficiency of social expenditures and their fiscal sustainability, and further delays in operationalizing the National Revenue Agency; and (iii) the failure to maintain a flexible fiscal position to ensure gradual and sustained progress towards monetary integration. In the context of the domestic environment, there are the risks of the loss of momentum in the implementation of structural reforms and the weakening of macroeconomic discipline. The economy is also vulnerable to external shocks, including further increases in oil prices and interest rate increases. There are also risks related to the adjustment from an accommodating monetary stance to a more neutral monetary stance in high income economies and their growth prospects.

8.11 Short-term and medium-term risks, and gradual progress towards monetary integration, weigh heavily on the fiscal stance. In the short run, there are risks associated with the rapid growth of credit to the private sector and external risks such as greater capital flow volatility or the falling short of FDI flows from the levels needed to finance the relatively large external current account deficit. In the medium term, pensions and the rapid growth of expenditures in health care system (particularly the financing of hospital care), and the social assistance system represent a serious risk to budgetary stability. Furthermore, the gradual progress towards monetary integration raises additional macroeconomic challenges. Greater monetary integration has potential benefits, but it is not without risks given the large structural differences between Bulgaria and countries in the Eurozone. The preparation for, and eventual adoption of, the euro will increase the need for deeper economic restructuring, in addition to enhanced macro-financial discipline, to ensure adherence to the conditions for participation in the currency area.

8.12 Going forward, a cohesive structural reform agenda supported by disciplined macroeconomic policies is central if Bulgaria is to translate EU accession into sustained improvement in standards of living for its population. Bulgaria has gained considerable expertise in recent years in managing its economy under a hard peg. Best of all, it has demonstrated a willingness to subject its fiscal policy to the exigencies of the currency board and a flexibility to do so that will hold in good stead as it integrates in European monetary arrangements. Still, these challenges underscore the centrality of implementing the structural reforms outlined in this report to get the Bulgarian economy in sync with the rest of the currency area and able to withstand common external shocks. Reforms to substantially enhance labor market adjustment, to improve competition in the domestic markets, to enhance the dependability of contracts and to upgrade skills and transport network, will help achieve that, while accelerating real convergence. These are central for Bulgaria to translate EU accession into sustained improvement in standards of living for its population.

Technical Annexes

ANNEX A: DETERMINANTS OF PRODUCTIVITY: FIRM-LEVEL DATA¹

The firm-level analysis of growth is based on the FIAS data (described below). This information is used to provide alternative estimates of total factor productivity (TFP). It is also used to investigate what are the correlates of TFP across firms and, in particular, what is the role of corruption and access to credit in determining TFP.

Estimating Productivity

Firm productivity is an unobservable firm characteristic. However, estimates of productivity can be recovered as the difference between actual output and predicted output from input quantities. For example, in a regression of the type

$$\ln Y_i = \alpha + \beta_k \ln K_i + \beta_l \ln L_i + \varepsilon_i \quad (1)$$

TFP is obtained as $\hat{\varepsilon}_i = \ln Y_i - \ln \hat{Y}_i$. Firm productivity can affect input choices. This implies that the error and the regressors in (1) might be correlated and that coefficient estimates obtained with OLS might be biased. A number of solutions have been proposed in the literature to overcome this problem. These include using firm-level fixed effects – that would deal with time-invariant individual effects – and instrumental variable strategy for input choices. Following Olley and Pakes (1996), Levinsohn and Petrin (2000) argued that using information on intermediate input choices such as demand for electricity – which tracks productivity shocks quite closely and cannot be stored – one can effectively control for productivity shocks and thus obtain consistent and unbiased estimates of β_k and β_l (see discussion in Hallward-Driemeier et al., 2002, and Gatti and Love, 2005).

Estimates are obtained using pooled OLS across sectors and OLS estimated separately by sector. Value added TFP is employed further on to perform robustness checks on the estimation of the impact of the credit variable. In order to correct for the possible simultaneity bias of OLS estimation, instrumental variable estimation is applied. This appears suitable to the structure of the dataset and the information it contains. Instruments that are correlated with the input choice but not directly with productivity are likely to perform well. Although in a cross-section setup it is not easy to come across such variables, the survey reports information that might be suitable for this purpose. The amount spent on wages is a natural choice of instrument for (log) employment. Moreover, firms report the average amount of annual sales that they spent since 2001 for new buildings, machinery and equipment, as well as for research and development. These variables were mainly determined in the past - and as such are unlikely to be correlated with current productivity shocks - but are expected to predict the current level of capital. Statistically, they are good predictors of capital and labor and the over-identifying restriction test cannot reject the hypothesis that they are not correlated with the error (productivity) in the main regression.

¹ This analysis was prepared by Roberta Gatti.

Data Description

The FIAS survey contains information on 548 Bulgarian firms sampled according to a number of criteria: (i) size, so as to be representative of SMEs and to include a minimum of 20 percent of large firms; (ii) sectors, so as to mirror the distributions of Bulgarian firms across manufacturing, mining, and services; and (iii) location, so as to include firms for large cities (200), small towns (100), and the capital, Sofia. The survey was carried out in March-April 2004. The survey reports detailed information on administrative and bureaucratic constraints to business and a limited amount of balance sheet-type data.²

Of the surveyed firms, 62 percent work in manufacturing, 7 percent in construction, and 28 percent in service activities. Access to selling markets is fairly dichotomous: 63 percent of the firms sell only domestically: these are mostly micro and small enterprises engaged in manufacturing and services.³ Exporters sell on average more than 60 percent of their output to foreigners, indicating that there might be important costs to setting up production for export. About three-fourths of the exporters sell to EU markets (to Germany, Italy, and Greece). Half of these sell also to Eastern Europe and Central Asia markets, in particular to Macedonia, Russia, and Turkey. About 75 percent of the respondents believe that their products can withstand competition once Bulgaria will have entered the EU market.

Foreign ownership is highly concentrated. About 10 percent of firms in the sample are foreign owned, with an average 71 percent of their capital in foreign hands. Foreign owned firms are mostly large (41 percent) and medium (23 percent) and are concentrated in textile and food (for a total of 77 percent) and services (22 percent).

Firms report to be working at 70 percent of capacity, substantially below their full potential. Capacity differs across sectors, being higher in construction and services, but does not differ significantly between exporting and non-exporting firms. A simple regression indicates that micro firms seem to be working at substantially lower capacity than large firms and that, once size and sector are controlled for, previously publicly owned firms also work at lower than optimal capacity. Although observations within industry category are too few to allow meaningful comparisons, wood and wood products seem to be working at the lowest capacity (54 percent) while construction and other manufacturing are working at the highest.

Firms report to having on average two days of inventory on hand, which, short of a perfect on-time management of inventory, would indicate that they are ill-equipped to deal with any sudden increases in demand. This practice is common across firms of different sizes and sectors (see also the discussion in IFC, 2004).

² See "Investment Climate and Regulatory Cost Survey," IFC, for more details.

³ Firm size is defined as follows: micro enterprises (up to 10 employees); small (between 11 and 50 employees); medium (between 51 and 100 employees); large (more than 100 employees).

Table A.1: Descriptive Statistics of Compliance Variable

	No of obs.	Mean	Standard deviation	Min	Max
All sectors	308	69.18	27.80	0	100
By sector:					
Mining and quarrying	4	68.75	14.36	50	80
Manufacturing	270	68.52	28.26	0	100
Construction	12	77.50	17.65	50	100
Services	22	72.86	28.56	0	100

Notwithstanding the recent explosion in credit growth, firms report “cost of financing” as their main concern. Second on the list is “competitive and informal practices.”

Firms report the value of total sales and fixed assets, as well as information on employees and wages, and of costs as a percentage of total sales. This information - available for a subset of about 190 firms - is used to obtain estimates of TFP.

The information on the administrative constraints faced by firms is particularly rich, including data on licensing requirements, time spent with officials, unofficial payments, and the relationship with tax administration. Although a full-blown analysis of these issues is outside the scope of the present work, this information is used to assess whether bribing and time spent with officials has an impact on productivity.

ANNEX B: DETERMINANTS OF LONG RUN GROWTH: A GROWTH ACCOUNTING EXERCISE⁴

Growth accounting makes it possible to decompose observed real GDP growth into the accumulation of factors of production and the growth rate of total factor productivity. GDP growth can then be seen as a weighted average of the rate of growth of capital and labor, and the so-called “Solow” residual that is commonly interpreted as a measure of technological change.⁵ A number of studies have implemented growth accounting exercises for transition countries, including Dobrinsky (2001) and Boldrin and Canova (2003). The analysis for this CEM adds to these existing contributions along two dimensions: (i) by using updated data up to 2004; and (ii) by providing a detailed account of sources of growth for relevant sub-periods of transition, notably before and after the financial crisis. This is particularly important since the crisis years introduce substantial accounting distortions (for example, in the measurement of investment).

Total Factor Productivity Estimation

Total factor productivity (TFP) is estimated using a standard Cobb-Douglas production function of the type:

$$Y_t = A_t (K_t^\alpha L_t^{1-\alpha})^\beta \quad (1)$$

where Y_t is the aggregate output at time t , K_t is the stock of productive capital, and L_t is labor or productive human capital. α is the share of capital in GDP and β captures the returns to scale. Total factor productivity is measured by A_t and represents the unexplained portion of growth after decomposing it into inputs of production—labor and capital.

Taking logs and differentiating (1) gives the growth in aggregate output Y as a function of the dynamics of input factors and TFP:

$$\frac{\dot{Y}}{Y} = \frac{\dot{A}}{A} + \beta \left[\alpha \frac{\dot{K}}{K} + (1 - \alpha) \frac{\dot{L}}{L} \right] \quad (2)$$

⁴ The growth accounting was performed by Roberta Gatti. Venelin Boshnakov provided excellent assistance. Ana Otilia Nutu and Catalin Pauna provided useful discussions and initial computations.

⁵ There are important caveats to interpreting growth accounting results for policy purposes. First, as we have mentioned, TFP is computed as a residual a growth once the accumulation of capital and labor are accounted for. The accumulation of both factors is likely to be measured with error. It is difficult to quantify capture the quality of the labor force (although we try to correct for this problem using a measure of human capital). Moreover, we do not have information on capacity utilization over time or on the initial capital stock. Second, it is unwise to interpret the decomposition of the results causally. This is an accounting exercise that does not correct for the fact that increases in efficiency cause themselves certain choices of inputs. Finally, TFP growth is estimated under the hypotheses of constant returns to scale and perfect competition. However, if there are increasing returns to scale, increases in inputs translate into more than proportional increases in output. When estimating TFP using the standard assumptions, part of this increase in output would erroneously be attributed to technological growth (Gosh and Kraay, 2000).

where $\dot{X} = \frac{dX}{dt}$.

Output and employment data are available at constant prices for the period 1990-2004. To construct the capital stock series we employ the perpetual inventory model, by accumulating over time annual investment, net of depreciation. Capital stock dynamics is captured by

$$K_1 = K_0 + I_{\text{net}} = K_0 + (I - D)$$

where K_0 and K_1 measure the capital stock in the two periods, I is investment and D is depreciation.

There seem to be no major concerns regarding the accuracy of the measurement of the flow variables, including investment, since gross domestic investment (GDI) and gross fixed capital formation (GFCF) are computed by the Statistical Office (NSI) using relatively reliable standardized methodological norms. However, measuring the capital stock poses substantial challenges. This is not unique to Bulgaria, or even to the transitional economies of Central and Eastern Europe, as it is well known that measures of physical capital at book value, as reported traditionally for fiscal purposes, are poor proxies for the size of the physical capital stock of a company.

A number of alternative hypotheses are used to obtain a measure of initial capital in order to assess the sensitivity of our results to assess their sensitivity to initial conditions. For a Cobb-Douglas production function with constant returns to scale ($\beta=1$) we first present the results of the decomposition for an initial capital to output ratio (in 1980) of 1.5 (baseline 1 - consistent with much of the existing work). Next, we use actual data for gross capital formation in 1980 (as reported by NSI) to backtrack the value of the capital-to-output ratio.⁶ To do so, we first assume a depreciation rate of 7.5 percent and of 6 percent a year (baselines 2 and 3). Capital accumulation is then computed with the perpetual inventory method, using actual data for gross fixed capital formation and a constant depreciation rate of 6 percent. Our assumption on depreciation rates is consistent with Dobrinsky (2001) but higher than 4.0 percent used, for example, by Boldrin and Canova (2003). We believe that a higher depreciation rate is more suitable for a country like Bulgaria where, especially in the early 1990s, the slow accumulation of new productive capital and the quality of the capital stock inherited from the pre-transition period resulted in a higher depreciation rate than in other Eastern European countries, such as the Baltic states. For all of the exercises, we report estimates for alphas of 0.3, 0.4, and 0.5.

Labor is taken to equal the labor force (working age individuals between 15 and 64 years of age). However, as TFP is estimated as a residual, it is important to adjust the contribution of labor to growth to account for differences in quality over time. We use information on educational attainment for the labor force and existing estimates of returns to education to compute a measure of human capital (H). We compute these adjustments using two alternative methods:

⁶ TFP is also estimated under the hypothesis of increasing returns to scale ($\beta=1.2$) for the Cobb-Douglas production function. Results are available upon request.

- (i) The methodology employed by Loayza et al. (2004) is applied to compute human capital H as a weighted average of the shares E_j of the labor force with education level j , where the weights W_j are the returns to schooling at each educational level. As a result, $H = \sum_j W_j E_j$. In this computation, we use data on the structure of the labor force by education from NSI and annual returns to education from Jolliffe (2001), who estimated a Mincerian regression using 1995 household data. From these annual returns, we compute weights as follows. The coefficient is 1 for basic or lower education. For higher levels, the weights are computed as $W_j = (1 + x)^{(n_j - n_0)}$ where x is the return to one extra year of schooling at level j and $(n_j - n_0)$ is the difference between year of schooling at completed level j and basic education.
- (ii) We follow Gosh and Kraay (2000) to compute human capital as $H = e^{(y*s)}L$, where the annual return to schooling, s , is assumed to be 6 percent, and y represents the average number of years of schooling for the labor force (baseline 6).

These adjustments are applied to all three baselines.

ANNEX C: A MODEL OF BULGARIA'S GROWTH CYCLE

This section describes the model that generated the simulations shown in Figure X of the main text, which replicates the main aspects of the transition. The objective of this stylized version of transition is to focus on a few aspects of the economy that are crucial in explaining the phases of Bulgaria's growth cycle and, in particular, the speed of the current recovery.

The starting point is a version of the standard Solow (1956) growth model. At the beginning of the transition total output may be produced using old capital K_o and old technology, A_o , and new capital, K_n , and new methods of production, A_n . Total GDP is given by:

$$(1) Y_t = A_n K_{nt}^\alpha + A_o K_{ot}^\beta$$

where:

- A_i is an index of total factor productivity. When technology is new, $i = n$; when it is old $i = o$.
- New technology is more productive than old technology, i.e., $A_n \geq A_o$
- K_{jt} is the capital stock. If $j = o$ capital is "old", if $j = n$ capital is "new".

At the beginning most capital is old and the dominant exchange technology is A_o . The *initial output collapse* is the result of breaks in the planning system, which governs exchange transactions among economic units. This is the phenomenon called "disorganization" by Blanchard and Kremer (1997), and is represented by a fall in productivity from A to A_o . Disorganization occurs because A is not immediately replaced by A_n , which is linked to new investment.⁷

The remaining part of the output loss is the result of the immediate obsolescence of part of the capital stock caused by contact with higher quality goods and services. In a nutshell, part of Bulgaria's stock of capital was equivalent to 'black and white TVs, which could project an image and were useful while there were no "plasma TVs" but became obsolete the moment the consumer opportunity set expanded to include more advanced, internationally available, technologies. This implies that there will be no new investment in old capital inputs and the stock will decline over time at a pace that depends on depreciation and the ability to transform old into new capital. This is captured in equation (2):

$$(2) K_{ot} = (1 - \delta_o) K_{ot-1}$$

where:

δ_o is the rate of depreciation of the old capital stock.

⁷ Before the breakdown of planning the technology parameter is $A \geq A_o$.

The *cumulative output loss* occurs because there is not an instantaneous adjustment of the capital stock. Initially, most of the output is produced using the old technology and because A_o is lower than before, there is a marked fall in per capita GDP. As time goes by, GDP continues to shrink as the old stock depreciates at an annual rate of $(1 - \delta_o)$ and the absolute output loss is not offset by the parallel increase in output produced using the new technology.

Transition occurs as new capital replaces old capital, and new capital evolves as a result of investment. New capital evolves over time according to:

$$(3) K_{nt} = (1 - \delta_n)K_{n,t-1} + I_{nt}$$

and

$$(4) I_{nt} \leq DS_t + FS_t$$

where:

δ_n is the rate of depreciation of the new capital stock;

I_{nt} is investment in new capital in period t;

DS_t is domestic savings in period t;

FS_t is foreign savings in period t.

Until 1998, Bulgaria's transition was characterized by stop and go policies and political uncertainty. As a consequence, the economy suffered a long period of output decline, with an initial collapse in output followed by a "second dip" in the middle of the decade. The protracted recession during the transition would have been shorter if market rules had replaced planning rules overnight, but that was impossible. Political uncertainties delayed reform thus aggravating the negative effects caused by the existing institutional vacuum. Slow and partial reform increased the output losses, a phenomenon that Murphy, Shleifer and Vishny (1992) have termed the cost of "partial reform."

The *speed of growth since the trough* is determined by new investment. It would be optimal to instantaneously adjust the capital stock to the new equilibrium level but new investment is constrained by domestic savings, the capacity to attract foreign savings and the capacity to transform old capital into new capital (see equation (4))

In the model, domestic savings is a constant fraction, s , of GDP, a fraction that was probably lower at the bottom of the output trough. Foreign savings are a function of expectations held by foreign investors about possible future profits. Again, the more uncertain was the political and economic environment, the lower was the capacity to attract foreign direct investment.

The capacity to transform old capital into new capital in the economy is low because a large share of investment is irreversible and institutional barriers and regulatory constraints interfere with the reallocation of existing factors of production

to new uses. Still, we assume that there is a fraction ε of the old capital stock that can be transformed annually into new capital.

The model in equations (1)-(3) is calibrated using some simplifying assumptions and simulated. The simulated time-paths depicted in Figure X of the main text were generated, from lowest to highest, respectively, using investment rates of 15 percent, 17 percent (the 1990-2003 average for gross capital formation as a percent of GDP in Bulgaria), and 19 percent (the 1998-2003 average for gross capital formation as a percent of GDP in Bulgaria).

The path predicted by the model reproduces the U-shaped output cycle that characterized Bulgaria and other transition countries. The trough and the speed of recovery following the initial fall of output depend on technological parameters and on the rate of investment in the economy. Note that with the 19 percent savings rate, the trough becomes negligible.

Matlab Code for the Simulations in Figure C.1:

```
% This is a simple growth model for Bulgaria.
% It intends to describe the U-shaped behavior of GDP
% during the transition.
% GDP (y) is produced with old (o) and new (n) technologies
% that coexist for awhile
%  $y(t)=A_n*(k_n(t))^\alpha+A_o*(k_o(t))^\alpha$ 
% Old capital,  $k_o(t)$ , evolves according to  $k_o(t)=(1-\delta_{o})*k_o(t-1)$ 
% New capital,  $k_n(t)$ , evolves according to  $k_n(t)=(1-\delta_{n})*k_n(t-1)+i_n(t)$ 
% Investment in new machinery  $i(t)$  is determined by
%  $i(t)=s*y(t)$ 
% First the parameters of the model are specified
clear
% New and Old TFP ( $A_n$ ) and ( $A_o$ ) are
An=1.3;
Ao=1;
% Capital's Income Share is alpha
alpha=.8;
% New capital depreciates at a rate that is higher than old capital
deltan=.04;
deltao=.1;
% The savings rate is initially assumed to be 17% , the 1990-2003 average
s=0.15;
% The initial old capital stock is assumed to be 10 times greater
% than the initial new capital stock
ko0=1000;
kn0=100;
% The simulation is run for 50 periods
T=50;
% The equation we want to solve is:
%  $k_n(t)=(1-\delta_{n})*k_n(t-1)+s*(A_n*k_n(t)^\alpha+A_o*k_o(t)^\alpha)$ 
% This equation is valid for  $t=1$  onward.
% Given  $t=1$  we have:
```

```

% kn(1)=(1-deltan)*kn(0)+s*(An*kn(1)^alpha+Ao*ko(1)^alpha)
% New initial output, F(kn(1)), equals F(kn(1))=kn(1)-B1-C1*kn(1)^alpha
% where B1=(1-deltan)*kn(0)+s*Ao*ko(1)^alpha
% and C1= s*An
% once Kn(1) is solved, the problem can be iterated to solve for the next
% period's capital
% Kn(2)=(1-deltan)*kn(1)+s*(An*kn(2)^alpha+Ao*ko(2)^alpha)
% and repeated. The

```

```

for t=1
    kn1(t)=(1-deltan)*kn0+s*(An*kn0^alpha+Ao*ko0^alpha)
    ko1(t)=(1-deltao)*ko0
end
for t=2:T
    kn1(t)=(1-deltan)*kn1(t-1)+s*(An*kn1(t-1)^alpha+...
Ao*ko1(t-1)^alpha)
    ko1(t)=(1-deltao)*ko1(t-1)
end
kn1=[kn0 kn1(2:T)]
ko1=[ko0 ko1(2:T)]
y1=An*kn1.^alpha+Ao*ko1.^alpha
i1=s*y1

```

```

s=0.17;
ko0=1000;
kn0=100;
T=50;
for t=1
    kn2(t)=(1-deltan)*kn0+s*(An*kn0^alpha+Ao*ko0^alpha)
    ko2(t)=(1-deltao)*ko0
end
for t=2:T
    kn2(t)=(1-deltan)*kn2(t-1)+s*(An*kn2(t-1)^alpha+...
Ao*ko2(t-1)^alpha)
    ko2(t)=(1-deltao)*ko2(t-1)
end
kn2=[kn0 kn2(2:T)]
ko2=[ko0 ko2(2:T)]
y2=An*kn2.^alpha+Ao*ko2.^alpha
i2=s*y2

```

```

s=0.19
for t=1
    kn3(t)=(1-deltan)*kn0+s*(An*kn0^alpha+Ao*ko0^alpha)
    ko3(t)=(1-deltao)*ko0
end
for t=2:T
    kn3(t)=(1-deltan)*kn3(t-1)+s*(An*kn3(t-1)^alpha+...
Ao*ko3(t-1)^alpha)
    ko3(t)=(1-deltao)*ko3(t-1)

```

```
end
kn3=[kn0 kn3(2:T)]
ko3=[ko0 ko3(2:T)]
y3=An*kn3.^alpha+Ao*ko3.^alpha
i3=s*y3
```

```
kn = [kn1' kn2' kn3']
ko = [ko1' ko2' ko3']
y = [y1' y2' y3']
i = [i1' i2' i3']
```

```
subplot(2,2,1)
plot(kn)
title('new capital')
subplot(2,2,3)
plot(y)
title('gdp')
subplot(2,2,2)
plot(ko)
title('old capital')
subplot(2,2,4)
plot(i)
title('investment')
```

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ANNEX D: CROSS-COUNTRY CONVERGENCE MODEL

This annex presents a cross-country convergence model to examine per capita income growth in Bulgaria in the context of transition countries and to assess the extent to which Bulgaria's growth has exceeded or fallen short of the predictions of a conventional cross-country convergence framework.

Table D.1 reports growth rates for the 28 transition countries starting from 1991. Overall, growth rates proved to be highly variable, with a standard deviation of annual growth of about 8.7 percentage age points, more than 10 times the average growth in the whole period. High growth variability reflects, among other things, the output effects of the wars in the Balkans, and of the financial crisis and high inflation rates that at different times have plagued the region. Thus, it is not surprising to find a negative correlation between growth variability and average growth rates (Figure D.1). Growth variability in Bulgaria was overall substantially lower than average (5.6 % age points), being predictably higher around the years of financial crisis.

Although the initial output fall (and negative growth rates) characterized the transition in all of the countries, marked differences in growth patterned by country groups and regions became evident early on the process. It is standard to group transition countries according to a mix of criteria relating to a number of geographic, performance-based, and political characteristics. Although these groupings are certainly useful for summarizing styled facts, finding suitable comparators to assess a single country's performance is not an easy task. For example, using geographical criteria can be misleading as regions encompass diverse experiences that are not necessarily meaningfully comparable. When compared to the performance of other Balkan countries, Bulgaria's growth is substantially above average. However, this reflects diverse effects, among which were wars (directly affecting Bosnia, Croatia, and Serbia) and deep financial crises (Bulgaria and Albania). Similarly, comparisons of the performance of EU accession countries versus non-EU accession countries, selects samples according to ex-post performance, making the drawing of inferences problematic.

Cross-country regressions are useful tools for assessing a country's growth performance without encountering these problems. In particular, the analysis makes it possible to compare a country's actual growth rate with its predicted values from a set of variables that proxy for that country's structural and policy characteristics. These estimates are particularly intuitive in the context of a simple conditional convergence framework where subsequent per capita income growth rates are predicted to be negatively correlated with initial income once the position of a country's steady state is suitably controlled for.⁸

⁸ An alternative approach compares cumulative growth rates across countries since the lowest point of recession with the level of income at the trough of recession (see EBRD, 2004). However, making inferences from this approach is problematic because the breakpoints are endogenous to the growth process.

Table D.1: Level of GDP per Capita in the Start of Transition (constant 1995 US\$) and GDP per Capita Annual Growth (%), 1991-2003

	1991												Average growth rate 1991-2003		
	GDPpc	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002	2003
Albania	606.9	-27.9	-7.2	10.2	10.7	10.8	10.5	-9.6	13.1	9.9	6.6	6.6	3.7	6.9	2.70
Armenia	703.5	-10.9	-38.7	-6.1	8.5	8.0	6.4	3.9	8.3	4.0	6.5	9.3	12.9	11.9	0.75
Azerbaijan *	759.2..	..	..	-24.3	-20.8	-12.8	0.3	4.8	9.0	6.5	10.2	9.0	9.7	10.5	-0.67
Belarus	2068.2	-1.4	-10.0	-8.0	-11.7	-10.2	3.1	11.7	9.4	4.4	6.1	5.7	5.7	6.1	0.53
Bosnia and Herzegovina ***	424.6.	..	..	..	28.5	79.7	32.3	12.2	6.5	2.8	2.4	2.4	2.4	3.0	16.83
Bulgaria	1586.9	-7.5	-6.3	-0.7	2.3	3.3	-8.9	-5.1	4.6	2.9	6.5	6.9	5.5	4.9	0.48
Croatia	4538.4	-16.5	-10.9	-11.4	5.7	6.4	10.0	5.0	4.1	-2.0	6.9	3.1	5.1	4.0	0.40
Czech Republic	4681.5	-11.1	-0.6	-0.5	2.7	6.0	4.5	-0.7	-1.0	0.6	3.4	3.6	2.2	2.9	0.82
Estonia	3534.6	-7.5	-19.7	-5.8	0.1	6.2	5.5	11.0	5.6	0.1	7.8	6.9	6.5	5.3	1.34
Georgia	1377.5	-21.4	-44.4	-27.6	-7.9	5.4	14.1	12.7	4.0	3.8	2.6	5.5	6.2	9.4	-4.67
Hungary	4287.6	-11.7	-2.9	-0.3	3.3	2.1	1.3	4.6	5.9	4.2	6.2	3.8	4.5	0.7	1.56
Kazakhstan	1819.2	-10.8	-5.0	-8.7	-11.8	-7.5	2.0	3.3	-0.2	3.7	10.1	13.7	9.8	8.7	0.23
Kyrgyz Republic	677.9	-9.1	-15.7	-15.4	-20.0	-6.4	5.5	8.3	0.6	2.2	4.4	4.5	-1.1	3.9	-3.38
Latvia	3245.6	-10.1	-34.1	-13.4	2.1	0.5	4.7	10.2	6.5	3.7	7.7	8.5	7.2	8.1	-0.74
Lithuania	3218.5	-5.8	-21.2	-15.8	-9.1	4.1	5.5	9.8	8.1	-1.0	4.7	6.9	7.1	7.0	-0.49
Macedonia, FYR	2764.9	0.9	-7.0	-7.9	-2.5	-2.1	0.3	0.7	2.8	3.9	4.1	-4.9	0.7	2.5	-0.72
Moldova	841.3	-16.1	-16.0	-1.0	-31.0	-1.4	-5.7	1.9	-6.3	-3.2	2.3	6.3	8.0	6.5	-4.93
Mongolia	436.7	-10.8	-10.9	-4.5	0.8	4.8	1.1	2.8	2.4	2.3	0.3	0.4	2.8	3.4	-0.52
Poland	2771.9	-7.3	2.3	3.5	5.0	6.9	5.9	6.7	6.8	4.8	4.1	4.0	1.1	4.9	3.68
Romania	1484.2	-12.8	-7.3	1.7	4.1	7.4	4.3	-5.9	-4.6	-1.0	0.7	5.4	7.2	5.6	0.19
Russian Federation	4068.0	-5.3	-14.6	-8.6	-12.5	-4.0	-3.3	1.7	-5.0	6.8	10.6	5.7	5.2	7.8	-1.50
Serbia and Montenegro ****	1709.5..	..	..	..	..	..	..	7.3	2.7	-17.9	5.5	5.7	4.3	5.5	1.50
Slovak Republic	3637.1	-14.6	-7.1	-4.0	5.8	5.5	5.9	4.4	4.1	1.4	1.9	3.7	4.3	4.8	1.05
Slovenia **	8710.6..	..	..	..	4.0	3.9	3.7	4.8	3.9	4.9	4.4	2.8	3.0	3.5	3.89
Tajikistan	502.6	-9.8	-30.4	-12.1	-20.4	-13.8	-5.9	0.2	3.4	3.2	8.1	9.2	7.9	7.8	-4.86
Turkmenistan	1005.8	-7.4	-8.0	-12.5	-19.5	-9.5	-8.8	-13.1	4.7	14.4	16.6	18.5	17.9	15.3	-0.25
Ukraine	1768.1	-8.6	-10.0	-14.3	-22.6	-11.5	-9.3	-2.2	-1.2	0.6	6.8	10.1	6.0	10.2	-4.03
Uzbekistan	781.8	-2.6	-13.3	-4.5	-7.0	-2.7	-0.2	3.2	2.6	2.8	2.7	2.9	2.9	3.0	-0.89

Note: Initial levels of GDP are measured for: * 1992, ** 1993, *** 1994, **** 1996.

Figure D.1: Growth Variability versus. Growth Rates during the Period 1991-2003 for Transition Countries

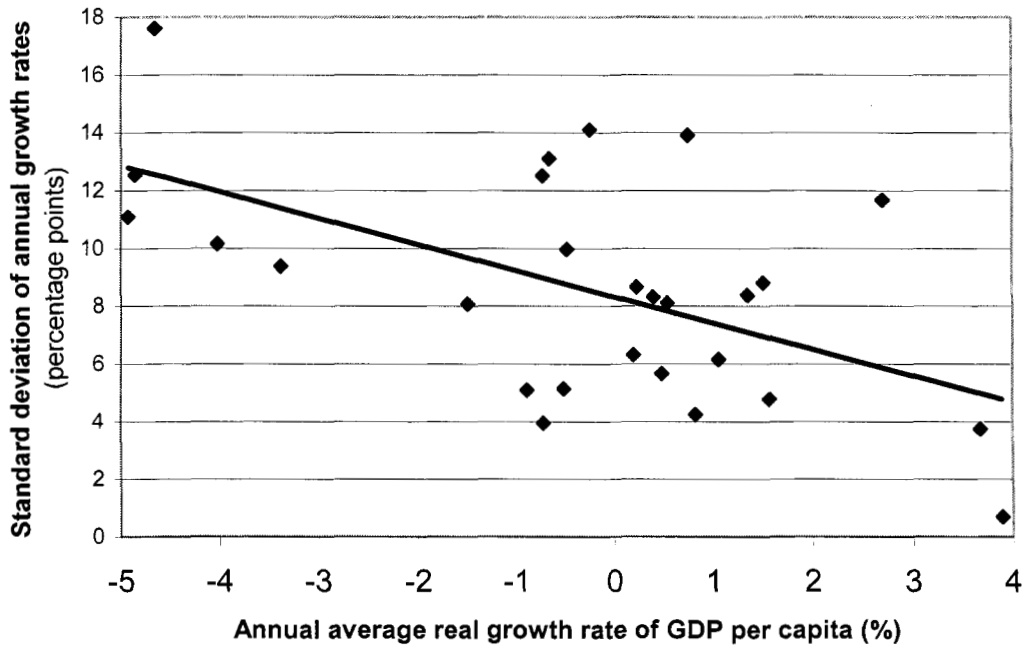
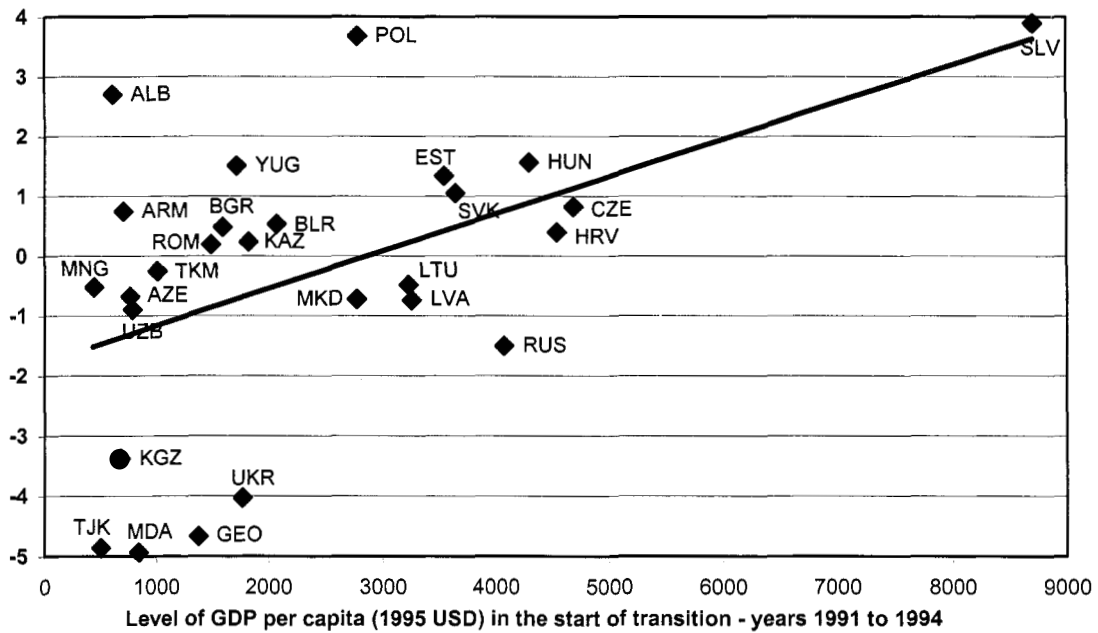


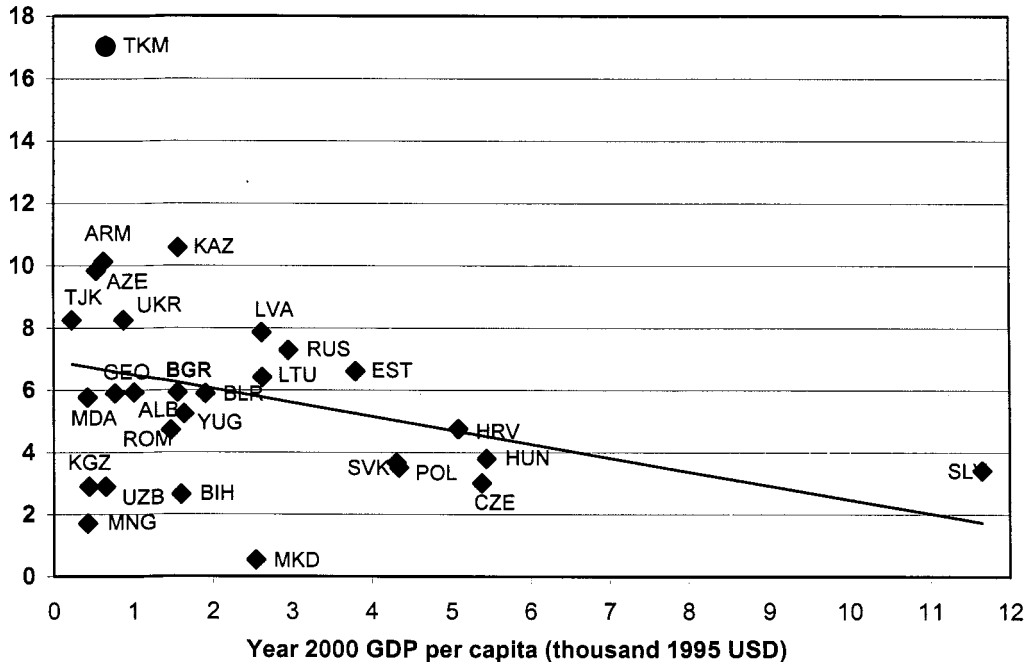
Figure D.2: Average Annual Real Growth Rate of GDP per Capita (%), 1991-2003



A simple correlation between initial GDP per capita in 1991 (for most countries) and subsequent growth up to 2003 does not provide any evidence of absolute (or unconditional) convergence over the whole period. It is noted that, in this simplified

context, Bulgaria's performance is in line with countries that had similar initial income levels. In contrast, recent data suggest a fairly marked convergence pattern (Figure D.3) highlighting that, over time, countries' rank in per capita income changed and, overall, a closing of the gaps across steady state positions might have occurred.

Figure D.3: Average Annual Real Growth Rate of GDP per Capita (%), 2000-2003



It should be noted, however, that simple correlations between initial income and growth can be misleading as, among other factors, suitable proxies for the position of the steady state are unaccounted for. Table D.2 reports the results of some basic cross-country regressions for transition countries which include initial income as well as a basic set of variables that are often used as proxies for the steady state (for example, the quality of institutions) and for policy proxies. In view of the wealth of existing literature on cross-country growth determinants – world-wide and for transition countries only – the objective of this work is not to obtain new and exhaustive estimates for standard cross-country regressions for transition countries, but instead to use the resulting estimates to assess Bulgaria's growth performance in the context of the other transition countries. Columns 1 and 2 report results from a small panel of 3-year and 5-year periods, respectively, per country, while column 3 reports benchmark results for the same two periods panel for a world sample.

Table D.2: Cross Country Growth Regressions

Sample	(1)	(2)	(3)
	Average annual growth rate for the period	Average annual growth rate for the period	Average annual growth rate for the period
	Transition countries	Transition countries	Whole world
lgdppc	-0.113 (0.14)	-0.977 (0.77)	-0.761 (3.00)**
open	-0.009 (0.41)	-0.004 (0.18)	0.004 (1.28)
Inflation, consumer prices (annual %)	-0.016 (2.05)	-0.018 (2.16)*	0.000 (0.20)
School enrollment, secondary (% gross)	-0.023 (0.50)	0.015 (0.26)	-0.001 (0.10)
Resources	0.766 (0.85)	1.103 (1.02)	
ye1995	5.975 (3.52)**		
ye2000	8.113 (3.63)**	1.763 (1.53)	0.305 (1.04)
(control of)corruption		0.408 (0.27)	0.880 (2.72)**
Continent dummy: EAP			-0.116 (0.20)
ECA			1.572 (2.53)*
SSA			-1.947 (2.92)**
SA			-0.666 (0.85)
MENA			-1.284 (2.15)*
LAC			-1.669 (3.08)**
Constant	1.419 (0.30)	10.320 (1.10)	8.156 (4.24)**
Observations	49	41	254
R-squared	0.70	0.36	0.24

Notes: Dependent variable: GDP per capita growth (Source, WDI (2004). Regressors: (log) GDP in 1995 constant dollars (WDI, 2004); Open=import+export shares in GDP (WDI, 2004), Secondary school enrolment, gross (WDI, 2004), Resources=0, if country is resource poor, =1, if country has moderate level of natural resources,=2, if the country is rich in natural resources (Falcetti et al., 2003); Corruption=control of corruption (Kaufmann et al., 2004). Robust t statistics in parentheses. * significant at 5 percent; ** significant at 1 percent.

The panel specifications contain a parsimonious set of regressors to capture conditional convergence.⁹ These include: initial (log) per capita GDP; structural and institutional policies (control of corruption from Kaufmann et al., 2004); openness (export plus import shares in GDP); stabilization policies (inflation rates), and of human capital (as proxied by the level of secondary education). Because of selected data availability we end up with a small unbalanced panel for a total of 21 countries.

It is first noted that there is a high dispersion of growth due, among other factors, to the effects of the oil shock in resource rich countries.¹⁰ Unsurprisingly, Bulgaria's growth is below that predicted in the period 1995-1999, reflecting the disruption following the financial crisis. As a consequence of low growth, Bulgaria fell in the country ranking of per capita income at the beginning of the following period (2000). In 2000-03 Bulgaria's growth is instead slightly above what is predicted on the basis of its initial income controlling for openness level, control of corruption, inflation and time dummies.¹¹

⁹ An alternative approach is to estimate growth in a cross-sectional setup. Using our short panel, however, allows us to better visualize how country rankings in terms of per capita income at the beginning of the period changed over time.

¹⁰ Note that including a variable indicating the extent to which countries are resource-rich does not substantially change the estimates.

¹¹ A vast literature discusses the merits of alternative estimation methods for cross-country regressions (see Caselli et al., 1996).

ANNEX E: THE INFORMAL ECONOMY¹²

The key elements in the estimation of the size of the informal economy in this CEM are time series data on currency holdings and an error correction model. Information on tax compliance from the FIAS firm survey is used to analyze the determinants of informality.

Methodology

In this study, the basis for estimating the volume of unrecorded economic activity is the demand-for-currency approach. This approach is based on the pioneering work of Cagan (1958) who correlated demand for currency and tax pressure for the United States over the period 1919-1955. Cagan's approach was further developed by Tanzi (1980, 1983) who econometrically estimated a demand for currency function for the United States for the period 1929-1980. The underlying assumption is that transactions related to the shadow economy are undertaken in the form of cash payments in domestic currency. In turn, individuals and firms underreport economic activity to avoid taxation.

This approach relies on the unique characteristic of banknotes when they are used to settle transactions. Anonymity of payments makes banknotes the best vehicle for the settlement of unrecorded transactions (Goodhart, 2000). Economic agents who want to hide their business activity can choose to use domestic or foreign banknotes. If the domestic currency is sufficiently stable and agents that are involved in hidden economy transactions are mainly domestic, the demand for domestic currency can serve as a good proxy for the scope of the unrecorded economic activity.

In standard theories of money demand, money may be demanded for at least two reasons: as an inventory to smooth differences between income and expenditure streams, and as one among several assets in a portfolio. Since we assume that all transactions in the shadow economy are settled in the form of cash payments, demands for currency functions have to control for conventional factors such as: income, payments habits, interest rates, exchange rates, and also the major factors causing people to work in the shadow economy. The basic regression equation for currency demand proposed by Tanzi (1983) is:

$$(1) \quad \ln\left(\frac{C}{M_2}\right)_t = \alpha_0 + \alpha_1 \ln T_t + \alpha_2 \ln\left(\frac{WS}{Y}\right)_t + \alpha_3 \ln R_t + \alpha_4 \ln\left(\frac{Y}{N}\right)_t + \varepsilon_t$$

with $\alpha_1 > 0, \alpha_2 > 0, \alpha_3 < 0, \alpha_4 < 0$

¹² This work was prepared by Roberta Gatti, World Bank, and Kalin Hristov, Bulgarian National Bank.

where \ln denotes natural logarithms; C/M_2 is the ratio of cash holding to current and deposit accounts; T is a weighted average tax rate (to proxy incentives to do business in the unofficial economy); WS/Y is a proportion of wages and salaries in national income which is used to capture changing money holding patterns; R is the interest rate paid on savings deposits and, thus, a proxy for the opportunity cost of holding cash; and Y/N is a per capita income that captures the development of the economy. The expected sign for both per capita income and the interest rate is negative, while the expected sign for both taxes and ratio of wages and salaries in national income is positive. From equation (1), the estimates of the underground economy can be derived as follows:

1. The predicted level of the currency ratio C/M_2 can be derived from the estimated regression. Given the actual figure of M_2 for each observation within the sample, the predicted level of currency holdings can be calculated (\hat{C}).

2. The next step is to solve equation (1) assuming that the tax variable is zero while the coefficients of other variables remain unchanged. The estimated demand for currency is defined as (\hat{C}). The difference between C and \hat{C} provides information for the accuracy of the fit of the estimated equation. The difference between \hat{C} and \hat{C} gives the estimation of how much currency is held due to tax reasons. The difference between these two estimations provides an estimation of the “illegal currency” in circulation (\hat{C}_I). The difference between actual total currency in circulation (C) plus demand deposits (D), which is money in circulation (M_1), and estimated “illegal currency” yields the estimated “legal currency” in circulation for transaction purposes (\hat{C}_L). Dividing GDP by legal currency gives an estimate of the income velocity of legal currency (v_L). Assuming that illegal and legal currency have the same velocity, an estimate of unrecorded economy can be derived by multiplying illegal currency by the velocity of currency. In short,

$C + D \equiv M - \hat{C}_I = C_L$. Money velocity is $v_L = \frac{\hat{C}_L}{GDP_L} \equiv v_I$ so that the estimate of the

informal economy is recovered as $H = \frac{v_I}{\hat{C}_I}$.

Description of the Data

Data on currency in circulation and its structure by denominations is available from the official statistics of the central bank. The estimation of the equation of the demand for currency can provide useful information for inferring the volume of unrecorded economic activity. The basic underlying assumption of this approach is that agents choose not report economic activity to avoid taxation. In this context, informal activity is seen as a direct consequence of high taxes.

Standard demands for currency equations based on the Tanzi model use a logarithmic specification of a single equation in levels. Since most of the variables

included in the specification are non-stationary, consistent estimates can be obtained by the single-equation error correction model (ECM). Cointegration analysis helps to establish long-run relationships among integrated variables. Single equation ECM requires weak exogeneity of independent variables, which implies that the cointegrating vector and the feedback coefficients enter only the currency in circulation equation.

Assuming one cointegration relationship among the variables of interest and weak exogeneity of taxes, wage income to nominal GDP ratio, real GDP per capita, interest rate, and exchange rate allows us to use a single-equation ECM. The aim of the modeling exercise is to identify the model with the best forecasting properties and to derive an estimation of unrecorded economic activity using the methodology described in the previous section.

We use quarterly data covering the period from the first quarter of 1998 to the third quarter of 2003.

Because of the high level of asset and currency substitution, we estimate two separate specifications where different variables approximate the opportunity cost of currency holdings. In the first equation we use the weighted interest rate on deposits. In the second equation we use the BGN/U.S. dollar exchange rate, which is measured as the quarterly average BGN/U.S. dollar exchange rate. This variable captures the opportunity costs of domestic currency holdings. In addition the exchange rate variable controls also for the variation in broad money (M3) that is caused by exchange rate volatility. Since 20 percent of deposits are denominated in U.S. dollars, exchange rate volatility affects the volume of broad money and currency to broad money ratio.

The wage income variable is taken from national accounts estimates. The variable comprises only labor income generated within the economy. Social security and health insurance contributions are accounted for in the tax variable.

In order to measure the real tax burden within the economy, we deviate from the Tanzi (1983) specification. The tax variable that we use includes revenues from direct taxes (corporate and personal income tax), indirect taxes (value added tax, excises and customs duties) and social security and health insurance contributions. Tanzi's model uses a tax variable that measures only income tax, thus implicitly assuming that there are no incentives to hide labor or avoid indirect taxes. To capture the incentives to underreport activity in order to generate an unofficial cash flow that can be used to pay bribes, we include in the regression a proxy for the control of corruption in the economy (from Kraay et al., 2003).

Estimating the following equation, we derive a range estimation for the volume of unrecorded economy.

$$\Delta\left(\frac{c}{m3}\right) = \text{cons tan } t + \alpha_1 * \Delta\left(\frac{c}{m3}\right)_{-1} + \alpha_2 * \Delta\left(\frac{t}{yn}\right) + \alpha_3 * \Delta\left(\frac{wi}{yn}\right) + \alpha_4 * (yr) + \alpha_5 * (x) - \\ - \beta \left[\frac{c}{m3} - \delta_1 * \frac{t}{yn} - \delta_2 * \frac{wi}{yn} - \delta_3 * yr - \delta_4 * i \right]_{-1} + \text{seasonals} + \text{coc} + \varepsilon$$

Where small letters refer to natural logarithm and Δ is a first difference.

C – is currency in circulation

$M3$ – is broad money

T – is the total amount of taxes collected by the Government

Yn – is nominal GDP

Wi – is the wage income in the economy

Yr – is real GDP per capita – is BNG/USD exchange rate

$x=i$, the weighted interest rate on deposits in domestic currency in model (1) and

$x=e$, BNG/USD exchange rate in model (2)

coc – is a variable which measures the control of corruption in the economy.

Firm-level Evidence on Compliance: Hypotheses and Methodology

As with other illegal business practices, it is not easy to obtain data on the extent of activity in the informal sector by firms. However, the FIAS survey contains the following question: “Recognizing the difficulties many enterprises face in fully complying with taxes and regulations, what percentage age of total sales would you estimate the typical establishment in your area of activity reports for tax purposes?” (henceforth COMPLIANCE). Answers to questions about “typical firms in your area of activity” are routinely interpreted as answers about one’s own firm, with the advantage that respondents are willing to answer truthfully. This survey approach is common practice in work on corruption (see for example, the work of Svensson, 2002). In the discussion that follows, we first examine the incentives to underreport economic activity and then discuss the results from an estimation of the correlates of the extent of informal activity. Estimation is conducted by OLS, correcting for possible heteroskedasticity in the error structure.

In the FIAS survey, 356 firms report information on COMPLIANCE. On average, 88 percent of the output appears to be reported for tax purposes. As predicted, compliance is lowest in micro firms (81 percent) and highest in medium-large firms (93 percent). Across sectors, compliance is lowest in services (86 percent) and highest in construction (94 percent). In this context, regression analysis is useful to disentangle the individual contributions of the different determinants of informality. In particular, we investigate three competing hypotheses:

- (i) *Tax rate hypothesis.* Consistent with the discussion in the previous section, we investigate whether being subject to a higher tax rate amounts to an incentive to avoid taxation. In the data we are able to discriminate between sole proprietor firms, which pay personal taxation with a rate up to 29 percent (the highest

bracket),¹³ and incorporated firms, which in 2004 paid the 19.5 percent corporate tax rate. In our sample, 76 percent of firms are incorporated.¹⁴

(ii) *Enforcement hypothesis.* The differential enforcement of tax laws can constitute a further incentive to avoid tax compliance. Anecdotal evidence suggests that it might be easier for small firms to hide their output, as outside control over their activities is minimal. Note that the overlap of micro and small firms with firms with sole proprietorship is far from perfect. Fifty-seven percent of micro firms are not incorporated, while 16 percent of small firms are not incorporated. As predicted, most of the medium forms (94 percent) and virtually all of the large firms are incorporated. The lack of collinearity among incorporation (our proxy for the incentive to avoid higher tax rates) and size (especially among micro and small firms) will allow us to disentangle the two hypotheses.

(iii) *Bribe hypothesis.* There are many angles to the link between the informal economy and corruption (see Johnston et al., 1999). For example, firms might have to pay tax authorities in order to be able to avoid the tax burden. However, in an economy where corruption is systemic, firms might have to generate unofficial output to be able to pay bribes to conduct their ordinary business. To assess whether this is the case, we use information on bribe paying to tax authorities as well as information about the overall level of corruption. Respondents report how regularly they must make unofficial payments “to deal with taxes and tax collection” (TAXOBST3, Q. C51g). 9 percent of firms in the relevant sample report paying tax authorities from time to time or more often. In separate sections, firms report unofficial payments related to registration, connection to utilities, application for permits and licenses, etc.

Firms also independently report the share of output that they have to pay in bribes to government officials. Thanks to such detailed information we are able to build different measures of corruption, including total bribe paying built as the sum of all unofficial payments made for registration procedures (section c25), licenses and permits (section c27), land acquisition and cadastre registration (section c30), construction permits (section c32), connection to utilities (section c34) and customs (section c42). About 13 percent of firms report bribe amounts, averaging 30,000 BGN (circa US\$ 12,000) for those who made payments. To smooth outlier observation, we will use the log of this sum (LNBRIBES_ALL). In a separate section, firms report the percentage of output they spend on bribes – an average of 1.1 percent overall, 6 percent for those who report positive values. Finally we can combine the two sources of information into bribe paying dummies – DBRIBE1, taking a value of 1 if firms report payment amounts or a

¹³ A 2,000 BGN flat tax is imposed on small business with turnover below 50,000 BGN. In the sample, 35 companies reported sales below 50,000 BGN, 20 of which are sole proprietors. Note that the highest tax bracket applied in 2004 to annual incomes above 7,000 BGN. All of the non-incorporated firms reporting positive profits, reported profits above this threshold.

¹⁴ This percentage is indistinguishable from the percentage of incorporated firms in the full sample of 548 firms (77 percent).

non-zero percentage age of output spent on unofficial payments; and DBRIBE2, taking a value of 1 if they report making unofficial payments (but not necessarily their amount) or a non-zero percentage age of output spent on unofficial payments. All of these measures are highly correlated and help in reducing the substantial measurement error associated with answers on corruption and bribe paying (see Table E.4).

Table E.1: Summary Statistics for the Question “What Percent of Total Sales Would a Firm Like Yours Report for Tax Purposes? (C52)” by Size of the Firm and Sector of Activity

	Observ.	Mean	Std.Dev.	Min	Max
Whole sample	356	88.7	20.4	2	100
Micro	98	81.55	24.09	4	100
Small	120	88.91	20.41	3	100
Medium	67	93.58	14.59	30	100
Large	67	93.79	17.19	2	100
Mining and quarrying	4	97.5	5	90	100
Manufacturing	221	88.71	20.15	2	100
Construction	31	94.84	15.25	20	100
Services	100	86.65	22.44	3	100

Table E.2: Cross-tabulation of the Firms by Size and Incorporation Status

Inc. status	Size	Incorporated	Sole proprietorship	Total
Micro		59	39	98
	% row	60.2	39.8	100.0
	% column	71.1	14.5	27.9
Small		20	100	120
	% row	16.7	83.3	100.0
	% column	24.1	37.2	34.1
Medium		4	63	67
	% row	6.0	94.0	100.0
	% column	4.8	23.4	19.0
Large		0	67	67
	% row	0.0	100.0	100.0
	% column	0.0	24.9	19.0
Total		83	269	352
	% row	23.6	76.4	100.0
	% column	100.0	100.0	100.0

Table E.3: Pairwise Correlations between Bribery Variables

	COMPLIANCE	LNBRIBES_ALL	DBRIBES1	DBRIBES2	BRIBE1
COMPLIANCE	1.000 356				
LNBRIBES_ALL	-0.321*	1.000 537			
DBRIBES1	-0.417*	0.840*	1.000 407		
DBRIBES2	-0.354*	0.652*	0.869*	1.000 430	
BRIBE1	-0.260*	0.489*	0.556*	0.493*	1.000 395

Note: * Indicates 5 percent level of significance.

Table E.4: Pairwise Correlations between the Corruption, in Corporation Status, Size of the Firm and Tax Obstacles

	COMPLIANCE	INCORP	SIZE	TAXOBST_ADM	TAXOBST2
COMPLIANCE	1.000 356				
INCORP	-0.243*	1.000 548			
SIZE	-0.222*	0.474*	1.000 541		
TAXOBST_ADM	-0.058	0.043	0.069	1.000 548	
TAXOBST2	-0.073	0.002	0.100*	0.213*	1.000 548

Note: * Indicates 5 percent level of significance. TAXOBST_ADM=1 is tax administration is considered an obstacle; TAXOBST2=1 if treatment by tax authorities, filing for taxes, audits, etc., are an obstacle to business.

Table E.5: Pairwise Correlations between the Variables for Corruption, FDI, Share of Domestic Sales and Export

	C52	FDI10	SELLDOM_PCT	EXPORT10
C52	1.000 356			
FDI10	0.097	1.000 545		
SELLDOM_PCT	-0.093	-0.210*	1.000 534	
EXPORT10	0.090	0.187*	-0.849*	1.000 534

Note: * Indicates 5 percent level of significance.

Estimation begins with a basic specification of the type:

$$\text{COMPLIANCE}_i = \alpha + \sum_i \beta_i * \text{SectorDUMMIES}_i + \sum_i \gamma_i * \text{LocationDUMMIES}_i + \varepsilon_i$$

where the relevant correlates are included one by one.

ANNEX F: STATISTICAL TESTS OF LABOR MARKET FLEXIBILITY

This annex describes the data and three different econometric models used to test for labor market flexibility. The regression results and some additional sensitivity checks are briefly noted. Two different Vector Autoregression (VAR) models (unrestricted and restricted) were used to test wage flexibility through the observation of real wage and unemployment dynamics. The third model, an equation of demand for employment, was used to examine the responsiveness of employment to changes in the real wage.

In general, VARs provide relatively simple representations of relationships, but have proven to be useful tools for forecasting without the need for structural modeling.¹⁵ In a VAR each of the variables is related separately to past values of itself and all other variables. The impulse responses derived from the parameter estimates can provide a useful summary of the dynamic interactions among the variables. The restricted version of the VAR, known as Vector Error Correction (VEC), is implemented when cointegration tests suggest the presence of one or more long-run relations among non-stationary variables. In each case the appropriate lag structure is determined using statistical tests to ensure that the residuals of the regression are reasonably close to being “white noise.” In a VEC model, the number of long-run relationships in the regression depends on the number of “cointegrating” equations identified by the cointegration tests. If there is labor market flexibility, it is posited here that there is a significant positive relation between the real wage and unemployment.

The employment equation examined for this report relates the number of employed persons to factors that in principle should strongly affect hiring and dismissal. These include the level of real GDP, the wage rate, seasonal patterns in economic activity, and the supply of labor. Findings other than a significantly negative estimate of the parameter relating employment and the wage, after controlling for the effect of the other variables, would lead to the rejection of the hypothesis that there is labor market flexibility.

Quarterly data are used in all regressions. The source of the data is the National Institute of Statistics. Wages pertain to employees with contracts. Labor force surveys provide the unemployment statistics. Variables are expressed in logs. Seasonal variations are captured by quarterly dummies. For the VARs the sample covers the third quarter of 1997 to the last quarter of 2004. The sample for the employment equation begins in the first quarter of 2000, owing to the lack of quarterly labor force numbers.

Model I: Unrestricted VAR

The regression was run in first-differences with four lags to purge the autocorrelation of the residuals. As indicated by the regression output and the impulse

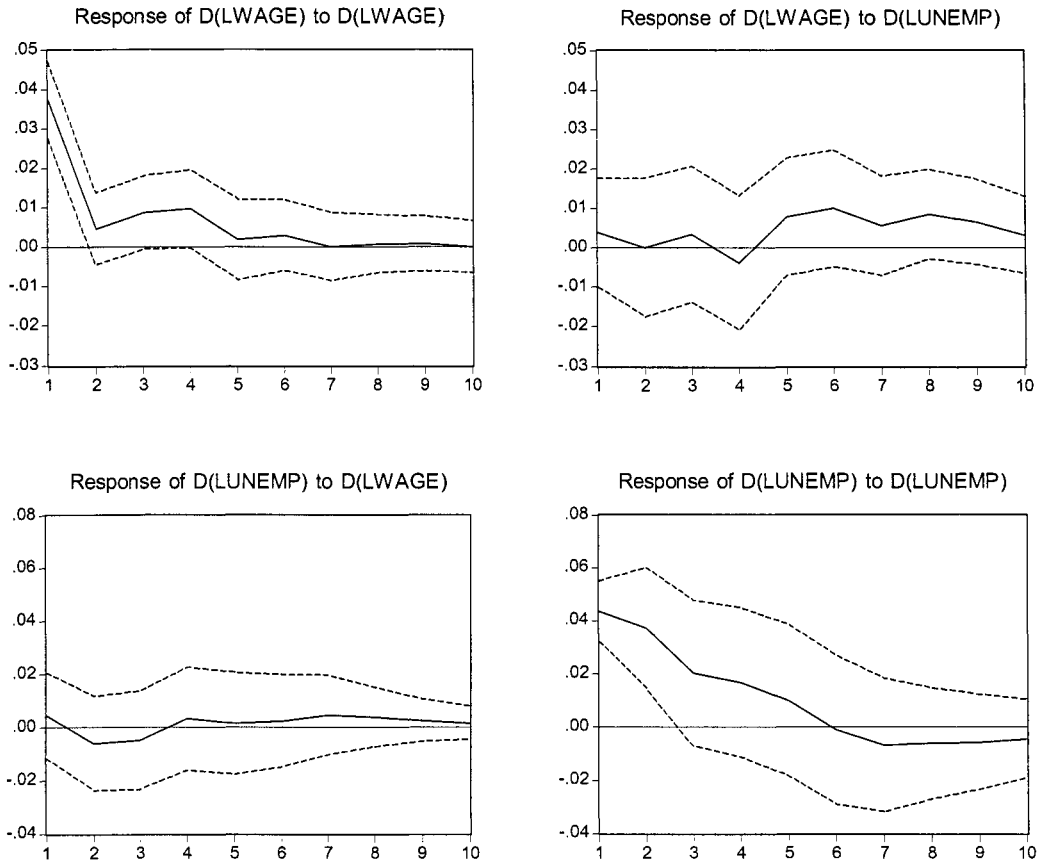
¹⁵ For a review of VAR modeling see Enders (1995).

responses, there appears to be no significant relation between unemployment and the real wage. Furthermore, over a 10-quarter time horizon, a large (2 standard deviations) “shock” to the unemployment rate would explain at most 20 percent of the variation in the real wage.

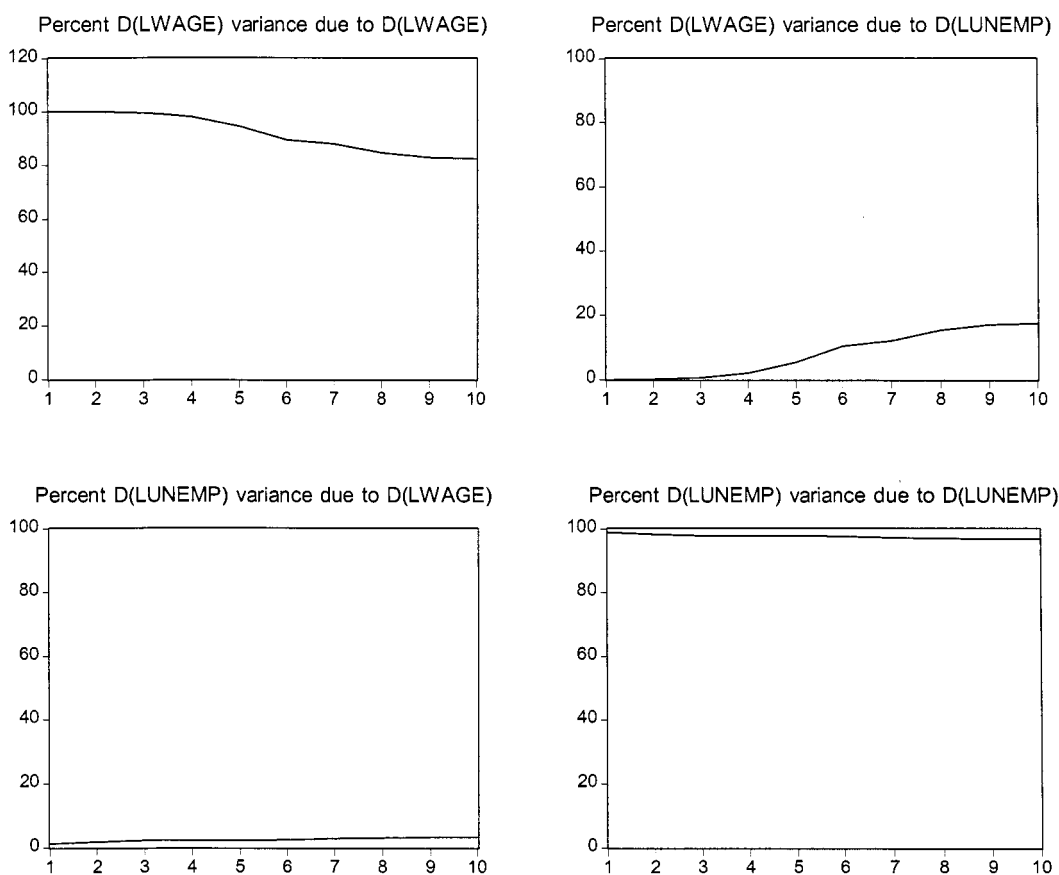
Vector Autoregression Estimates		
Date: 02/28/05 Time: 12:02		
Sample(adjusted): 1997:3 2004:3		
Included observations: 29 after adjusting		
Endpoints		
Standard errors in () & t-statistics in []		
	D(LWAGE)	D(LUNEMP)
D(LWAGE(-1))	0.124762 (0.12064) [1.03417]	-0.270553 (0.14079) [-1.92162]
D(LWAGE(-2))	0.206475 (0.11972) [1.72468]	0.082130 (0.13972) [0.58782]
D(LWAGE(-3))	0.234125 (0.09970) [2.34837]	0.176057 (0.11635) [1.51313]
D(LWAGE(-4))	-0.115112 (0.09900) [-1.16274]	0.017149 (0.11554) [0.14842]
D(LUNEMP(-1))	-0.010459 (0.20128) [-0.05196]	0.880624 (0.23491) [3.74873]
D(LUNEMP(-2))	0.069792 (0.26153) [0.26686]	-0.295847 (0.30523) [-0.96927]
D(LUNEMP(-3))	-0.175530 (0.24615) [-0.71311]	0.235167 (0.28727) [0.81863]
D(LUNEMP(-4))	0.307802 (0.17242) [1.78518]	-0.208650 (0.20123) [-1.03689]
C	0.004902 (0.00844) [0.58073]	-0.000967 (0.00985) [-0.09813]
D1	-0.077789 (0.04611) [-1.68699]	0.004244 (0.05381) [0.07886]
D2	0.039640 (0.03874) [1.02310]	-0.154112 (0.04522) [-3.40824]

D3	0.001962 (0.04733) [0.04146]	-0.018331 (0.05524) [-0.33185]
R-squared	0.583892	0.803325
Adj. R-squared	0.314646	0.676064
Sum sq. resids	0.023616	0.032166
S.E. equation	0.037272	0.043498
F-statistic	2.168618	6.312447
Log likelihood	61.99121	57.51087
Akaike AIC	-3.447669	-3.138680
Schwarz SC	-2.881892	-2.572903
Mean dependent	0.016073	-0.007520
S.D. dependent	0.045021	0.076427
Determinant Residual Covariance		2.60E-06
Log Likelihood (d.f. adjusted)		104.1687
Akaike Information Criteria		-5.528875
Schwarz Criteria		-4.397320

Response to Generalized One S.D. Innovations ± 2 S.E.



Variance Decomposition



Model II. Vector Error Correction Model

The VEC model examined for this report brings together the concepts of the Phillips Curve and the macro wage curve.¹⁶ Johansen tests indicated the existence of two cointegrating relations with a trend and constant term among the real wage, unemployment, inflation, and productivity.¹⁷ The regression output suggests that wage flexibility is not statistically significant. The variation in the wage due to the variation of the unemployment rate is relatively weak, particularly in the early periods of the shock, in comparison to the past variation of the wage, but stronger than the effect of productivity or inflation.¹⁸ The substitution of GDP for productivity did not materially change the results.

¹⁶ Among others, this model has been suggested by Blanchard and Katz (1997) and tested on OECD countries by the OECD (1997). For an example of an application to a developing country, see Verner (1999).

¹⁷ The inflation rate captures the effect of expectations.

¹⁸ Unlike VARs, statistical confidence bands for the impulse responses of a VEC model are not defined. They can be simulated using Monte Carlo techniques.

Vector Error Correction Estimates
Date: 02/08/05 Time: 16:28
Sample(adjusted): 1997:3 2004:3
Included observations: 29 after adjusting endpoints
Standard errors in () & t-statistics in []

Cointegrating Eq:	CointEq1	CointEq2		
LWAGE(-1)	1.000000	0.000000		
LCPI(-1)	0.000000	1.000000		
LUNEMP(-1)	-0.027266 (0.10192) [-0.26752]	0.057634 (0.03954) [1.45779]		
LPROD(-1)	-0.262748 (0.21149) [-1.24238]	-0.383720 (0.08204) [-4.67738]		
@TREND(95:1)	-0.005720 (0.00161) [-3.56008]	-0.011402 (0.00062) [-18.2944]		
C	-3.453062	-2.689757		
Error Correction:	D(LWAGE)	D(LCPI)	D(LUNEMP)	D(LPROD)
CointEq1	-0.557101 (0.08305) [-6.70777]	-0.033022 (0.02843) [-1.16161]	0.153057 (0.15129) [1.01171]	0.240624 (0.10090) [2.38472]
CointEq2	0.297501 (0.33910) [0.87732]	-0.719157 (0.11607) [-6.19599]	0.007597 (0.61769) [0.01230]	0.107035 (0.41198) [0.25981]
D(LWAGE(-1))	0.254870 (0.11295) [2.25639]	-0.040146 (0.03866) [-1.03839]	-0.219943 (0.20575) [-1.06897]	-0.310037 (0.13723) [-2.25924]
D(LCPI(-1))	-0.833998 (0.19211) [-4.34124]	0.129149 (0.06576) [1.96407]	0.004483 (0.34994) [0.01281]	0.573363 (0.23340) [2.45659]
D(LUNEMP(-1))	0.069159 (0.10398) [0.66514]	0.066727 (0.03559) [1.87491]	0.526686 (0.18940) [2.78082]	0.204126 (0.12632) [1.61589]
D(LPROD(-1))	0.182614 (0.20146) [0.90644]	-0.284381 (0.06896) [-4.12404]	0.243326 (0.36698) [0.66306]	-0.155292 (0.24476) [-0.63446]
C	0.031473 (0.00635) [4.95389]	0.016504 (0.00217) [7.58953]	-0.001934 (0.01157) [-0.16710]	-0.000905 (0.00772) [-0.11729]
D1	0.039521 (0.06421) [0.61552]	-0.078907 (0.02198) [-3.59047]	0.087169 (0.11696) [0.74532]	-0.367243 (0.07801) [-4.70789]

D2	0.139159 (0.10809) [1.28739]	-0.094335 (0.03700) [-2.54970]	-0.007033 (0.19690) [-0.03572]	-0.056787 (0.13133) [-0.43241]
D3	0.025956 (0.03860) [0.67236]	0.009338 (0.01321) [0.70672]	-0.016479 (0.07032) [-0.23434]	0.281945 (0.04690) [6.01154]
R-squared	0.778673	0.923531	0.745160	0.987659
Adj. R-squared	0.673834	0.887309	0.624446	0.981814
Sum sq. resids	0.012561	0.001472	0.041679	0.018541
S.E. equation	0.025712	0.008801	0.046836	0.031238
F-statistic	7.427317	25.49632	6.172948	168.9572
Log likelihood	71.14511	102.2367	53.75416	65.49949
Akaike AIC	-4.216904	-6.361154	-3.017529	-3.827551
Schwarz SC	-3.745423	-5.889673	-2.546047	-3.356070
Mean dependent	0.016073	0.017030	-0.007520	0.015201
S.D. dependent	0.045021	0.026217	0.076427	0.231640
Determinant Residual Covariance		6.84E-14		
Log Likelihood		299.4800		
Log Likelihood (d.f. adjusted)		274.9543		
Akaike Information Criteria		-15.51409		
Schwarz Criteria		-13.15668		

Model III: Employment Equation

The employment equation was estimated using labor force data to proxy for the supply of labor, which is required for purposes of identification. The demand for labor is captured by the level of GDP. Autocorrelation of the residuals is purged by including lagged employment as an explanatory variable. In principle, if the labor market is flexible the regression results should indicate a significant inverse relationship between the real wage and employment.

The regression results indicate that the level of employment has no significant relation to the real wage, though the sign is in the direction predicted by theory.¹⁹ The level of GDP has the strongest impact on employment, and, as expected, has a positive sign. Past levels of employment also have a positive and statistically significant impact on current employment. Seasonal factors are important. In this regression, labor supply has a negative and significant impact on employment, though the small coefficient indicates that this link can be ignored. Sensitivity checks using lagged supply indicate no significant relation between labor supply and employment.

¹⁹ The finding here is consistent with the results of a panel data analysis conducted by the IMF (2000), which examined a simpler employment equation for the Czech Republic, Hungary, Poland, the Slovak Republic, and Slovenia.

Dependent Variable: LEMPL				
Method: Least Squares				
Date: 04/04/05 Time: 11:54				
Sample(adjusted): 2000:1 2004:3				
Included observations: 19 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.143850	1.621972	-1.321755	0.2131
LEMP(-1)	0.531036	0.108470	4.895712	0.0005
LWAGE	-0.343847	0.358561	-0.958966	0.3582
LGDP	0.686750	0.192589	3.565884	0.0044
D1	0.232871	0.048656	4.786081	0.0006
D2	0.217246	0.042496	5.112194	0.0003
D3	0.007332	0.027362	0.267965	0.7937
LSUPPLY	-0.000322	0.000145	-2.217308	0.0486
R-squared	0.971721	Mean dependent var		7.544676
Adjusted R-squared	0.953725	S.D. dependent var		0.086939
S.E. of regression	0.018702	Akaike info criterion		-4.824802
Sum squared resid	0.003847	Schwarz criterion		-4.427143
Log likelihood	53.83562	F-statistic		53.99660
Durbin-Watson stat	2.334297	Prob(F-statistic)		0.000000

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MAP SECTION

