

Report No. 45819-BG

# Bulgaria Investment Climate Assessment

(In Three Volumes) Volume I: Overview

October 2008

Finance and Private Sector Development Department  
Europe and Central Asia Region



Document of the World Bank

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## CURRENCY AND EQUIVALENT UNITS

(Exchange rate effective October 28, 2008)

Currency Unit= Bulgarian Leva (BGN)

EUR 1=1.95583 US \$ 1=1.57 BGN

**FISCAL YEAR:** 1 January - 31 December

**WEIGHTS AND MEASURES:** Metric System

## ABBREVIATIONS AND ACRONYMS

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BAS	Bulgarian Academy of Sciences
BIS	Bulgarian Institute of Standardization
BIM	Bulgarian Institute of Metrology
BSMEPA	Bulgarian Small and Medium-sized Enterprise Promotion Agency
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
EA BAS	Bulgarian Accreditation Service
EA CT	Executive Agency for Certification and Testing
EA-MLA	European co-operation for Accreditation multilateral agreement
EMC	Electro-Magnetic Compatibility
EU	European Union
FDI	Foreign Direct Investment
FP7	Seventh Framework Program for Research & Technological Development
FSAP	Financial Sector Assessment Program
GDP	Gross Domestic Product
HLFS	Household Labor Force Survey
IAF	International Accreditation Forum
ICA	Investment Climate Assessment
ILAC	International Laboratory Accreditation Cooperation
IMF	International Monetary Fund
IPR	Intellectual Property Rights
ISO	International Organization for Standardization
IT	Information Technology
LARACEA	Limiting Administrative Regulation and Administrative Control on Economic Activities Law
LLL	Life-Long Learning
NGO	Non-Governmental Organization
NIF	National Innovation Fund
NSF	National Science Fund
NSI	National Statistical Institute
OECD	Organization for Economic Co-operation and Development
OP	Operational Programs

R&D                    Research and Development  
RIA                    Regulatory Impact Assessment  
ROSC                Report on the Observance of Standards and Codes  
SAMTS              State Agency for Metrology and Technical Surveillance  
SMEs                Small and Medium-sized Enterprises  
TE                    Technical Efficiency  
VAT                  Value Added Tax

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## ACKNOWLEDGEMENTS

The Bulgaria Investment Climate Assessment report was prepared as a joint technical assistance project of the World Bank and the Ministry of Economy and Energy. The World Bank team was led by Marialisa Motta and Roberta Gatti during the preparation stage and by George Clarke during the analysis and writing stages. The World Bank team included Mehmet Can Attacik, Evgeni Evgeniev, Maddalena Honorati, Ina Hoxha, Smita Kuriakosa, Emanuel Salinas Munoz and Jean-Louis Charles Racine. The Ministry of Economy and Energy team was led by Eli Anavi (Director, Enterprise Policy Directorate) and included Ivaylo Grancharov and Nikolai Istatkov. Fatiha Amar, Vessela Stamboliyska, and Cara Zappala provided outstanding document and production support. Pobeda Loukanova prepared a background note on labor markets in Bulgaria. This report is also a result of the devoted work of the translator, Simeon Enchev, who made its Bulgarian version possible.

The Enterprise Survey was designed by the Enterprise Analysis Unit of the World Bank by a team composed of Jorge Luis Rodriguez Meza and Vesselin Kuntchev. Evgeni Evgeniev provided invaluable help in coordinating closely with the Government counterparts and representatives of the public and private sectors and in preparing and editing the final report.

The report was prepared under the general guidance of Anand Seth, Country Director for Bulgaria before January 2008 and Orsalia Kalantzopoulos, Country Director for Bulgaria after January 2008; and Fernando Montes-Negret, Director of the Finance and Private Sector Development Department (ECSPF) of the European and Central Asia Region. Lalit Raina (Sector Manager, ECSPF) and Florian Fichtl (Country Manager for Bulgaria) provided detailed comments and strategic guidance to the team.

The team would like to thank Deputy Minister Anna Yaneva and her team at the Ministry of Economy and Energy, the members of the Consultative Council for the Promotion of Small-and-Medium-sized Enterprises and the Council of Ministers' Strategic Planning and Governance Directorate for excellent collaboration and for providing comments as the report was being prepared. Thanks are also due to the National Statistical Institute in Sofia for preparing a firm-level dataset, executed in a very short time.

Alvaro Gonzales (Senior Economist, AFTFP), William Maloney (Lead Economist, LCRCE) and Stefka Slavova (Senior Economist, LCSPF) acted as the formal peer reviewers of the report. Helpful comments and advice were also provided by Irina Astrakhan, Christian Bodewig, Sylvie Bossoutrot, Gerardo Corrochano, Paulo Correa, Daniel Dulitzky, Aurora Ferrari, Itzhak Goldberg, Mary Hallward-Driemeier, Stella Ilieva, Sereen Juma, Thomas Laursen, John Pollner, Donato De Rosa, Sophie Sirtaine, Ivelina Taushanova and Myla Williams.



## EXECUTIVE SUMMARY

1. **The goal of the Bulgaria Investment Climate Assessment (ICA) is to evaluate the investment climate in all its operational dimensions and to promote policies to strengthen the private sector.** The ICA is largely based on results from the World Bank Enterprise Survey, a 1,000-firm survey that was conducted in late 2007. The survey collects detailed information on firm performance, what managers see as the main obstacles that they face, and objective data on various aspects of the investment climate. Additional sources of information are used to supplement the survey data.

### *The Investment Climate in Bulgaria*

2. There is always a tendency to focus on areas where the investment climate could be improved in Investment Climate Assessments. It is important, therefore, to note upfront that Bulgaria's investment climate is favorable in many ways—something that should not be a surprise given the success that the country has had in attracting foreign direct investment (FDI) and encouraging domestic investment. The macroeconomic environment is broadly favorable, corporate taxes are low, the burden of labor regulation is reasonable, and access to finance—something that was a serious concern only five years ago—has improved significantly.

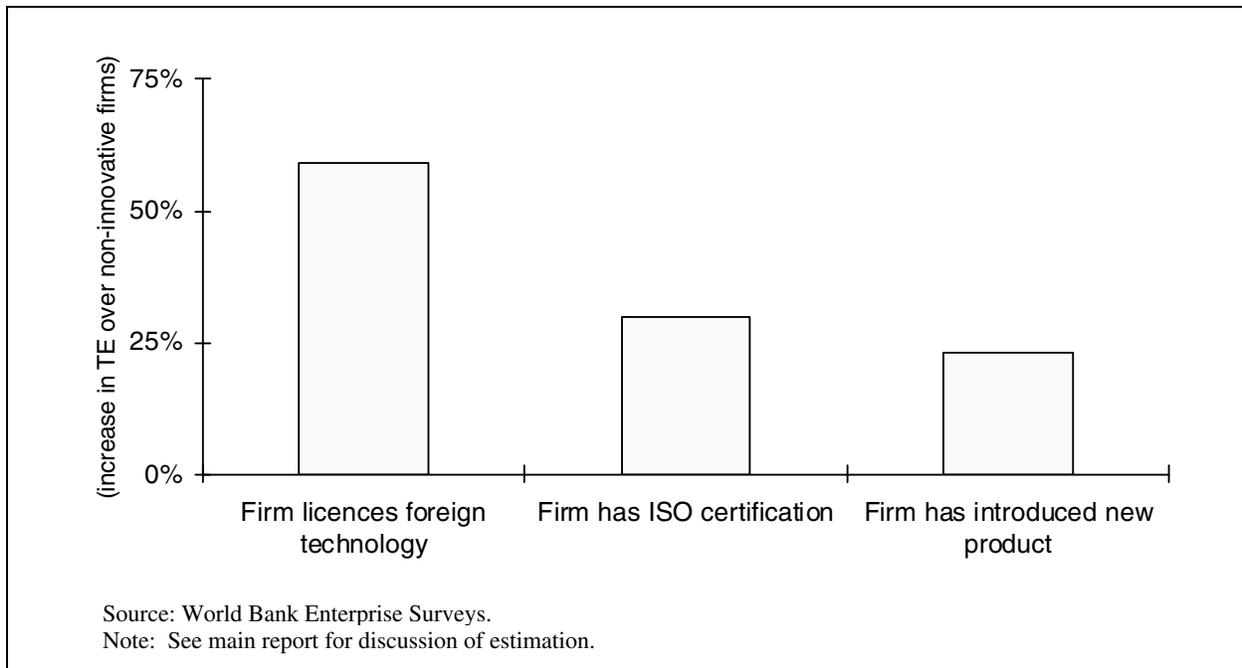
3. There are, of course, areas where the investment climate could be strengthened. In particular, productivity and innovative activity remain low. The burden of regulation remains high. And a shortage of skilled workers is becoming a problem for the most productive and most innovative firms.

### *Encouraging Innovation*

4. Sustained increases in wages will require more investment in more productive firms and sectors. One factor that appears to be strongly associated with firm productivity in Bulgaria is technology and its adoption. Firms that license technology from abroad, firms that have ISO certification and innovative firms that have introduced new products are significantly more productive than other firms in Bulgaria (see Figure 1). Although, as discussed in detail in the main report, causation probably runs in both directions (i.e., more productive firms have more resources available for innovation as well as innovation improving productivity), this emphasizes the strong link between innovation and productivity.

5. Innovation goes hand-in-hand with technological absorption. As a technology follower, unless Bulgaria acquires technologies from more advanced countries faster than the technology frontier expands, the country will face a widening technology gap. But technological absorption and adoption are not passive processes. To successfully absorb and adopt technologies from abroad, Bulgaria will have to invest in its own research and development (R&D) capability. Unfortunately, investment in R&D is low, has been declining in recent years, and is mostly financed and performed in the public sector. Increasing private R&D should therefore be an important goal.

**Figure 1: Innovative firms are more productive in Bulgaria**



6. Firms absorb and adopt technologies through several different channels including trade, FDI and licensing. The large increases in imports, exports and FDI suggest that there is significant potential for absorption in Bulgaria. Various factors, however, limit each channel. Although many imports originate in technologically advanced countries, the technological content of most is low. Similarly, Bulgaria's exports, although destined for technologically advanced countries, are mostly in low technology sectors. Finally, although FDI inflows have dramatically increased, only a small and diminishing share flows into manufacturing. In contrast, although licensing is limited, it is gaining momentum. Bulgaria increased its licensing and royalty payments by almost a factor of ten between 2000 and 2005.

7. An important issue related to innovation is quality standards and infrastructure. Improving quality standards can accelerate technological progress, improve productivity and increase trade. Yet firms can only fully exploit the benefits of standards when a supportive national quality infrastructure is in place. Bulgaria has all of the necessary institutions for a complete national quality system and over the past five years the system has undergone significant restructuring. Additional improvements are, however, possible.

8. Bulgaria's infrastructure for innovation and absorption are discussed in detail in Chapter 3 of the main report and its quality infrastructure is discussed in detail in Chapter 4. The overview and the main report also include a detailed discussion of steps that the Government could consider to increase access to new technology and to further strengthen quality infrastructure.

#### *Reducing the burden of regulation*

9. Despite the Government's ambitious reform program, red-tape and burdensome regulation remain a serious obstacle to firm productivity and growth. Over 45 percent of firm managers said that corruption and close to 40 percent said that competition with informal firms

were serious problems. Both of these should be seen as symptoms of other problems in the investment climate and many studies have found that they are linked to burdensome regulation, red-tape and taxation.

10. Objective information from the survey also suggests that the burden of regulation is high. On average, senior managers in Bulgaria report spending 17 percent of their time dealing with requirements imposed by government regulations. This is higher than in most other middle-income countries. Moreover, as discussed in Chapter 2 of the main report, there is a strong association between the burden of red-tape and low firm productivity in Bulgaria.

11. Firm managers were also concerned about unpredictable and erratic enforcement of regulation. Over 70 percent of businesses either strongly disagreed or tended to disagree with the statement that public authorities' interpretations of laws and regulations are consistent and predictable, higher than in most of the other recent entrants to the European Union (EU). Unpredictable and erratic enforcement undermines the goals of regulation and can lead to corruption.

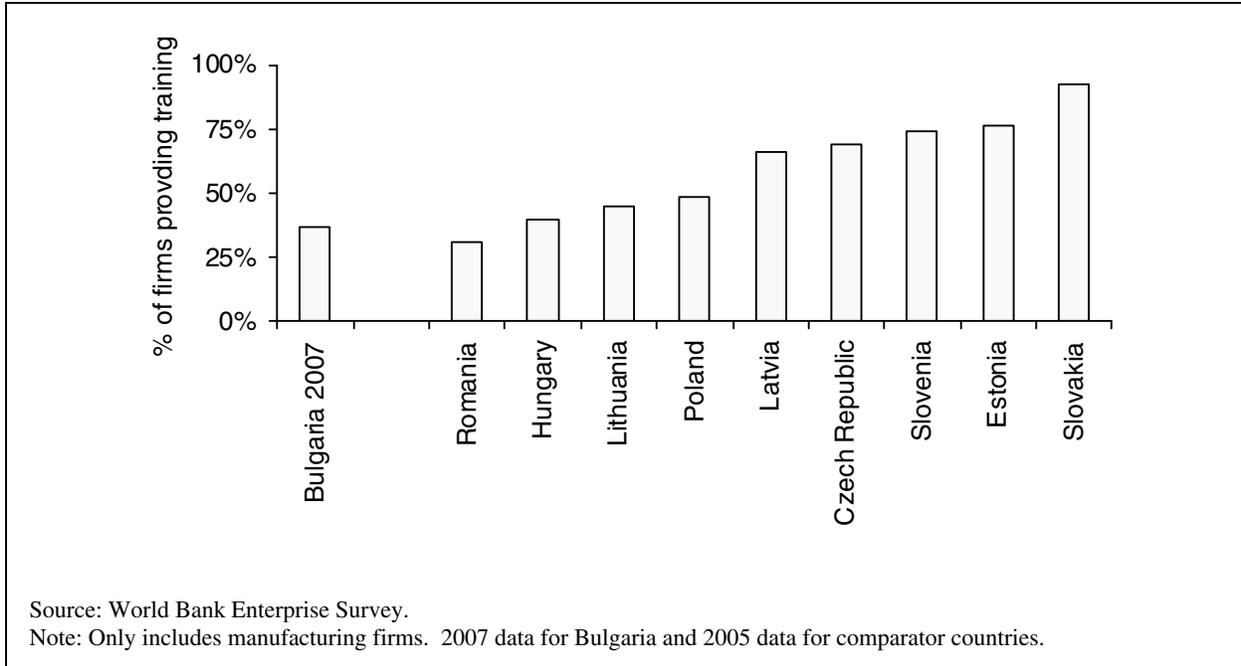
12. Although there is room for further improvement, Bulgaria has made significant progress in the area of regulatory reform in recent years. In 2003, the Limiting Administrative Regulation and Administrative Control on Economic Activities (LARACEA) was enacted. One year earlier the Council for Economic Growth, an important public-private consultative forum, was established. In 2007, the Ministry of Economy and Energy emerged as a champion of Regulatory Policy and Regulatory Impact Assessment initiatives, working with other line ministries, business associations, think tanks and the World Bank. In June 2008, the Council of Ministers Administration took over the management, monitoring and control of the "Better Regulation Program 2008-2010", which was adopted by the Government in April 2008. Chapter 6 in the main report discusses different aspects of regulation in Bulgaria, including areas where the burden could be reduced further.

#### *Improving worker skills*

13. Firms in Bulgaria are becoming increasingly concerned about the education and skills of workers. In contrast to earlier surveys from the early 2000s, where worker education and skills did not generally rank among the top concerns of firms, more managers said that this was a serious problem than any other area of the investment climate except corruption, instability, and unfair competition with the informal sector. Moreover, worker skills appear to be a particular concern for innovative firms and firms in the IT sector. Given the strong association that both innovation and worker skills have with improvements in productivity (see Chapter 2 in main report), this is clearly a concern.

14. Despite the high level of concern about worker skills, relatively few firms provide training to their workers. Only about 37 percent of manufacturing firms in Bulgaria reported that they had a formal training program (i.e., beyond on-the-job training) for their workers in 2007 (see Figure 2). This is lower than most of the other recent new entrants to the EU.

**Figure 2: Bulgarian firms were less likely to provide training than firms in most other new EU entrants**



15. Chapter 7 of the main report discusses labor markets and worker skills in more detail. In addition to proposing several areas to strengthen labor markets, it also proposes several areas where additional work would be useful for understanding the most effective ways of increasing worker skills and encouraging private firms to invest in their workers.

## OVERVIEW

1. Sustained improvements in living standards depend on broad-based economic growth. This will only take place when firms improve worker productivity by investing in human and physical capital and increasing their technological capacity. But firms will only invest when the investment climate is favorable. **The goal of the Bulgaria ICA is to evaluate the investment climate in all its operational dimensions and to promote policies to strengthen the private sector.**

2. The ICA is largely based on results from the World Bank Enterprise Survey. The 1000-firm survey was conducted in late 2007 and collects detailed information on firm performance, what managers see as the main obstacles that they face, and objective data on various aspects of the investment climate. Additional sources of information are used to supplement the survey data, including the World Bank's Doing Business Report, a study that provides detailed, comparable data on regulation across the world, data from the National Statistical Institute, and reports from the Government of Bulgaria, the World Bank, the International Monetary Fund, the European Union, academics, and other sources.

### *I. Macroeconomic Background*

3. Bulgaria's macroeconomic performance has been strong since the beginning of the decade. After a serious banking and currency crisis in the 1996/97 led to a sharp drop in GDP and several years of positive but slow growth, GDP growth reached 5.4 percent in 2000 and has exceeded 5 percent on average since then (see Table 1).

**Table 1: Macroeconomic performance in Bulgaria, 2000-2007**

	2000	2001	2002	2003	2004	2005	2006	2007
<b>GDP growth (annual %)</b>	5.4	4.1	4.9	5.0	6.6	6.2	6.3	6.2
<b>GDP per capita growth (annual %)</b>	7.3	6.1	5.4	5.6	7.2	6.8	6.7	6.2
<b>Gross Fixed Capital Formation (% of GDP)</b>	16	18	18	19	21	24	26	30
<b>Trade Balance (% of GDP)</b>	-9.4	-11.7	-11.3	-13.7	-14.9	-20.2	-22.2	-26.0
<i>Exports</i>	38.4	37.6	36.6	37.7	40.2	43.3	47.6	46.6
<i>Imports</i>	47.8	49.3	47.9	51.4	55.1	63.4	69.6	72.1
<b>FDI inflows (% of GDP)</b>	8.1	5.9	5.9	10.5	13.8	14.2	23.6	21.1

Source: National Statistical Institute, Bulgarian National Bank.

4. The currency and banking crisis also resulted in a surge in inflation, which reached over 1,000 percent in 1997. It fell significantly in the years after this and inflation mostly remained between about 5 and 10 percent between 2000 and mid-2007. After falling to close to 4 percent in April 2007, year-on-year inflation accelerated in the latter part of 2007. It was about 6 percent in July 2007 when the Enterprise Survey started and had reached about 11 percent by the time the Enterprise Survey was completed in December 2007. After the survey was completed, inflation continued to accelerate in early 2008, reaching close to 15 percent by the summer of that year.

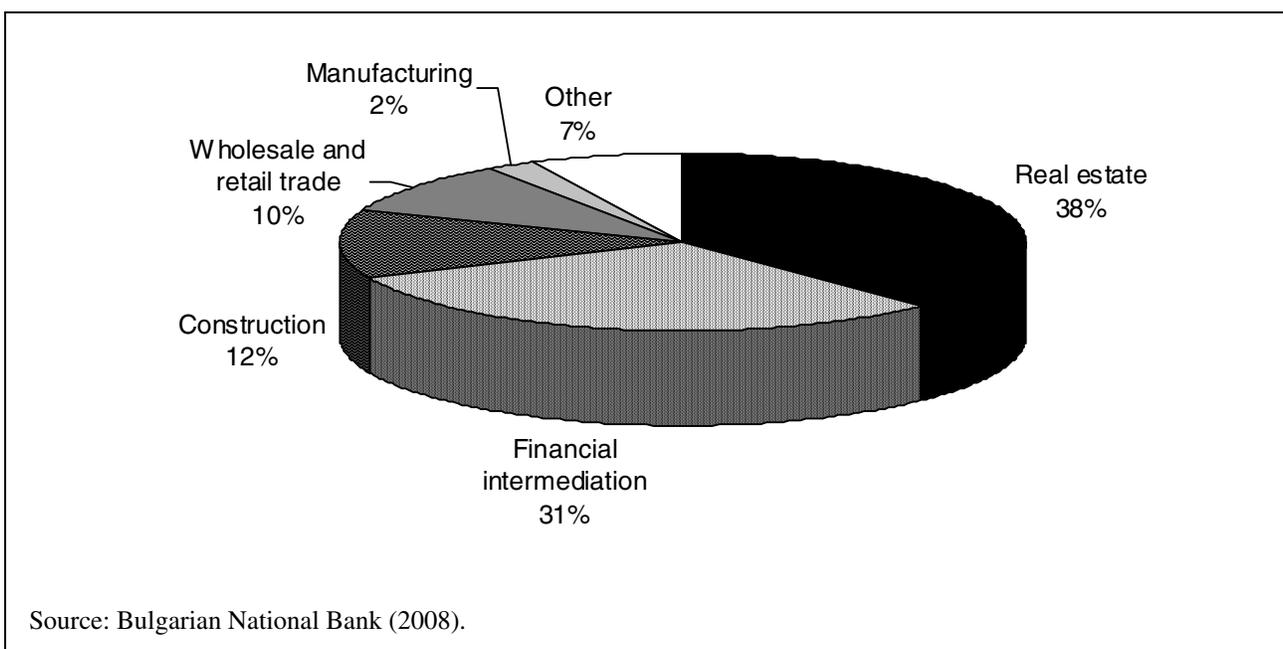
5. The improved growth has been accompanied by a surge in investment. In 2000, gross fixed capital formation was equal to about 16 percent of GDP. This increased to 30 percent by 2007. Inflows of FDI have also become progressively important, increasing from about 8 percent of

GDP in 2000 to about 21 percent by 2007. This shows that confidence in the economy remains strong.

6. Other aspects of macroeconomic performance have also been encouraging. Exports have grown—although more modestly than imports—increasing from 38 percent of GDP in 2000 to 47 percent of GDP by 2007. Finally, although the unemployment rate did not start to improve until 2003, it fell rapidly from 18 percent in 2003 to about 7 percent by 2007.

7. Despite Bulgaria’s extremely positive macroeconomic performance, some concerns remain. One concern is that the current account deficit has increased significantly, reaching close to 22 percent of GDP in 2007. Although similar deficits have been observed in other economies in the region that have gone through absorption booms and the deficit has mostly been financed with FDI, such large current account deficits are not likely to be sustainable in the long-run. The International Monetary Fund estimates that a sustainable level is somewhere between about 5 and 10 percent of GDP and is likely to be around 8 percent (International Monetary Fund, 2007a; 2007b).

**Figure 3: In 2007, most FDI inflows were in real estate, renting and business activities; financial intermediation; and construction**



8. It is important to note that FDI has shifted towards service sectors. Real estate, renting and business services accounted for over one-third of FDI, with financial intermediation accounting for close to an additional third and construction accounting for about 12 percent. Although the absorption of large parts of FDI into non-tradable sectors is a concern, the International Monetary Fund (2007a) notes that globalization has made it more difficult to sharply delineate tradable and non-tradable sectors and that total investment—as opposed to FDI—in the tradable sector has remained broadly unchanged. However, this shift further emphasizes the need to improve the investment climate to promote investment—both domestic and foreign—in export-oriented manufacturing.

9. Another concern directly related to the investment climate, is that much firm investment and employment growth has been in low-wage and low-skill sectors. Given that there is a strong

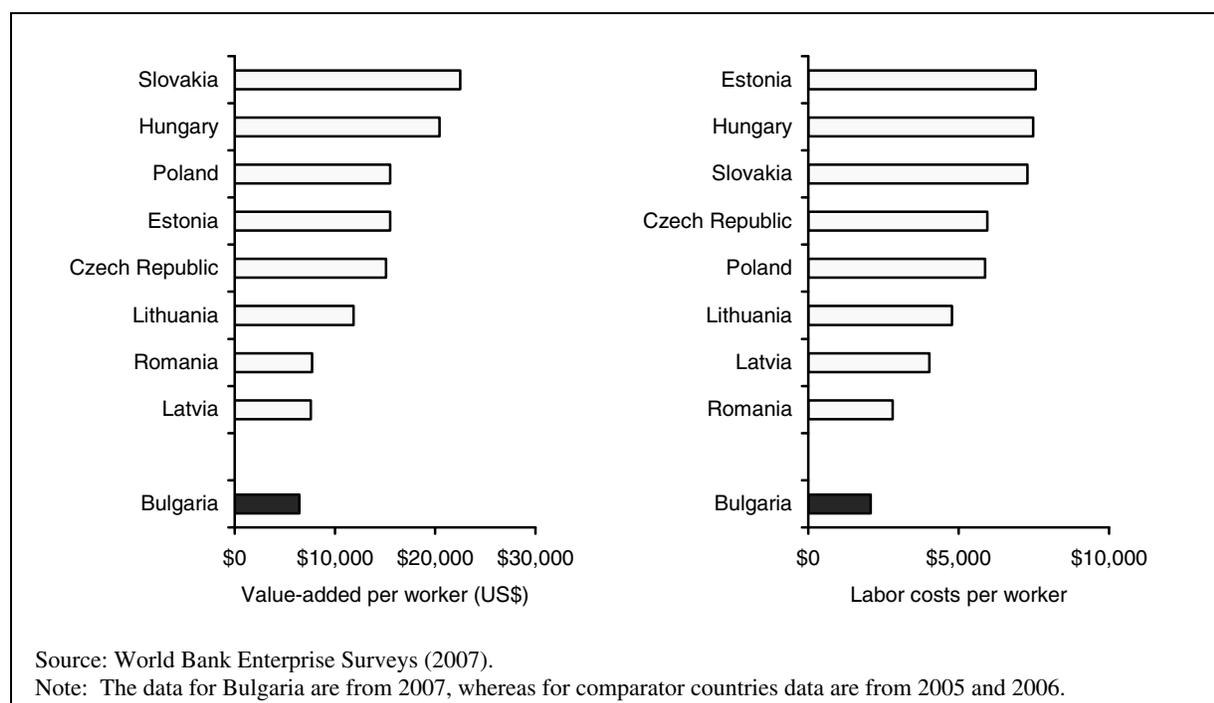
link between firm productivity and wages, this suggests that sustained increase in wages will require more investment and employment growth in higher value-added sectors. This emphasizes the importance of increasing innovation and technology absorption in the economy.

10. A final concern is that informality remains high in Bulgaria. Although it is difficult to measure the size of the informal sector—and is therefore difficult to accurately compare informality across countries or over time—what evidence there is suggests that informality is higher in Bulgaria than in the other recent EU entrants and that, at least until 2006 or 2007, the informal sector appears to have been growing. Although informality is more a symptom of underlying problems than a problem in its own right, previous work has emphasized the link between over-regulation and informality.

## II. Firm Productivity

11. The Enterprise Survey collects various types of information about firms and the investment climate, including detailed information on firm performance. Data from the survey suggest that labor productivity in Bulgaria is low. The median manufacturing firm produced about US\$6,000 of output per worker (see Figure 4). This was relatively close to the median firms in Latvia and Romania, but considerably lower, than the median firm in most of the other new EU entrants. Firms also appear less productive than in other countries in the region using broader measures of productivity such as technical efficiency.

**Figure 4: Labor productivity and labor costs are lower in Bulgaria than in the other new entrants to the EU**



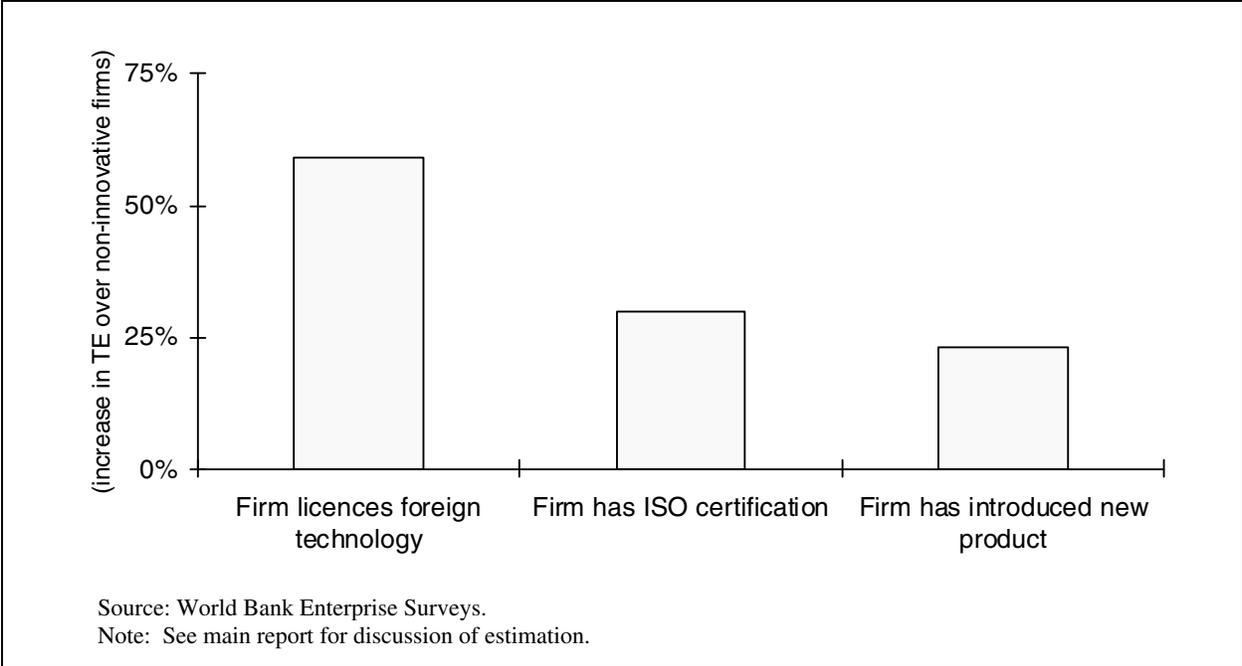
12. Given that productivity is low, a natural question is how firms remain competitive. Part of the answer is that wages are also low. That is, although firms produce less output than similar firms in other of the new EU entrants, they also pay their workers less. This emphasizes the intimate link between firm productivity and wage levels. Improving the investment climate in

ways that improve firm productivity will allow wages to increase while allowing firms to remain competitive in an increasingly open environment.

13. As well as allowing comparisons of productivity across countries, it is also possible to look at productivity differences across firms in Bulgaria using the Enterprise Survey data. The econometric analysis that is performed is described in detail in the Appendix 2.1 in Vol. III of the ICA. Although, as discussed in the technical appendix, the econometric results must be treated with some caution due to various methodological issues and concerns about the direction of causality, the analysis is an important complement to the other qualitative and quantitative evidence presented throughout the report.

14. One factor that appears to be strongly associated with firm productivity in Bulgaria is technology and its adoption. Firms that license technology from abroad, firms that have ISO certification and innovative firms that have introduced new products are significantly more productive than other firms in Bulgaria. Firms that had introduced new products in the three years before the survey were about 23 percent more productive than firms that had not, firms with ISO certification were about 30 percent more productive than firms that had not and firms that licensed technology from foreign firms were about 60 percent more productive than those that do not (see Figure 5).

**Figure 5: Innovative firms are more productive in Bulgaria**



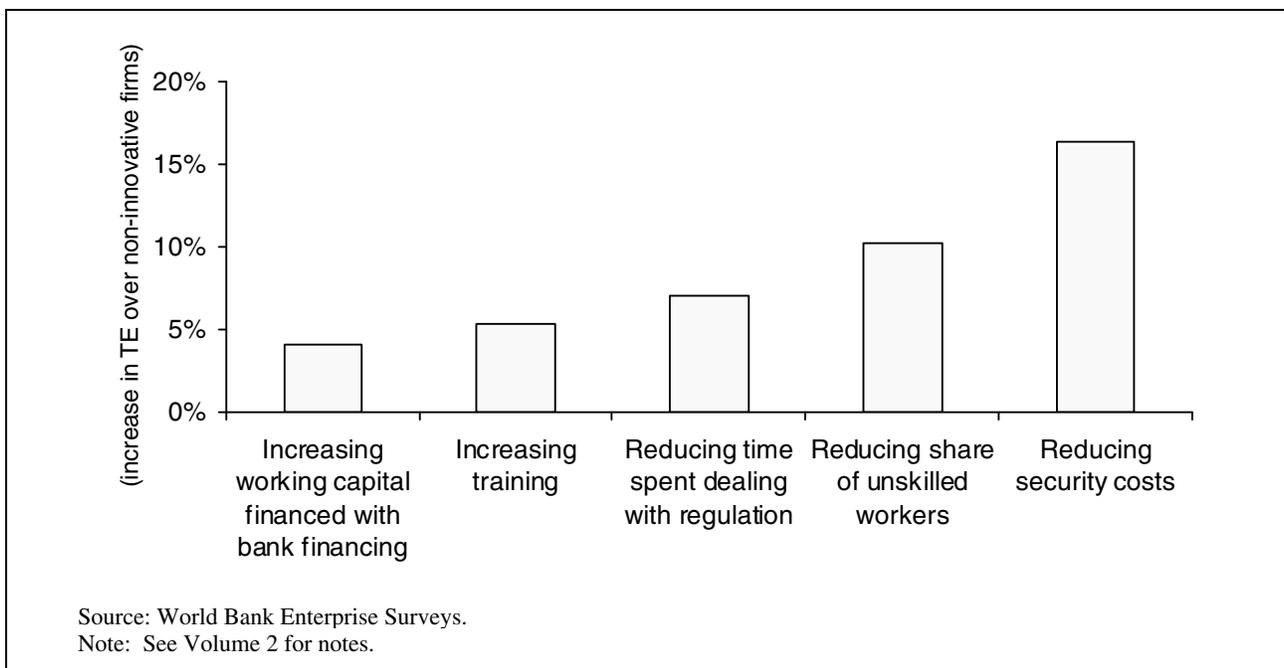
15. Although this suggests a link between innovation and productivity, it is difficult to assess whether firms are more productive because they adopt new technologies or whether more productive firms are more innovative because they have more resources to invest in new technologies (i.e., it is difficult to determine the direction of causation between innovation and productivity). More innovative firms might be more productive because firms that innovate are able to update their product lines and therefore find it easier to compete on things other than price (e.g., quality). But causation could also run in the opposite direction or other omitted firm-level characteristics might result in a spurious correlation between productivity and innovation. For example, firms that are better managed will probably find it easier to introduce new products

and are also likely to be more efficient in other ways. This suggests that although innovation is important, simply providing subsidies might not have the desired impact. In this respect, it might be more important to encourage firms to adopt the best practices of innovative firms rather than simply subsidizing innovation. Firm innovation is discussed in detail in Chapter 3 of the main report.

16. Other investment climate-related factors also appear to be associated with firm productivity in Bulgaria. Figure 6 shows that improving various areas of the investment climate to the levels observed in the best performing countries in the region might have impact on firm productivity. Although various econometric issues, especially related to the direction of causation, mean that it is difficult to draw strong conclusions based upon the econometric analysis (see Appendix 2.1 in Volume III and Chapter 2 in Volume II for detailed discussions), the burden of regulation, the cost of crime and security, and worker skills all appear to be associated with productivity.

17. With these provisos in mind, the econometric analysis suggests that productivity would be between about 1 and 7 percent higher if the burden of regulation (i.e., the time that senior managers spend dealing with regulations) were at the levels observed in the best-performing countries. Similarly if security costs were at the levels observed in the best-performing countries in the region productivity would be between about 10 and 18 percent higher. If the share of skilled workers, access to financing and worker training were the same levels as in the best performing countries, productivity would be between about 6 and 12 percent higher, between about 2 and 5 percent higher and between about 3 and 5 percent higher, respectively.

**Figure 6: Impact of improving investment climate variables so that they are equal to the best performing countries in the Central and Eastern European region**



18. In contrast to these measures of the investment climate, there is less evidence of an association between infrastructure and productivity in Bulgaria (see Appendix 2.1 in Volume III). This, of course, does not mean that infrastructure does not affect productivity significantly anywhere. One reason why it might be less important in Bulgaria is that although firm managers

were more concerned about infrastructure in 2007 than they were in earlier years, overall quality remains relatively good. Thus, it might not be surprising that infrastructure is not currently a large constraint on firm performance in Bulgaria.

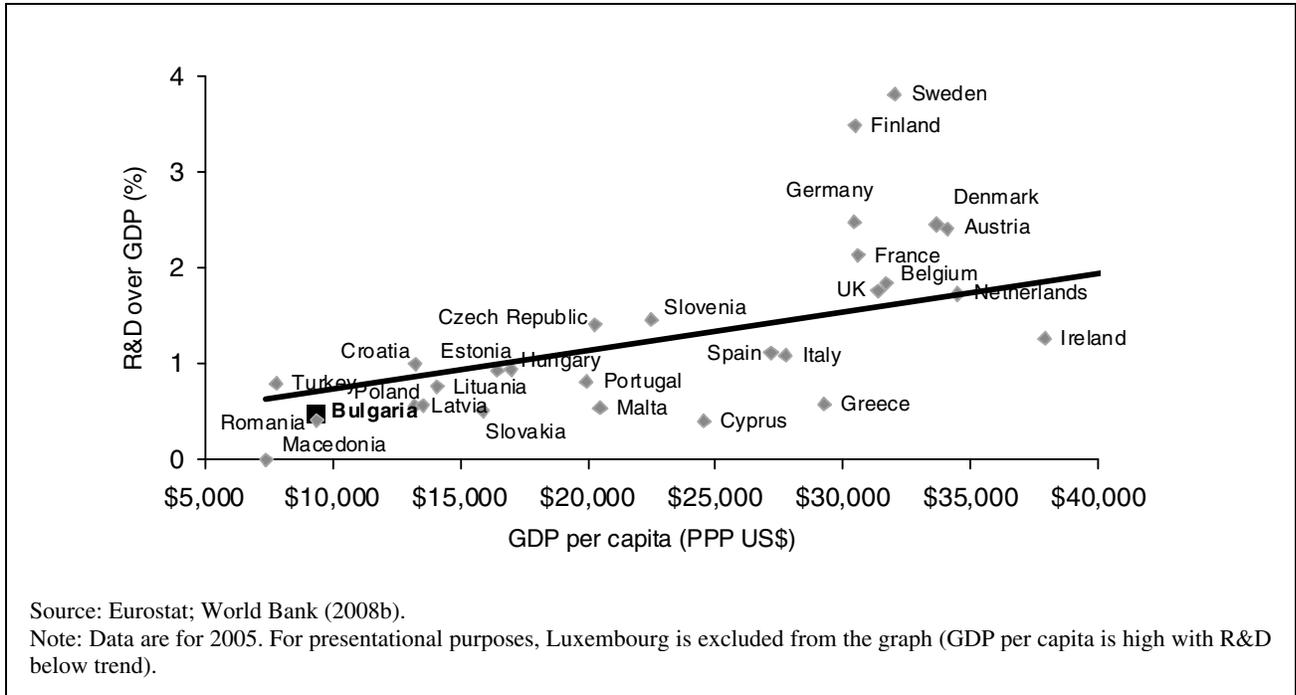
### ***III. Innovation & Technology Absorption***

19. The strong link between productivity and innovation emphasizes the importance of technology in improving firm performance and moving into higher wage and value-added sectors. As a technology-follower, Bulgaria's challenge is to react to a dynamic environment where the technological frontier is constantly being pushed forward by more technologically-advanced countries. Bulgarian firms must acquire technologies faster than the technology frontier is being expanded or face a widening technological gap. But Bulgaria cannot ignore innovation, which goes hand in hand with technology absorption. Bulgaria must start building R&D capacity in its firms, universities and institutes to lay the grounds for a competitive knowledge economy.

20. To narrow the productivity gap with other EU countries and reach the objectives of the Lisbon Strategy, the Bulgarian Government has recently given innovation and technology absorption a more prominent position in its policy agenda. As a result, a number of new strategies, policies, institutions and programs for innovation and technology absorption have been established in the past five years. However, new instruments have not always been adopted in a coherent manner, through a clear strategy tailored to national priorities, and a number of institutional challenges dating from the centrally planned economy remain. Moreover, the rhetoric on innovation and technology absorption has not been matched by notable increases in investment from either the public or private sectors and many innovation support programs remain embryonic. In spite of these challenges, Bulgaria is well-positioned to leverage its EU membership and proximity to the quality-driven markets of Western Europe to embark on a sustainable path of technological upgrading.

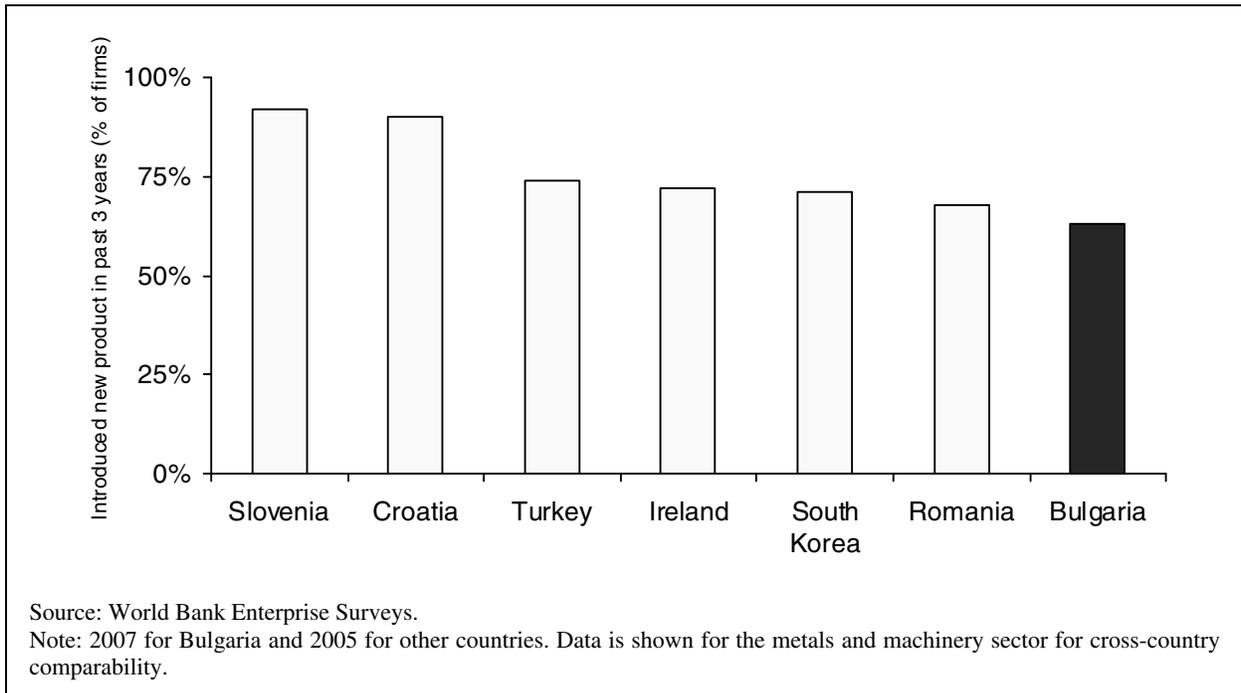
21. Investment in R&D is low in Bulgaria and has been declining slowly over the past decade. Between 1998 and 2006, R&D investment decreased from 0.57 percent of GDP to 0.48 percent in Bulgaria and is now lower than in most countries in the region (see Figure 7). This decline in expenditures has been matched by a drop in the number of R&D personnel, as researchers have left to look for opportunities abroad. There are other problems as well. Only a small share of R&D is financed by the private sector and Bulgaria is relatively inefficient at turning R&D investments into applied results. Bulgaria spends more on R&D for each patent it generates than most other European countries.

**Figure 7: Bulgarian is investing too little in R&D to narrow the technology gap with the EU**



22. Given this environment, it might not be surprising that Bulgarian firms are not as innovative as firms in other European countries. Although the low level of expenditures is partly due to the fact that most Bulgarian firms are in low technology sectors, industrial structure does not fully explain the low levels of innovation. Bulgarian firms are less innovative than most of their European counterparts even when accounting for industrial sector (see Figure 8).

**Figure 8: Bulgaria firms are less innovative than similar firms in other countries**



23. Small firms are typically more vulnerable than larger firms to changing market conditions due to their more restricted access to finance. To survive, they must adapt quickly and develop or upgrade products. However, small firms also find it more difficult to innovate than larger firms do in most countries, including Bulgaria (see Table 2).

**Table 2: Small Bulgarian firms are less innovative than medium and large firms**

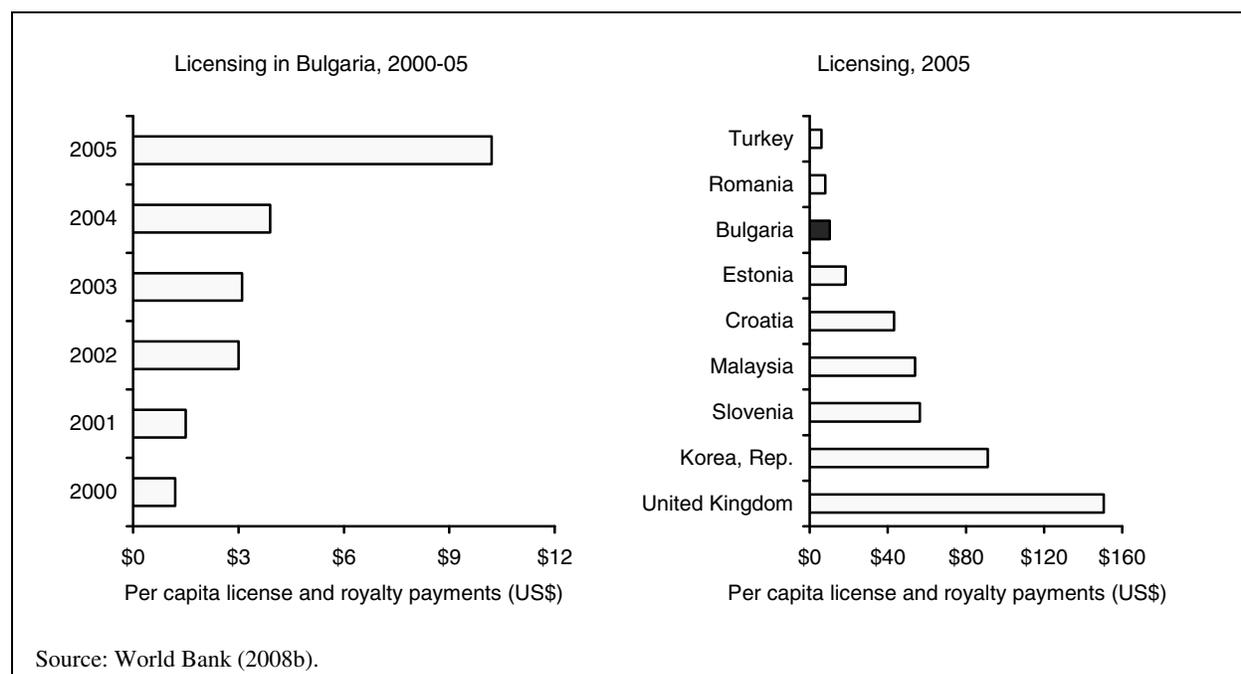
Share of Bulgarian manufacturing firms having introduced in the past three years a new or improved:	Small	Medium	Large
- product	56%	72%	60%
- process	44%	62%	57%

Source: World Bank Enterprise Survey (2007).

24. Although few Bulgarian firms are innovative, the minority of firms that are innovative are aggressively closing the technological gap. Firms with innovative activities appear to have adopted an aggressive strategy for innovation, with new or significantly improved products representing a higher share of turnover (8.5 percent) than among innovative firms in other European countries (6.3 percent for the EU as a whole).

25. Trade, licensing, and FDI all serve as important channels for absorbing technology from abroad. The large increases in imports, exports and FDI suggest the potential for increased absorption through these activities in Bulgaria (see Table 1). Various factors, however, limit each channel. Although many imports originate in technologically advanced countries, the technological content of most is low. Similarly, Bulgaria's exports, although destined for technologically advanced countries, are mostly in low technology sectors. Finally, although FDI inflows have dramatically increased, only a small and diminishing share flows into manufacturing (see Figure 9). In contrast, although licensing is limited, it is gaining momentum. Bulgaria increased its licensing and royalty payments by almost a factor of ten between 2000-2005.

**Figure 9: Bulgaria licenses few foreign technologies but is slowly catching-up**



26. There are few sources of finance for technology adoption and innovation in Bulgaria, particularly for SMEs. While finance is a core ingredient for technology adoption and innovation, 74 percent of Bulgarian firms use their own internal resources for this, with a smaller number using bank loans (23 percent). Most Government funding for research is provided through institutional funding to research institutes and universities (see Table 3). Competitive funding accounts for only 20 percent of Government funding. The National Science Fund runs several competitive funding program modules mostly in accordance with international good-practices but allocates a very minor share of public research funding. The National Innovation Fund provides a growing source of funding for innovation in the productive sector.

**Table 3: Most government funding for innovation is in the form of institutional transfers**

<b>Funding Type</b>	<b>Competitive Funding</b>		<b>Institutional Transfers</b>			
Beneficiary:	National Science Fund	National Innovation Fund	Ministry of Defense	Bulgarian Academy of Sciences	National Center for Agrarian Sciences	Universities
2007 R&D budget (€ million)	7.6	6.1	1.0	34.8	2.3	14.4
	<b>Total: 13.7</b>		<b>Total: 53.5</b>			

Sources: Bulgarian Small and Medium-sized Enterprise Promotion Agency (BSMEPA), NSF.

Notes: National Center for Agrarian budget estimate is based on 2006 data. University estimate based on proportion of university budget to be spent on R&D according to the Law on Higher Education; however, universities are thought to spend significantly less on research.

27. Another issue is that there is no coordinated and comprehensive approach to providing technical assistance for technology absorption to small-and-medium-sized enterprises (SMEs) in traditional sectors. Several programs have recently been initiated to support technology absorption in SMEs but they operate in isolation from one another, and they do not offer the comprehensive services and expertise required by SMEs. International experience shows that SMEs are often most receptive to programs that bundle business and technology services together. Other SME technology support programs in Bulgaria target only high-end innovation based on using Intellectual Property Rights as a market strategy.

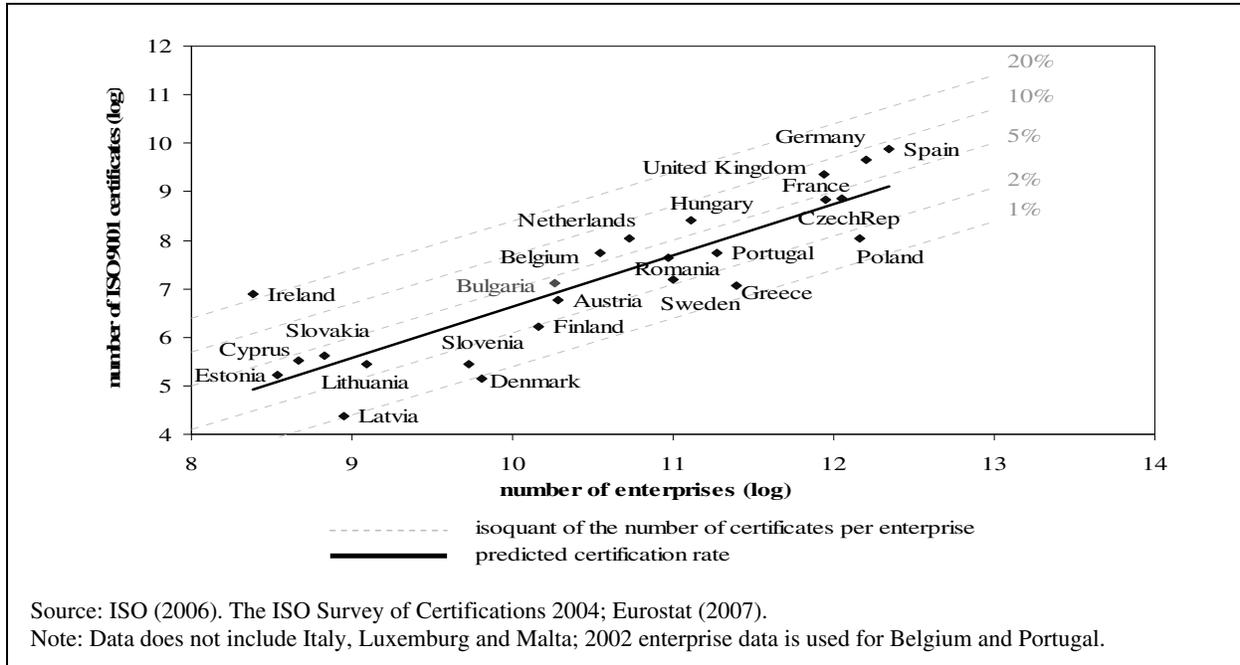
#### ***IV. Quality Infrastructure***

28. Under the right conditions, improving standards can accelerate technological progress, improve productivity and increase trade. Global buyers demand products and services that meet rigorous standards to ensure that these products and services integrate flawlessly with other components of the supply chain, satisfy final customer requirements and comply with a maze of technical regulations in importing countries. Yet firms can only fully exploit the benefits of standards when a supportive national quality infrastructure is in place.

29. Bulgaria has all of the necessary institutions for a complete national quality system. In the past five years, the national quality system has been significantly restructured and the institutions involved in standardization, accreditation, market surveillance, certification, and scientific and legal metrology have been segregated into independent bodies.

30. There has been an extremely large increase in the adoption of quality standards in Bulgaria in recent years. In 2000, Bulgaria accounted for 0.06 percent of global ISO 9000 certificates. This had increased to 0.34 percent in 2006. Bulgarian manufacturing firms have more ISO 9001 certificates than would be predicted by EU averages (see Figure 10).

**Figure 10: Bulgaria has more certifications than other EU countries when accounting for income level**



31. Becoming certified to international standards involves a long and costly preparation process that often requires training, consulting services and sometimes additional testing and calibration of equipment. While certification rates are reasonably high in Bulgaria, small firms lag far behind medium and large firms. Only 16 percent of small firms had an ISO certification in the Enterprise Survey compared to 38 percent of medium-sized firms (see Table 4). This is true even when considering only exporters, even though certification is often needed to enter quality-based market segments.

**Table 4: In Bulgaria, certification rates are much lower for small firms**

Share of Bulgarian firms with an ISO certification:	Small	Medium	Large
- all firms	16%	38%	52%
- significant exporters*	26%	52%	77%

Source: World Bank Enterprise Surveys.

\* Firms with > 50 percent of their revenues from direct exports.

32. There are several public and private initiatives to promote the adoption of quality and standards in Bulgarian firms. The Government offers consulting services on quality improvement by the Executive Agency for Promotion of SMEs. Although it is not common, some Government ministries promote certification through procurement requirements. Business associations are also active in the area of quality and standards. Finally, EU Structural Funds are expected to support new measures for the diffusion of standards and quality practices in firms. The Operational Program “*Development of the Competitiveness of the Bulgarian Economy*” approved by the European Commission in September 2007 includes a program to help firms achieve compliance with internationally-recognized standards. However, quality policies and programs could be improved in some ways.

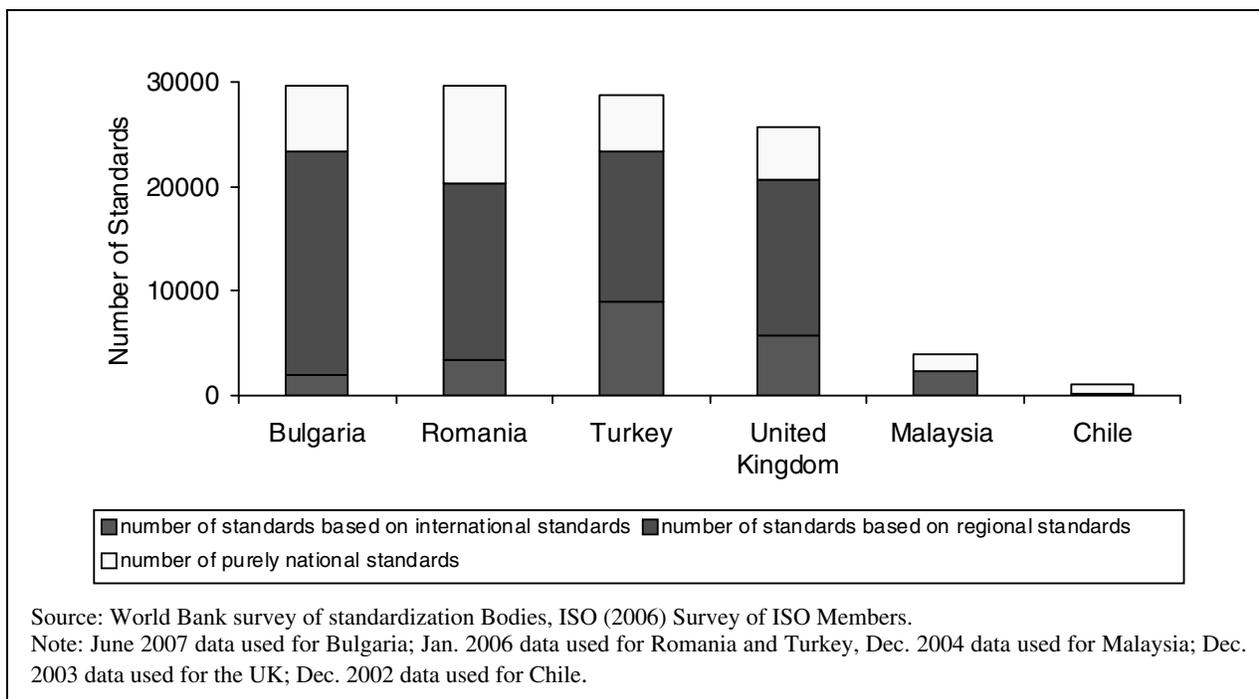
33. **Accreditation.** Private sector accreditation stakeholders have limited influence in the governance of the national accreditation body in Bulgaria under the Bulgarian *Law on Accreditation*. Both, the public and private sectors, are represented in an Accreditation Council,

but this body is granted a largely advisory role. Moreover, most of the executive power rests with an Executive Director appointed by the Government. In contrast, in countries such as Spain, the United Kingdom, Turkey, Hungary and Romania, the accreditation body has a general assembly of private and public sector members who have a voice in the governance of the institution. Further, the Executive Director plays a role in the appointment of accreditation personnel and technical experts in Bulgaria. In other countries, the selection of the workforce is not the responsibility of political appointees.

34. **Metrology.** Compared to other EU accession countries, the Bulgarian Institute of Metrology (BIM) provides few calibration services, and only a small share is provided to commercial calibration laboratories. For example, BIM provided a tenth of the calibration services that the national metrology institute in Hungary provides. Moreover, only a quarter of all of BIM's calibrations were performed for commercial calibration laboratories (primary calibrations), the rest being performed for final industrial users (secondary calibrations). Although Bulgaria performs better than Hungary and Turkey in this respect, its share of primary market calibrations is low compared to Poland and other EU countries where commercial calibrations laboratories account for the vast majority of National Metrology Institute clients.

35. **Standardization.** Bulgaria has a large and rapidly-growing stock of voluntary standards. The BDS standards catalogue lists 26,954 standards, slightly fewer than in Romania and Turkey, but more than in most other countries, including the United Kingdom and Korea (see Figure 11). The standards stock has significantly grown in the past few years (up from 15,257 standards in 2000). About 1,621 standards were adopted in 2005 alone.

**Figure 11: Bulgaria has a large standards catalogue, most of which are regional standards**



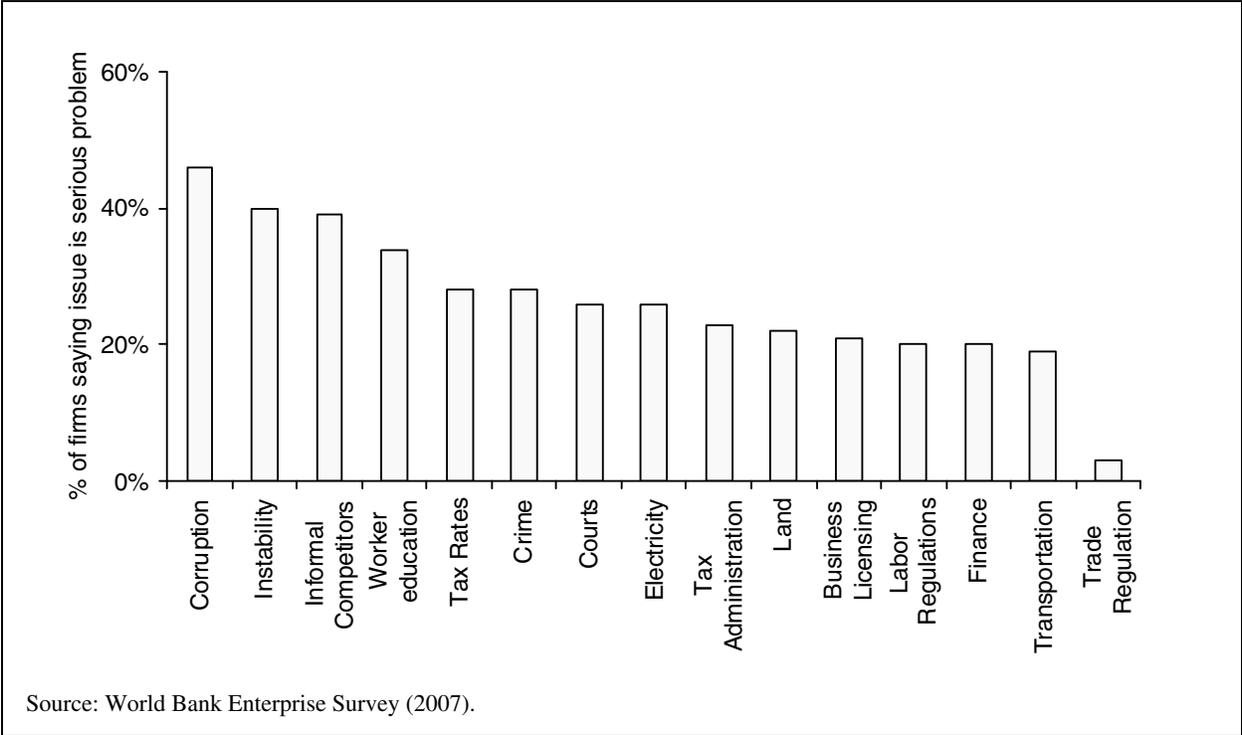
## V. Firm Perceptions about the Investment Climate

36. The Enterprise Survey does not just collect information on firm performance and innovation. It also collects information on the investment climate—including topics such as

corruption, competition from the informal sector, instability, and worker education and skills. The questionnaire includes two types of questions on the investment climate: (i) subjective questions about what managers see as the major problems that they face; and (ii) objective questions that try to measure investment climate constraints in terms of time, money and other quantitative information. The subjective data, although it has limitations, provides useful information on what firm managers say are the major constraints that they face. It is worth taking their concerns seriously since firm managers know more about the problems that they face with respect to firm operations than others will.

37. Many managers in the Enterprise Survey said that informal practices of competitors and corruption were serious obstacles for their firms’ operations. Although neither informality nor corruption is high compared to many countries in the world, Bulgaria does compare less favorably on these measures with the other new EU entrants and to most high-income countries in the EU. In the Bulgarian context, informality probably does not refer primarily to competition with completely informal firms (i.e., street traders or hawkers). Rather it is also likely to also refer to informal practices by formal firms such as hiring unregistered workers, avoiding making social contributions for some workers and evading taxes.

**Figure 12: Firms are most likely to be concerned about corruption, instability, competition with informal firms and worker skills and education**



38. Both corruption and practices of competitors in the informal sector should be seen as symptoms of underlying problems rather than as problems that can be dealt with directly. Many studies have emphasized that both reflect problems related to regulation and taxation. High levels of regulation and taxes can encourage firms to remain informal and can also encourage corruption as firms try to avoid them. As discussed in detail in Chapter 6, although tax rates have been reduced significantly, the burden of regulation remains high. In fact, firms estimate that managers spend about 17 percent of their time dealing with requirements related to

government regulation. High levels of Government regulation, as discussed previously, are strongly negatively correlated with firm efficiency.

39. Another area of the investment climate that firms were concerned about was instability. The analysis in the main report (see Chapter 5) strongly suggests that managers are concerned about instability in the policy and regulatory environment. When firm managers were asked whether they believe that Government officials interpret laws and regulations consistently and predictably, only 25 percent of them said this was the case. Together with the high level of concern about corruption and informality, this further emphasizes concern about the burden of regulation.

40. The final area of the investment climate that was rated as a serious problem by many firms is inadequately educated workers. Given the strong links between firm efficiency and worker education and skills, this might be a concern—especially since worker education appears to be an especially significant concern for firms in the IT sector and for the most innovative manufacturing firms. These issues are discussed below and in Chapter 7 of the main report.

41. Firms' concerns about many areas of the investment climate have changed significantly over the past five years. The most notable change is that concern about worker education and skills has increased significantly in recent years. Another significant change is that firms were less likely to say that access to finance was a problem in the 2007 survey than they were in earlier surveys. Although access to finance remains a serious concern for some firms (e.g., small manufacturing firms), it does not rank among the top concerns for most. This is discussed in Chapter 8 of the main report. Finally, there has only been modest concern about infrastructure in most surveys before 2007. Concern was slightly higher in the 2007 survey—although it did not rank among the very top concerns.

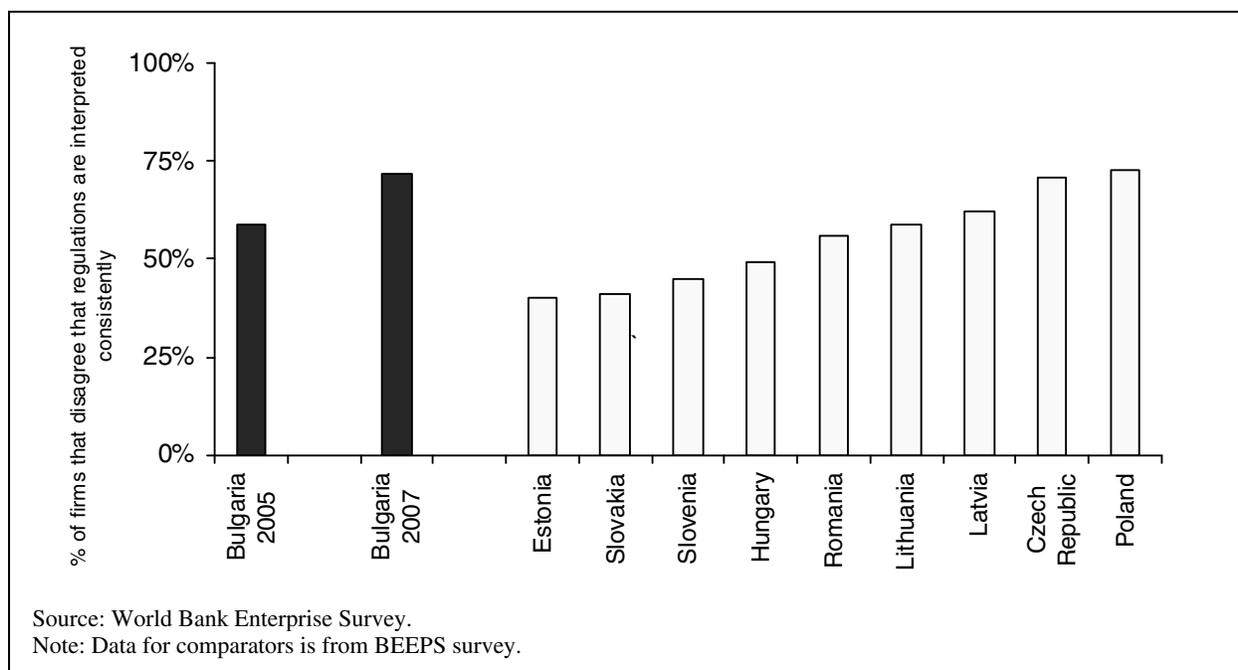
## ***VI. Regulation and Taxation***

42. Although firms did not have specific complaints about the narrow areas of regulation that were asked about in the Enterprise Survey, other evidence from the survey suggests that red-tape and burdensome regulation remain an obstacle to firm operations in Bulgaria. Over 45 percent of firm managers said that corruption and close to 40 percent said that competition with informal firms were serious problems for their firm. Both corruption and informal competition have been linked to burdensome regulation, red-tape and taxation.

43. Objective data also suggests that the burden of regulation is high. Senior managers in Bulgaria report spending 17 percent of their time on average dealing with requirements imposed by Government regulations (taxes, customs, labor regulations, licensing and registration). This is very high compared to other middle-income economies.

44. Firm managers were also concerned about how Government officials at the central and the local level interpret laws and regulations that affect businesses. Over 70 percent of businesses either strongly disagreed or tended to disagree with the statement that public authorities' interpretations of laws and regulations are consistent and predictable. This is high compared to firms' responses from other EU entrants in 2005 (see Figure 13). Erratic and inconsistent interpretation of laws and regulations leads to uncertainty about the cost of doing business and can encourage corruption.

**Figure 13: Firms are concerned about the predictability and consistency of how laws and regulation are interpreted**



45. Although concern about regulation remains high, Bulgaria has made significant progress with regulatory reform by adopting European legislation through the *acquis communautaire*. In 2003, the LARACEA was enacted. One year earlier the Council for Economic Growth was established. It has become an important public-private consultative forum, which promoted the introduction of Regulatory Impact Assessments (RIAs) in Bulgaria.

46. In 2007, the Ministry of Economy and Energy (MoEE) emerged as a champion of Regulatory Policy and RIA initiatives, working together with other line ministries, business associations, think tanks and the World Bank. This work fed into an important document, “Bulgaria’s Policy for Regulatory Reform in the European Union: Converging with Europe’s Best Regulatory Environments”, which recommended a national nine-step strategy. The strategy was approved by the Council for Economic Policy on October 19, 2007. This paved the way for the “Better Regulation Program 2008-2010”, approved by the Government of Bulgaria in April 2008. The program implementation was initiated in April 2008 and currently, it is in the hands of the Administration of the Council of Ministers, which has introduced a Better Regulation Unit to manage, monitor and control the implementation of the program.

47. **Entry and Exit.** Bulgaria tends to perform relatively poorly compared to other recent EU entrants and best practice countries with respect to the time and cost of registering a business. According to the *Doing Business Report* (World Bank, 2007b), it took 32 days at the beginning of 2007 to incorporate a company in Sofia, compared to 6 in the best practice country in the EU (Denmark), 7 in Estonia, 14 in Romania, and an average of 15 days in the OECD.

48. The cost of establishing a company in Bulgaria is also higher than in many of the best-performing comparator countries. It costs 8.4 percent of per-capita GNI to start a business in Sofia, compared to 2 percent in Estonia, 3 percent in Latvia and Lithuania and 5 percent in

OECD countries. Romania also performs better than Bulgaria in this respect (4.7 percent of per-capita GNI).

49. Exit procedures for firms are also relatively time consuming. The estimated time required to resolve a bankruptcy was 3.3 years on average (World Bank, 2007b). This is about three times as long as in the best practice country in the EU (0.9 years) and over twice as long as the average for the OECD (1.6 years).

50. The cost of the proceedings is about 9 percent of the estate. This is fairly close to the average for the OECD (7.5 percent), about twice the level of the best practice country in the EU (Finland, 4 percent), and better than or comparable to most of the other recent EU entrants. However, because bankruptcy proceedings take a long time to complete, the assets depreciate considerably during the process. As a result, the recovery rate, expressed in how many cents on the dollar claimants recover from the insolvent firm is lower than in most of the other recent EU entrants (32.4 percent).

51. **Inspection and Certification.** As noted above, the average firm manager in the Enterprise Survey for Bulgaria estimates that about 17 percent of the senior management's time is spent on dealing with requirements imposed by business regulations. Firms were also asked specifically about tax inspections. Most of the enterprises in the Enterprise Survey (70 percent) reported that they have been visited and or inspected by tax authorities and the average number of inspection is four times per year.

52. **Access to Land.** Only about 20 percent of firms said in the Enterprise Survey that access to land was a serious problem and most firms said that it was no obstacle. About half of the firms in the Enterprise Survey owned all of the land occupied by the establishment, about 40 percent leased it all, and the remainder owned some, but not all, of the land the establishment occupied. Firms that owned their land were less likely to say that land was a serious problem (about 16 percent of firms) than firms that leased the land their establishment used (about 31 percent of firms). Although access to land is not considered as a major constraint, getting construction permits is time consuming and costly (see Chapter 6).

53. **Courts and Crime.** If firms and entrepreneurs are going to invest in medium-or long-term plans, they need to be sure that their investment will be protected. In this respect, a well functioning judicial system is an important aspect of the investment climate. Although courts and crime did not feature among the very top concerns of firm managers in Bulgaria, more than one in four managers said that they were serious obstacles.

54. **Tax rates and tax administration.** Recent reforms of the tax system in Bulgaria were one of the main reasons why Bulgaria was placed among the Top 10 reformers in the most recent *Doing Business Report* (World Bank, 2007b). The integration of the collection and enforcement functions of the old tax administration and social security collection into a new agency, the National Revenue Agency has been a positive development.

55. Tax administration has also improved by offering on-line public service for corporate income tax, VAT payment, and social service contribution payment. Tax rates have also been cut. The corporate income tax was been cut from 15 percent to 10 percent in 2007 and a flat rate of 10 percent was adopted for the personal income tax in 2008. Consistent with this, firms have become less concerned about tax rates in recent years and neither tax rates nor administration

rank among the greatest concerns for firms. In spite of this, some practices could be further improved.

## VII. Labor Markets

56. Firms in Bulgaria were very concerned about the education and skills of workers. More firms said that this was a serious problem for their firm than any other area of the investment climate except corruption, instability, and unfair competition with the informal sector. Moreover, it appears to be a particular concern for innovative firms and firms in the IT sector. Given the strong link that worker education and skills and innovation have with improvements in productivity (see Chapter 2), worker skills are a significant concern.

57. Although employment rates have increased and unemployment has fallen across almost all levels of educational attainment since 2003, they are significantly lower for well educated workers. Only about 2.3 percent of individuals with a tertiary education were unemployed and 72 percent were in the labor force. Even in 2003, unemployment rates were very low for this group. In this respect the expansion of employment and investment for sectors that demand employees with secondary education might not be surprising—unemployment was already low and employment high for people with tertiary education.

**Table 5: Employment and unemployment by level of education and labor status**

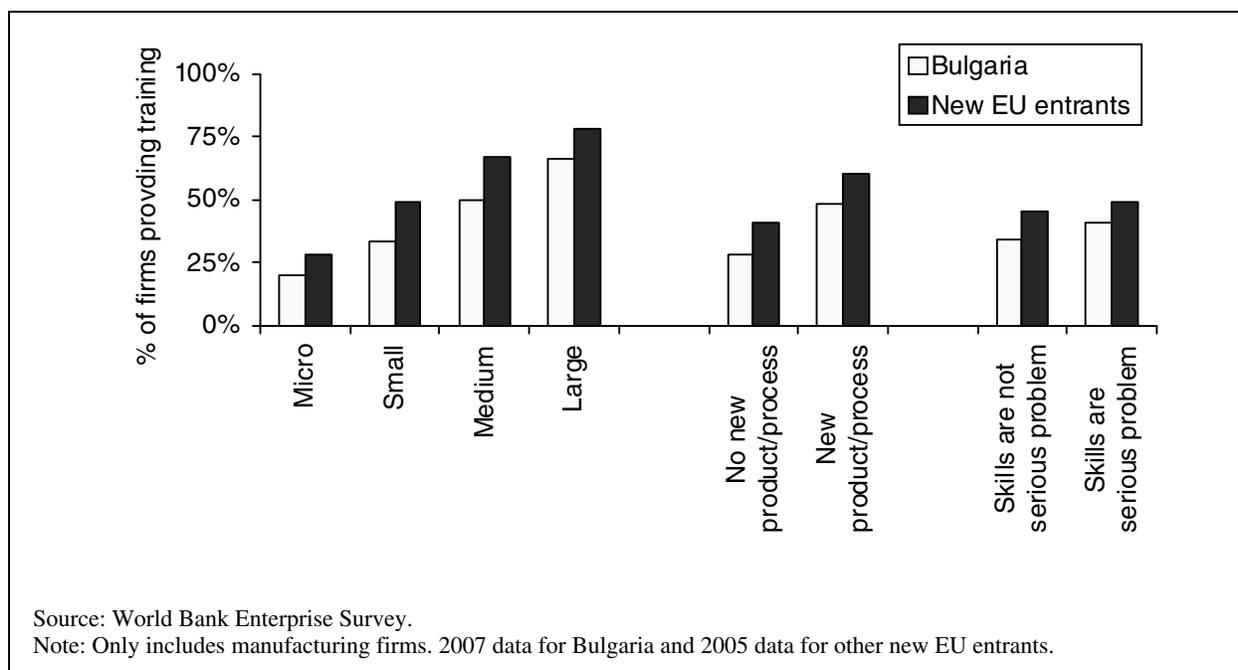
	2003		2007	
	Employment Rate	Unemployment Rate	Employment Rate	Unemployment Rate
<b>Total</b>	<b>43.9</b>	<b>12.7</b>	<b>49.9</b>	<b>6.6</b>
Higher	68.5	6.7	71.8	2.3
Degrees Bachelor. Master.				
Doctor	71.2	6.6	76.1	2.4
Degree Specialist	61	6.8	56.2	2.2
Upper secondary	56.5	11.9	63.5	5.7
Secondary vocational	---	---	70.6	5.4
Secondary general	45	11.9	51.8	6.5
Lower secondary	24.2	19.4	24.8	14.1
Primary or lower	11.8	30.4	10	27.6

Source: National Statistical Institute (NSI). Household labor force survey (HLFS).

58. Firms that have introduced new products and processes are more likely to provide training to their workers compared to those that have not (see Figure 14). This is not surprising given that there is often a learning-by-doing aspect to innovation (Bell and Pavitt, 1992; Desai and Goldberg, 2007). Introducing new products and new processes involves introducing new equipment and machinery and that, in turn, will require that workers are trained. It can also require adjusting management, reorganizing product lines and upgrading worker skills.

59. This emphasizes the link between training and innovation. Firms that are more innovative or that receive ISO quality certification will have to train their workers to adapt to the new products and processes. Further firms that are upgrading product lines or production processes probably have greater need for adaptable skilled workers than firms that do not. Government programs to encourage firms to provide training will probably also encourage firms to upgrade technology, production processes and quality.

**Figure 14: Large firms, more innovative firms and firms that were concerned about skills were more likely to provide training than other firms were**



60. In contrast to worker education and skills, few firms saw labor regulation as a serious obstacle to their operations and growth. Objective data is generally consistent with this. Bulgaria compares favorably with other countries in the EU with respect to most aspects of labor regulation in the *Doing Business Report*. In particular, Bulgaria compares favorably with respect to the difficulty of hiring and firing and firing costs are low in terms of weeks of wages.

61. One area of regulation where Bulgaria compares less favorably is with respect to flexibility of hours. Consistent with this, very few firms in the Enterprise Survey report that they hire either part-time or temporary workers (only about 15 percent of manufacturing firms report that they had either in 2007).

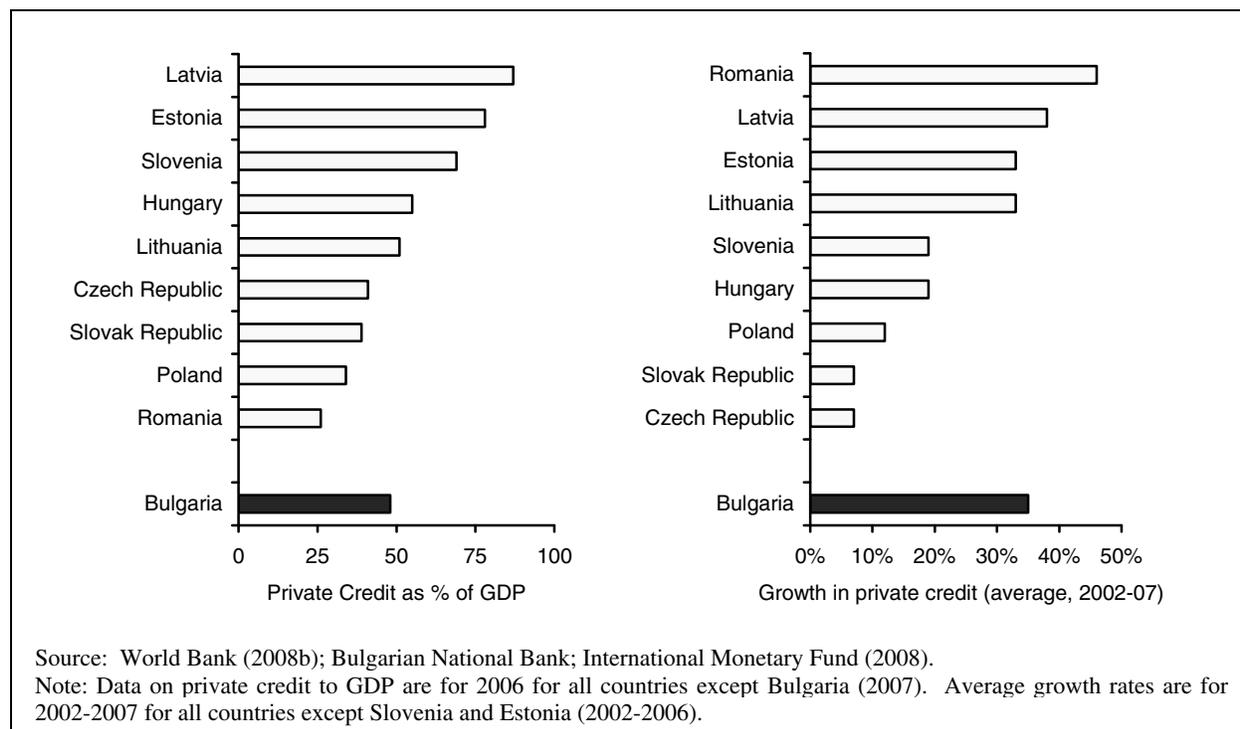
62. Given the difficulties associated with hiring part-time workers in Bulgaria (World Bank, 2007a), it is probably not surprising that these firms were considerably more likely to say that labor regulation were a serious problem than other firms (38 percent compared to 17 percent). It ranked as the 7<sup>th</sup> greatest concern for these firms, compared to the 13<sup>th</sup> greatest for firms without part-time or temporary workers. Even for these firms, however, it did not rank among the very greatest problems.

### ***VIII. Access to Finance***

63. In earlier surveys in the late 1990s and early 2000s, managers consistently reported that access to finance and the cost of financing were among the biggest—if not actually the biggest—problems that their firm faced. Bank credit to the private sector has increased significantly over the past three to five years in Bulgaria (see Figure 15). This increase appears to have reduced financing constraints for many firms in Bulgaria. Firms in the 2007 Enterprise Survey were less likely to say that access to financing was a problem than firms in surveys in earlier years and

were more likely to have bank financing. Both subjective and objective data is consistent with the idea that the rapid growth in credit has reduced this constraint.

**Figure 15: After a half-decade of rapid growth, credit to the private sector was higher than in many of the other recent entrants to the EU**



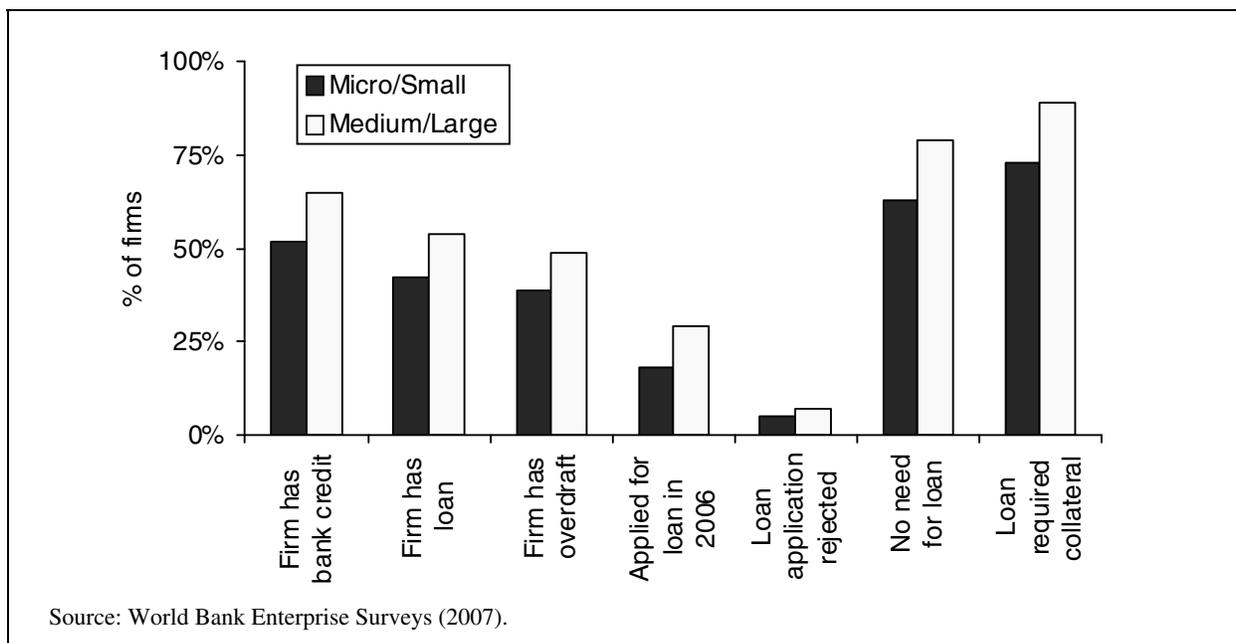
64. It is important to note, however, that some concerns remain. One particular concern is about the stability of the expansion in credit. Although improvements in macroeconomic conditions and EU membership have played an important role in reducing credit constraints, it is unclear whether other factors might have also been important. If credit growth slows in response to problems in global credit markets or to internal factors, then it is plausible that credit might become a concern in the future. Moreover, given the short-term nature of most lending, the impact could be quite rapid. Analysis of issues related to stability is beyond the scope of an ICA. The upcoming joint World Bank-IMF Financial Sector Assessment Program will discuss this issue in detail.

65. A second issue is that the terms of the many of the loans are not very attractive. Other than not needing a loan, the second most common reasons that firms that had not applied for a loan gave for not applying was that interest rates were too high (14 percent of firms). This is consistent with macroeconomic evidence that suggests that lending rates and spreads are higher in Bulgaria than in most of the comparator countries.

66. Other aspects of the loans are also unattractive. Most firms with loans reported that their most recent loan was very short-term—over 60 percent of loans given to firms in 2007 were for less than a year and only five percent were for over 5 years. Short-term loans are more attractive for financing short-term working capital needs rather than long-term investment. In addition, almost all firms used either real estate or the owner’s own assets as collateral for the loan. There was only very limited use of either movable property or accounts receivable as collateral.

67. A final issue is that access remains more problematic for SMEs than for larger firms. Although credit has grown across the board, small enterprises were less likely to have a loan than large enterprises and were slightly more likely to be rejected. Given the importance of land as collateral, it is not surprising that firms with land were more likely to have loans than firms without. This suggests that access to finance might be a problem to entrepreneurs that do not own their own land—consistent with this firms that owned their own land were more likely to have loans than firms without.

**Figure 16: Large firms have better access to finance than small firms**



## ***IX. Policy Recommendations***

### ***Innovation and Technology Absorption***

68. **Create a more Effective Research, Technology and Innovation Policy Framework.** Currently, several Government entities implement policies, sometimes in an uncoordinated manner. As outlined in *Accelerating Bulgaria's Convergence: The Challenge of Raising Productivity* (henceforth called the *ABC Report*), Bulgaria could consider developing an integrated national strategy for research and innovation policy under the guidance of a single consultative council that represents Government, research and industry at a high policy level. This would result in a more coherent national innovation system.

69. **Leverage Public Financial Support for R&D and Innovation.** There is a need to significantly increase national R&D expenditures to build the technology absorption capacities required to close the productivity gap with the rest of the EU. Investment in R&D is low in Bulgaria and has been in relative decline over the past decade. The role of the Government is not only to increase publicly-funded R&D but also to stimulate R&D investments in the private sector, which still accounts for a very small share of total expenditures. Public sector R&D expenditures could be based on priorities set by a national research and innovation strategy that reflects Bulgaria's state of economic and technological development. Funding could be allocated

under the guidance of a single supra-ministerial commission on research, technology and innovation to ensure coherence in the funding of different institutions and funding programs.

**70. Establish clear performance metrics and agreed strategic plans for public R&D funding.** Institutional or “discretionary” research funding to research institutes and universities needs to be based on agreed strategic plans in line with national research priorities and based on clear performance metrics. Multi-year funding commitments could be introduced to allow for research institutes and universities to be more strategic in their planning. Institutional funding may not only be conditional on prior performance but also on periodic independent evaluations of the recipient institutions.

As noted in the *ABC Report*, the share of funding that is provided on a competitive basis may need to be increased to reflect international best-practices. This will result in a more efficient national innovation system able to transform a greater share of R&D investments into applied results. The National Science Fund (NSF) is a good step in this direction and it is currently too small to have much of an impact on research effectiveness. At this time, given its limited budget and the absence of economies of scale for research in Bulgaria, NSF could consider focusing its resources on a selected number of thematic areas corresponding to Bulgaria’s national priorities (in accordance with the recommendations of the *ABC Report*). Concurrently, there is a need to increase grant sizes to reflect the lumpy and indivisible nature of research.

**71. Encourage R&D and Innovation in the Private Sector.** The Government can stimulate R&D investments and innovation in the private sector through public financial support mechanisms, such as matching grants and loans. The National Innovation Fund (NIF) provides a growing and much-needed source of funding for innovation in the productive sector. Moreover, the projected growth of the NIF’s budget over the next few years will have a positive impact on private sector innovation in Bulgaria. It will be critical for Bulgaria to ensure that NIF has the capacity to increase the number of grants it awards. There have already been delays in application processing and reimbursements. Any weaknesses in NIF need to be quickly identified and rectified. This may be achievable through periodic independent evaluations of NIF, following the NSF model. Some possible improvements of NIF include:

- increasing the share of match-funding provided to firms since the NIF’s co-funding requirements can be quite difficult for firms, particularly SMEs, to realize;
- ensuring that competitions are fully transparent by making use of international committees for NIF proposal evaluations, as is done in NSF, and by announcing competitions early;
- decreasing administrative costs for recipients of NIF funding by streamlining the application process and increasing grant sizes.

**72.** At present, NSF and NIF do not complement each other as much as they could because both offer grants for industry-research collaborative projects. Although efforts have been made to avoid duplication, this could be further avoided by having them each focus on distinct stages of R&D and technology commercialization. As a nexus between industry and research, NIF or NSF could also develop the capacity to support organizations wishing to apply for FP7 funding.

73. At this point, Bulgaria needs to focus on grants versus corporate income tax incentives, as these will require building significantly more coordination capacity between the various government agencies.

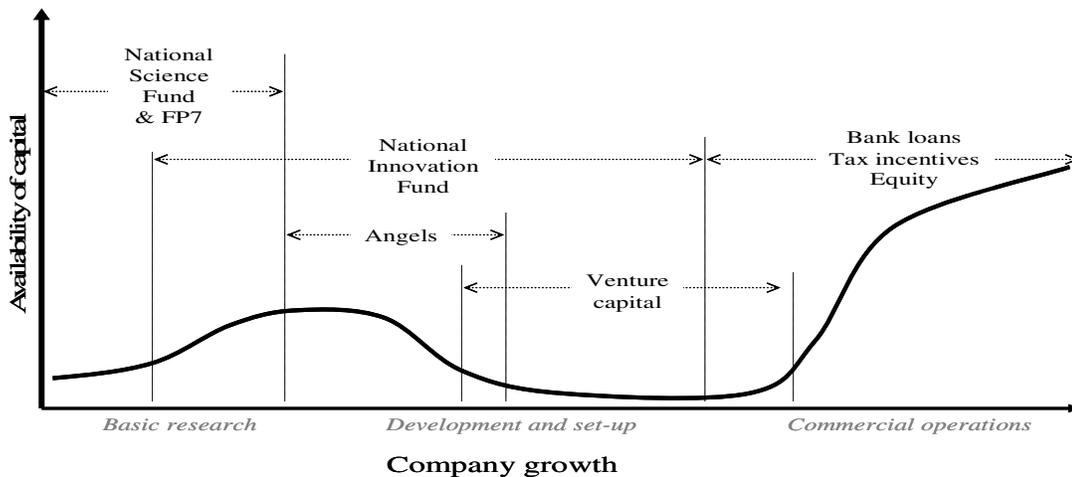
74. **Close the Productivity Gap through Technology Absorption.** The growth of NIF can be expected to bring much needed funding to private sector innovation in Bulgaria. In addition, Bulgaria could introduce schemes to facilitate technology absorption in firms. Most domestic firms in Bulgaria operate far from the technological frontier and would greatly benefit from adoption of existing technologies. Moreover, since innovation is most often the results of the improvements or combination of existing technologies, the effect of any measure for increasing innovation can be enhanced by measures to support technology absorption. Technology absorption schemes could be particularly helpful to SMEs and to firms in traditional manufacturing sectors, both of which are falling behind technologically. Such schemes could include:

- the creation of a network of technology extension centers focused on transferring productivity-enhancing hard and soft technologies to Bulgarian firms; this network should not be built from the ground up but should leverage technical resources from existing universities and research institutes in Bulgaria;
- as part of the technology extension network, “soft” technology upgrading technical assistance and training programs focusing on quality and organizational processes that impact technology absorption, starting with simple productivity-enhancing methodologies to more involved lean production systems, and to quality systems;
- supplier development programs that help potential domestic suppliers to position themselves in global value chains in which they can benefit from knowledge and technology transfer from buyers;
- a combination of matching grants and loans for technology-intensive manufacturing equipment for SMEs;
- consultancy or training services to help local firms understand and negotiate technology licensing agreements, although this is likely to be of limited use to smaller firms.

75. While FDI can also act as an important channel of technology diffusion, Bulgaria can ensure that it does not focus exclusively on corporate tax cuts or special tax concessions to attract this type of investment. These instruments alone are unlikely to attract FDI with high technological externalities. Even with knowledge-intensive FDI, spillovers will be minimal unless the technological absorptive capacities of local firms and of the local workforce are first enhanced. Providing domestic firms with support for technology absorption would make Bulgaria more attractive to knowledge-intensive FDI and maximize technological spillovers.

76. **Increase Financing of Innovative Entrepreneurship.** Although large mature Bulgarian firms have relatively good access to bank finance for innovation and technology absorption, pre-competitive research funding is limited and there is a significant gap in early stage technology commercialization (see Figure 17).

**Figure 17: There are limited sources of R&D finance and a severe early stage funding gap available to innovative startups in Bulgaria**



Note: Conceptual representation not based on actual data.

77. The Government could facilitate the creation of seed and venture capital funds to bridge the gap between research and technology commercialization. In Bulgaria, there are few sources of finance available to close the gap between a firm's R&D and expansion stages. While NSF, FP7 and NIF provide funding to firms, these can only be used to fund specific R&D projects, and not a firm's start-up business activities. Seed funding could be initiated through the creation of a small public fund to invest in early-stage startups. Concurrently, the Government may encourage the creation of a business angel network. At a later stage, once these programs are in place and depending on a sufficient pipeline of projects, the Government could facilitate the creation of a privately-managed venture capital fund, through leveraged investments or other instruments that have been used successfully in countries such as Israel and Finland.

78. The provision in the recent Bulgarian Development Bank Act for the establishment of a large venture capital fund to help SME' development is a step in this direction but yet to be evaluated. Considerable care would need to be taken to ensure that the relevant management expertise is available before attempting to establish any such venture capital program.

79. **Improve the Quantity and Quality of Human Resources for Innovation.** The Government could consider introducing measures to increase the scale and quality of its R&D workforce. These measures may target both the supply and demand sides of the labor market. On the supply side, investing in science and engineering education to strengthen Bulgaria's technical workforce has to be a government priority. Bulgaria could also tap into its large scientific and engineering diaspora community by encouraging them to return. Brain circulation programs could support the placement of Bulgaria's science and engineering diaspora in research institutes, universities and in private sector R&D projects. In this respect, the recent initiative by the National Science Fund with a program aiming at attracting back to the country native researchers seems to be a step in this direction. On the demand side, programs to subsidize internships for science and engineering graduates in R&D projects in industry can enhance firms' understanding of the value of R&D and create a culture of innovation in the private sector.

80. **Establish an Environment for the Creation and Diffusion of Technology.** Bulgaria could continue strengthening its IPR enforcement regime through capacity building and better

coordination of enforcement agencies. If Bulgaria remains in the status quo, it runs the risk of discouraging domestic innovation and the transfer of technology by foreign investment firms.

**81. Strengthen Linkages between Research Institutes, Universities and Industry.** While on the demand side, scaling up financial support for industry-research collaboration can help increase linkages in the national innovation system, these measures are unlikely to be effective unless they are accompanied by measures that target the supply side of R&D to: a) reform research institutes and universities so that they are more market-driven; and b) establish bridging institutions.

***a) Reforming the supply of R&D***

*Research institutes*

82. The Government may introduce more incentives for R&D institutes to increase their collaboration with industry, particularly in areas in which domestic firms are lagging behind their European counterparts. This will be a long and difficult process as there are no genuine industrial R&D institutes capable of effectively addressing the immediate technological needs of enterprises in Bulgaria. Rather than attempting to reform the entire Bulgarian Academy of Sciences (BAS), which has an eclectic mix of basic and applied natural and social sciences ranging from philosophy to physics, the Government could reform selected BAS institutes which have the highest potential to be re-oriented toward industry. Measures that can contribute to reshaping these institutes include the introduction of market departments, incentives schemes for researchers to seek contracts with industry, requirements for all self-initiated research projects to be formally vouched by industry, project management training for researchers, the introduction of researcher mobility schemes to increase their exposure to industrial problems and the introduction of industry representatives in the boards of directors of the individual institutes.

*Universities*

83. If universities are to play any role in supporting private sector innovation through research, the Government may need to first significantly strengthen their research capabilities. Education and research are poorly integrated in Bulgaria, and Universities tend to focus almost exclusively on their teaching roles. Universities and research institutes play complementary roles in the national innovation system and a weak university research base cannot necessarily be compensated solely by strengthening research institutes. Research could be encouraged in Bulgarian Universities by increasing the share of competitive funding reserved for Universities until they have developed their research capabilities. Finally, Universities will have to aim to attract more science and engineering graduate students, which represent irreplaceable assets for certain types of industry research projects.

***b) Bridging institutions***

84. There are plans to establish a number of institutions to bridge the gap between research and industry, but Bulgaria could ensure that their sequencing is consistent with the level of development of the national innovation system. Bulgaria needs to ensure that other elements of its national innovation system are in place, such as proper funding mechanisms, IPR enforcement, market-driven research institutes, before embarking on an ambitious and expensive program of technology commercialization infrastructure development. Technology parks and incubators carry high risks and have produced mixed results in many countries. A single pilot

technology park could be established to develop a model that fits the Bulgarian context and builds domestic expertise in this area prior to developing any other technology parks. Similarly, Bulgaria may consider not scaling up its incubator program until existing incubators have been properly evaluated and fine-tuned to the needs of domestic firms. New incubation programs may focus on service provision rather than facilities to reduce market risk. As affiliating incubators and technology parks with Universities present more opportunities for industry-research linkages, Bulgaria could change its legislation to allow Universities to house incubators or technoparks on their premises.

### *Quality Promotion Policies and Programs*

**85. Change the Executive Agency for Testing and Certification (EA CT) from a public to a private organization.** The market for certification and testing is now mature and does not require the provision of conformity assessment services by the state. Government involvement could distort the market. Further, EA CT is under the same ministry as the organization that accredits it, creating a potential conflict of interest. If EA CT is privatized, it might not be able to maintain its electromagnetic compatibility (EMC) testing facilities without Government subsidies. Care must therefore be taken to ensure that EMC testing remains available. If needed, the Government could consider transferring EA CT's EMC laboratory to the BIM.

**86. Provide training and consultancy services for Notified Bodies.** Notified Bodies are essential to the adherence of EU directive in Bulgaria and in export markets in the EU. Notified Bodies have not been designated for many EU New Approach directives in Bulgaria but are missing in some key areas. Becoming a notified body requires technical capacity and investments that may be lacking in some areas. The Government could ensure that all relevant EU directives are covered by Notified Bodies by providing training and consultancy services to conformity assessment organizations aspiring to become Notified Bodies.

**87. Have programs to support quality upgrading in firms beyond certification.** International certification has little or no effect on firm performance if it is simply adopted superficially to meet customer requirements. Support for quality management system certification may be integrated as part of wider schemes that are evaluated against actual quality improvement in firms, not just the firm's ability to meet the requirement of the standard.

**88. Support firm innovation and quality adoption in parallel.** While innovation leads to quality improvements, adopting quality standards can help integrate firms in market segments in which there is more demand for innovation. Policies to support innovation and quality reinforce each other and should be complementary. The government should consider promoting programs for firms where support for adoption of quality practices is coupled with support for innovation.

### *Accreditation*

**89. Consolidate the accreditation system with the Notified Body designation system.** Two independent quality assurance systems for conformity assessment bodies exist in Bulgaria, creating redundancies. There are opportunities for rationalization, and Bulgaria could consider giving some of the notification tasks to the Bulgarian Accreditation Service (EA BAS). The European Commission officially recognizes accreditation as a means of selecting Notified Bodies and this procedure has been used in several European countries. It would be important to strengthen EA BAS in parallel to ensure efficiency in the notification process in Bulgaria.

90. **Privatize the EA BAS if there is inability to provide it with more private sector representation and autonomy under its current legal status.** Currently, the private sector is not represented on the board of directors or in the general assembly and the private sector's role in the Accreditation Council is limited. EA BAS serves mainly the private sector and should include industry representation, including associations of conformity assessment bodies such as BULLAB. Moreover, legislation on EA BAS's structural regulations could be less prescriptive and could provide the organization with more autonomy. Because national legislation prescribes EA BAS' administrative structure, accreditation processes, salaries and workforce, this makes it difficult for EA BAS to adapt itself to changing market requirements and result in inefficiencies. Administrative structure, accreditation processes and workforce issues could be addressed by the institution's internal regulations instead. The Government could consider privatizing EA BAS if legislation cannot otherwise accommodate an increase in stakeholder representation and autonomy.

91. **Select EA BAS technical personnel with the oversight of a technical council rather than make selection a discretionary responsibility of a public sector nominee.** The Executive Director is nominated by the Government and could appoint staff for political motives. It might be preferable for a technical council to oversee the selection process or for other management personnel to be responsible for selecting the workforce.

92. **Shorten accreditation delivery times to make accreditation more appealing to the private sector.** Internal regulations could significantly shorten the maximum allowable accreditation time to make EA BAS competitive with foreign accreditation bodies and not place Bulgarian certification bodies and laboratories at a disadvantage compared to their foreign competitors when they are applying for accreditation. Increased staff salaries and flexibility in the structure of the workforce would also shorten the accreditation process.

93. **Encourage and help EA BAS to invest in the underdeveloped market for certification body accreditation.** The development of the market for accreditation of certification bodies will require investment from both the supply and demand sides. On the supply side, reinvesting profits from EA BAS' operations would help develop its market for accreditation of certification bodies. On the demand side, the government could consider funding programs that support accreditation of certification bodies through technical training and matching grants.

94. **Support proficiency testing programs.** Proficiency testing programs are expensive and require significant technical expertise. However, proficiency testing is required for many types of laboratory accreditation. Providing support for proficiency testing programs would increase the quality of the services of the accredited laboratories in the Bulgarian market and thereby increase quality of their private sector clients.

95. **Seek full membership in the IAF and ILAC.** Most EA members are also full members of the International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). This allows them to gain greater international recognition and to become involved in technical cooperation with countries outside of Europe.

96. **Become a signatory to all areas of the multilateral agreement for European cooperation for accreditation (EA-MLA).** Bulgarian testing and calibration laboratories as well as inspection bodies accredited by EA BAS cannot be recognized abroad. EA BAS should take all necessary steps to secure membership in the remaining five areas of the EA-MLA.

## *Metrology*

97. **Formulate a strategy for BIM's transition from the secondary calibration market to the primary calibration market.** Most of BIM's calibrations are provided to the secondary calibration market and it has provided few services to commercial calibration laboratories. BIM could ensure that it is not stifling competition in the market for secondary calibrations. It could consider developing a clear strategy to encourage the creation and use of private calibration facilities and to gradually disengage itself from the secondary calibration market.

98. **Have BIM provide training and consulting services to support the diffusion of quality in the private sector.** As the prime scientific metrology institution in the country, BIM is aware of best international practices and latest technologies in metrology. However, BIM is not leveraging its technical and scientific expertise to promote the absorption of good practices and innovation in industry. BIM's regulations might be able to provide incentives for the provision of training and consultancy services.

99. **Give BIM more autonomy so that it could become more responsive to market needs and bring its operating structure in line with European best practice.** BIM cannot adapt its workforce to changing market conditions without amending the national legislation. BIM could have more autonomy on the structure and salaries of its workforce in order to lower overhead costs and hire high-quality technical staff. Furthermore, BIM could be granted the ability to retain its service fees. This would provide it with additional incentives to enhance its efficiency.

100. **Consider whether legal metrology should be the responsibility of a single body, as it is in most European and industrialized economies.** There are few qualified metrologists in Bulgaria and they are currently divided between two institutions, SAMTS and BIM. Unifying all legal metrology activities under a single organization would facilitate cooperation within the different legal metrology activities. Unifying legal and scientific metrology would facilitate cooperation between all aspects of legal metrology and scientific metrology. Furthermore, under a single agency, all aspects of metrology would be represented in international organizations. The Government might consider transferring all legal metrology functions (including enforcement) to BIM, given its existing technical expertise in scientific metrology.

101. **Ensure that the scientific metrology facilities are able to meet international design norms.** The Government could invest in facilities that are suited for the activities of a national metrology institute and do not compromise the effectiveness of BIM's operation. Bulgaria could take advantage of international experience in the design and construction of metrology facilities to ensure the sustainability of any long-term investment in new facilities.

## *Standardization*

102. **Remove obsolete standards.** Bulgaria has a very large standard stock. Moreover, many older Bulgarian standards that were developed prior to BDS' restructuring and without using international best practice. These old standards coexist with new standards. Some of these standards may hamper flexibility and technology upgrading in the private sector. BDS could increase efforts to systematically review its national standards to reduce its oversized standard stock.

103. **Ensure that there is an effective process to translate European and international standards into Bulgarian and train the conformity assessment personnel.** Although it is

important to continue to adopt European and international standards, it would be useful to make sure that there are effective processes to translate them into Bulgarian and to provide English training to conformity assessment personnel. A strategy for the translation of its English-language EN standards that places priority on the most important standards and formulates a definitive timeline for the translation of all standards of relevance to the Bulgarian economy, in consultation with private and public stakeholders, could be adopted. It should establish clear obligations for ministries to fund the translation of harmonized standards that fall under New Approach directives under their responsibility. English training needs to be provided to conformity assessment personnel expected to work with standards that have not yet been translated.

**104. Support participation of the private sector in European and international standardization activities.** Membership in the European standards bodies and active participation in the work of technical committees will allow Bulgaria to provide its inputs to the regional standards that it adopts. It can be difficult for firms, especially Bulgarian SMEs, to represent interest in CEN, CENELEC, ISO and IEC technical committees due to high travel costs unless participation in these organizations is supported by public funding.

### *Reducing the burden of regulation*

#### *Entry and Exit*

**105. Prepare a full impact assessment of LARACEA to identify changes that would improve its functioning and its impact.** LARACEA was created as a common legal act and built a clear model for administrative regulation and control. But the law does not function well. It is recommended that LARACEA and its implementation is fully assessed to explore the gaps in the law and to track the illegal practices by municipalities and central authorities. The assessment could identify a package of special administrative acts that have to be amended so that the law functions as its spirit prescribes.

**106. Replace by a simple notification obligation or abolish the municipal registration procedures.** Many of these procedures are cumbersome, lengthy and superfluous. Municipalities are illegally imposing registration requirements that duplicate national registration to impose fees that support their budgets. These could be removed or replaced. Where registration and permission regimes are applied according to the law, municipal registration could be transformed into notification.

**107. Reduce registration fees for businesses and introduce universal reduction of the administrative costs for the business.** The administrative costs to register start-ups do not justify the high registration fees. LARACEA prescribes that the costs of applying a regulation (compliance, administration and control) should not be greater than the benefits from its introduction and administration. The overall start-up cost in Bulgaria is 8.4 percent and it could be reduced to the level of neighboring countries (e.g. Romania at 4.7 percent). It is recommended therefore that a special methodology for the classification of tariffs for central administrative service fees is developed. A strategic policy document that will embrace these practices and provide an instrument for classifying tariffs for the central administration service fees would be useful. This could result in a universal reduction in administrative costs.

**108. Reduce the steps and the time to complete registration procedures through the effective use of the Trade Registry.** Although the single ID for firms was introduced in 2008,

the Trade Registry is not currently functioning well. The Trade Registry and the single ID for firms could be used to streamline registration procedures. A review of the procedures and ways to streamline them might be appropriate. Requirements for pre-registration at the Trade Registry could be discussed with businesses.

**109. Channel additional resources to the Trade Registry to improve its functioning.** Capacity building and adequate staffing at the Trade Registry are crucial for the institutional set-up of the national registration system.

**110. Monitor registration practices at the municipal and central levels.** This could be done through the Administrative Register and by introducing a monitoring system to oversee the application of the regime at the central and local level. Reviewing administration procedures and improving coordination among public authorities would: (i) avoid the duplication of documents and regimes at the central and the local level; and (ii) could reduce costs. An on-line monitoring system could support this and help avoid the illegal application of regimes. The Administrative Register could also be helpful in improving access to information, raising awareness and monitoring implementation.

**111. Change the law related to documentation of the process to investigate, list and verify debtors' assets to decrease the time required for firms to exit.** Once the process of documentation for investigation, listing and verification of debtor's assets is speeded up, the time and cost of court proceedings would fall. Further analysis is needed to support the changes in the Commercial Act.

**112. Link the remuneration for the bankruptcy trustee to the proceeds realized from cashed assets.** Linking trustee's remuneration to the proceeds realized from cashed assets would increase trustee's performance in bankruptcy procedures.

**113. Use the internet to post District court decisions and publicize auctions.** Establishing internet portals by District Courts, similar to the one that is maintained by the State Receivables Collection Agency to post court decisions and announce asset sales in cases when the state is not involved as a creditor for public receivables would increase transparency and improve performance.

### *Licensing*

**114. Streamline procedures to obtain import and operating licenses.** The number of steps to obtain licenses could be reduced. As part of this process, the duplication of documents should be avoided. Giving businesses access to the sectoral electronic public registry, which can publish licenses, assess the validity of the licenses, and terminate licensees, would also be useful.

**115. Focus licensing reform on SMEs.** The Executive Agency for Promotion of SMEs could consider the specific barriers that SMEs faces due to the application process for licenses. The objective would be to draw attention to administrative barriers that impose a substantial burden on small firms and, where possible, simplify the application procedure for licenses for these firms.

**116. Streamline licensing procedures for food producers and traders of food of animal and non-animal origin through the establishment of a Food Safety Authority.** This requires reviewing existing procedures and improving coordination among the municipalities, the

Ministry of Health and the Ministry of Agriculture and Food Safety so that firms are not required to submit the same documents to different institutions. The Food Safety Authority should start operating as soon as possible, so that it can replace the old system of licensing and inspection in the food-processing and food trade industry and close the circle from the “field to the table”.

**117. Apply post-inspections instead of renewal of licenses.** Some licenses are issued for five years, some for an indefinite period, and post-licensing inspections are missing. Risk-based inspections at the municipal level, rather than the central level, could result in more efficient inspections.

### *Inspections*

**118. Increase capacity for the public and municipal authorities that implement regulatory regimes.** Training for public and municipal authorities and technical capacity building on how to apply and maintain regulatory regimes and how to execute procedures and inspection regimes could improve consistency and predictability of the regulatory environment.

**119. Increase self-regulation for the tourism industry.** A system of risk-based inspections following the classification of tourism facilities should be introduced. Self-regulation of the tourism sector could be encouraged by transferring the mandate for conducting evaluations for the rating system and developing quality standards from the State Tourism Agency (STA) to business associations. The registration of tourism activities could be improved by improving the functioning of the Trade Registry and improving the implementation of LARACEA. The STA could then focus its activities on strategies for developing, marketing and promoting tourism.

**120. Evaluate the efficiency of inspections and consider centralizing the inspection authority for foodstuffs.** More work is needed to assess the efficiency of the current inspection process in the food sector. The analysis may include an assessment of whether a common inspection service for all food- and feed-related inspections could be created. In this respect, accelerating the process for the creation of Food Safety Authority and centralizing the inspection and control regime in the food industry would seem to be a promising way to reform.

**121. Introduce risk-based inspections in the food sector.** Routine inspections are not highly effective and, therefore, random risk-based inspections could replace them. However, they need to be linked to a provision of sanctions for violations that are enforceable and that carry additional inspections in the future.

**122. Base inspection fees for laboratory testing in the food sector on the size of the establishment.** The Government could consider introducing a schedule with multiple categories based on the size of the inspected lot.

**123. Provide incentives for Bulgarian enterprises that obtain voluntary certificates for the conduct of their business operations.** The government could provide incentives to enterprises that have obtained necessary voluntary certification for the conduct of their business operations.

### *Access to Land*

**124. Promote the linking of local SMEs to large foreign companies in industrial zones.** Although prices are increasing, industrial space is currently cheaper to rent in Bulgaria than in

other economies in the region. Promoting industrial zones where FDI is linked to local SMEs could be an important milestone in industrial policy.

**125. Amend the Law for Spatial Planning to allow for better application of its principles.** The law can be improved in areas dealing with Detailed Development Plans. They could have a simpler design to reduce the time it takes to issue construction permits and local infrastructure.

**126. Improve urban planning of the Black Sea coast.** Urban planning of the Black Sea coast is currently in the hands of the Ministry of Regional Development and Public Works. Before this it was delegated to municipal authorities. Proper development of urban planning by the MRDPW (i.e. preparation of “best practice” technical designs, market-based fees for consultants, etc.) needs to comply with the long-term strategy for tourism sustainability, preservation of the ecological balance and limiting the negative impact of mass tourism in Bulgaria.

**127. Streamline the issuance of construction permits and provide a limit on their cost.** Long delays in issuing construction permits and high costs for the service, introduced by Municipality Councils in 2007 and 2008, are cumbersome for business. The activity of expert councils, designated to issue construction permits could be outsourced to the private sector, which would improve the service. It is necessary to conduct in-depth studies to understand the obstacles for the issuance of permissions for exploitation of buildings. This has not been a subject of the report, but there are indications that there are concerns among businesses and households.

**128. Monitor procedures for issuing construction permits.** The municipalities could improve access to the information on procedures by publishing this information on their websites. The Sofia Municipality could be a benchmarking case. An online system to track the completion of each step of the application process for construction permit would also be very useful.

**129. Improve staffing and efficiency of municipality administrations that issue construction permits.** The construction boom means more workers are needed in local administration. A system that tracks performance of each administrator (time to administer number of applications) could also improve efficiency.

#### *Courts and Crime*

**130. Introduce a monitoring system to track the duration of trials and judgments for enforcing contracts.** The monitoring system will help the government track the effect of reforms to improve court proceedings and suggest further ways to improve performance in the sector.

**131. Reduce the enforcement cost and time.** The cost of enforcing contracts is high and could be reduced to levels observed in the best performing countries in the region. More effective and less costly enforcement of contracts would reduce the number of firms which breach contracts.

**132. Reduce the high cost that crime imposes upon businesses.** Low levels of street crime are a public good. The government could increase its role in lowering street crime. A more secure environment would reduce the cost of crime for businesses and allow them to channel funds to human resource capacity building.

## *Taxation*

133. **Reduce social security contribution payments further.** Reducing social security contribution payments will reduce the incentive that firms have to engage in informal practices. However, it has to be done in a fiscally sustainable manner by addressing the issue of high pension liabilities and a declining and aging population.

134. **Reduce the time it takes to file tax payments.** The government has introduced an on-line tax payment system for the business to improve access to tax administration and has promoted electronic payments. Despite this the time that firms spend making tax payments remains high. Reviewing the reporting requirements of the National Revenue Agency is an important first step in reducing this burden.

135. **Monitor tax inspectors for incorrect and corrupt practices closely.** Additional training for tax inspectors could help them follow guidelines and respect a code of conduct. The work at the tax administration could be made more transparent by introducing clear guidelines and terms for delivery of public services.

136. **Simplify the permission regime by the National Revenue Agency for the avoidance of double taxation.** Bulgaria could turn to European practice and simplify the permission regime for double taxation.

## *Labor Markets*

137. **Complete the ongoing process of modernizing the primary, secondary, and tertiary school system, including vocational education and training.** An important aspect associated with improving worker education and skills is improving both the quality of education and the links between education and employment. Although a full analysis of ways to improve the educational system is beyond the scope of an Investment Climate Assessment, previous studies have evaluated the system and have suggested various ways that education could be improved further. See, for example, two recent World Bank studies “ABC report” and “Bulgaria: Raising Employment and Human Capital for Growth and Convergence” (World Bank, 2007a; World Bank, 2008a).

138. **Promote participation in tertiary education.** Low unemployment rates among highly educated workers suggest that steps to encourage tertiary education participation would be very useful. Possible options including enhancing options for financial support for university students, improving the quality of secondary education in non-profiled schools and delaying early selection of students, allowing multiple pathways into tertiary education, and expanding the number of occupationally-oriented tertiary colleges. Improving the market relevance of degree programs by promoting competition among tertiary institutions might also be worth considering. Finally, increasing the output of tertiary science and engineering graduates would also be useful through appropriate reforms such as strengthening university links with employers and improving university governance.

139. **Promote second chance education programs and encourage adults to finish their secondary education.** The shortage of skilled workers and the high level of inactivity among people with only basic education emphasize the need for encouraging people with only a basic education to improve their skills. Second chance education can improve adults’ basic skills and open a path back into formal vocational training programs. The Government has taken some

steps to do this, including re-opening the formal training system to early school leavers through literacy courses managed by the Employment Agency and lowering minimum entry requirements to allow graduates from literacy courses to enter vocational training. Specially designed training for people over 50 years old might also be useful as this could improve the quality of the aging working force. However, the design for the training system for adults over 50 needs to be carefully considered so that it reflects best practice.

**140. Improve understanding of the reasons why firms do not provide training.** Although the Enterprise Survey provides information on how common firm-level training is, it does not provide detailed information on the reasons why firms do not provide training. For example, firms might not provide training because they do not have information on the returns to investment in training or on the most appropriate way to design training programs. They might be concerned that after spending valuable resources on training that they will lose their well-trained workers to competitors. They might be concerned that poor basic skills among their existing workers might mean that training is wasted. Or they might not have sufficient resources to finance training programs. Since the most effective policy response will depend upon the reason why firms are not providing training, having a better understanding of why firms—even those that see worker education and skills as a problem—do not provide training would provide important information on the most effective way forward.

**141. Consider different approaches to promoting firm-level training.** There are many possible ways to promote training. Methods relying on financial incentives include: (i) payroll levies that firms can reclaim if they invest in training their workers; (ii) tax incentives for firm-level training; and (iii) matching grants that provide funds to offset the cost of training. If financing is the main constraint on training, the government could look at whether any of these approaches might be appropriate in Bulgaria. There are also many alternative methods that might be appropriate. For example, public-private partnerships might be encouraged to provide funding for training. Local municipalities might be able to provide matching funds to NGOs managing projects from the OPs of the EU Structural Funds that target LLL activities. Finally, the government might be able to promote collective agreements that include clauses that relate to the provision of vocational training. At the same time the government, together with employer's and employee's organizations might consider ways to provide restitution for investment in training that the employer has made during the year if the employee leaves the company.

**142. Pilot, test and monitor various approaches to promoting adult training.** In addition to additional analysis on the reasons why firms do not provide training, it will be important to rigorously analyze any programs that provide financial incentives for training to ensure that public resources are well spent.

**143. Consider measures to increase flexibility with respect to working hours and part-time work within the framework of consultation with the social partners.** This is another area where Bulgaria compares less favorably with other countries with respect to the objective indicators. Other evidence also suggests that this is a problem. There are very few of temporary or part-time workers in Bulgaria and the few firms that do hire part-time and temporary workers were far more likely to see labor regulation as a serious constraint than other firms were. Further work looking at the reasons for low part-time and temporary employment might be useful.

**144. Consider reducing nonwage labor costs such as social security payments and payroll taxes.** Although lower than in many of the new EU entrants, they are higher than in the best

performing EU countries. As discussed in Chapter 6, further reducing social security contributions may be beneficial as it will reduce the incentive that firms have to engage in informal practices. As noted in the *ABC Report* (World Bank, 2007a), this would have to be done in a fiscally sustainable manner. Although reducing taxes might reduce informality and raise employment, additional revenue measures might be needed to ensure sustainability.

**145. Monitor the ten specialized labor offices for the Roma minority.** The functioning of the ten specialized labor offices for the Roma minority, which were recently established, could be monitored annually to assess their effectiveness in terms of number of teaching modules offered, number of Roma that attended and successfully completed the training programs, assessment of the qualifications acquired, and the number of Roma that managed to be hired in the labor market on part-time or permanent positions.

### *Access to Finance*

**146. Further analysis is needed to understand why bank spreads are high and access to long-term loans is low.** Further analysis is needed to study why bank spreads in Bulgaria are so high compared to the comparator economies and also why long-term loans are rare. About 60 percent of the firms responded that they have loans for one-year or less and only 5 percent had loans for over five years.

**147. Improve access to credit for SMEs.** The majority of firms in Bulgaria are either small or medium-sized. Improving these firms' access to credit would therefore increase investment and growth. Further analysis on the problems that SMEs face would allow the Government to identify the existing barriers.

**148. Increase credit bureau coverage.** Credit registries can expand access to credit for the corporate sector by collecting and distributing information on whether borrowers are credit worthy as lenders could more easily assess the risk associated with a new loan. Therefore, improving the coverage of the credit bureau, which is currently too low (3 percent of the adult population), is of high importance for lenders to assess more efficiently the profile of the borrowers and the associated risk.

**149. Improve understanding of why other types of collateral, like machinery and receivables are not used.** Given the expanded use of real property as collateral in borrowing activity, and to a certain extent, movable property, the authorities might consider how to promote the use of other types of collateral (i.e., machinery, receivables, etc.).

**150. Analyze reasons for high collateral requirements.** The median amount of collateral required for the loan was equal to about 130 percent of the loan, with most amounts between about 100 and 150 percent of the loan value. The authorities could consider analyzing why collateral requirements are so high.

**151. Better understand the role of leasing companies and consumer credit companies and how to regulate them.** Credit from the non-banking financial intermediaries has grown spectacularly in recent years. Leasing companies and consumer credit companies have proliferated. These are, in general, less supervised, and a more in-depth study is needed to propose whether they might require more supervision.

152. **Encourage capital market development.** Underdeveloped capital markets that do not attract solid foreign investors, limits local firms' financing opportunities. Unless the capital market's performance can be improved, local pension and insurance funds will be forced to become more active abroad.

153. **Consider recommendations from relevant in-depth studies.** The Government authorities are encouraged to consider implementing the relevant recommendations that will be provided by the updates of the FSAP, Accounting & Auditing ROSC, Corporate Governance ROSC, available in the autumn of 2008, and the Review of Consumer Protection in Financial Services, available in early 2009.

154. **Conduct Insolvency and Creditor Rights Systems ROSC.** The Government could consider conducting an *Insolvency and Creditor Rights Systems* ROSC. This report reviews the legal and regulatory frameworks for creditor rights and corporate insolvency systems, based on World Bank Principles and Guidelines for effective insolvency and creditor rights systems adopted by the World Bank in April 2001. The Guidelines contain 35 principles that are divided into four major categories: a) legal framework for granting and enforcing security (creditor rights, enforcement and collateral systems); b) The legal framework for insolvency; c) Credit risk management and the environment for corporate workouts and restructurings; and d) implementation framework (i.e., implementation by the courts, and regulatory oversight of practitioners).

## *X. Summary matrix for Policy recommendations*

	ISSUE	SHORT-TERM RECOMMENDATION	MEDIUM-TERM RECOMMENDATION
<b>INNOVATION &amp; TECHNOLOGY ABSORPTION</b>			
<b>National Innovation System</b>	Research, Innovation and technology policy is fragmented in terms of coordinating structures and strategies. This creates programs with overlapping objectives, partial coherence and a poor rationalization of resources.	Develop a single integrated national strategy on innovation and research and maintain an annual evaluation of the national innovation system.	Unified structure on innovation and research can be established through the creation of a single consultative council, representing government, research and industry at high political level.
<b>Innovation &amp; technology absorption activities</b>	Low R&D spending, close to 0.5 % of GDP, thus far away from the EU's Lisbon agenda, which targets 3 % of GDP spending on R&D by 2010.	Reach consensus between government, industry and research for the increase of public/private R&D spending.	Increase public R&D and expand measures that stimulate R&D in the private sector.
	The share of R&D non-competitive funding is high and it is not based on strategic plans or performance indicators.	Develop an action plan for decrease of non-competitive funding to be based on the following practice: Institutional or “discretionary” research funding to research institutes and universities to be based on agreed strategic plans in line with national research priorities and based on clear performance metrics.	Multi-year funding commitments could be introduced to allow for research institutes and universities to be more strategic in their planning. Institutional funding may not only be conditional on prior performance but also on periodic independent evaluations of the recipient institutions.

ISSUE	SHORT-TERM RECOMMENDATION	MEDIUM-TERM RECOMMENDATION
R&D and innovation funding to the private sector needs to be efficient and not delayed	<p>The NIF funding may increase in terms of number of grants.</p> <p>Duplication between NIF and NSF funding needs to be avoided.</p>	Independent evaluation of NIF is needed following the NSF model of evaluation.
<b>Innovation &amp; Technology absorption in firms</b>	<p>There is unused potential for closing the productivity gap through technology absorption.</p> <p>Provide consultancy or training services to help domestic firms understand and negotiate technology licensing agreements.</p> <p>Provide “soft” technology upgrading technical assistance and training programs focusing on quality and organizational processes that impact technology absorption.</p>	<p>Create a network of technology extension centers focused on transferring productivity-enhancing hard and soft technologies to Bulgarian firms; it should not be built from the ground up but should leverage technical resources from existing universities and research institutes in Bulgaria.</p> <p>Create schemes with a combination of matching grants and loans for technology-intensive manufacturing equipment for SMEs.</p> <p>Introduce supplier development programs that help potential domestic suppliers to position themselves in global value chains in which they can benefit from knowledge and technology transfer from buyers.</p>

<b>ISSUE</b>	<b>SHORT-TERM RECOMMENDATION</b>	<b>MEDIUM-TERM RECOMMENDATION</b>
<p><b>Adoption of foreign technology</b></p>	<p>There is a gap in early stage technology commercialization and pre-competitive research funding.</p>	<p>Seed funding for early-stage start-ups can be provided.</p> <p>The government can encourage the creation of business angel network.</p> <p>The government may consider introducing measures to increase the scale and quality of its R&amp;D workforce.</p> <p>The Government can facilitate the creation of a privately-managed venture capital fund, through leveraged investments or other instruments.</p> <p>Quality upgrading programs from the government would allow firms to position themselves in global value chains in which they can benefit from knowledge and technology transfer from buyers.</p>
<p><b>Soft and Hard infrastructure for innovation and knowledge transfer</b></p>	<p>The IPR enforcement status quo discourages domestic innovation and transfer of technology by foreign investment.</p>	<p>Strengthen the IPR enforcement regime through capacity building and better coordination of enforcement agencies.</p>
	<p>The link between university, industry and research institute is not stable.</p>	<p>Devise a National Program for strengthening the link between university, industry and research institute.</p> <p>Scale up financial support for industry-research collaboration to increase linkages in the national innovation system.</p> <p>Increase support for R&amp;D research institutes when they collaborate with industry.</p> <p>Provide incentives to strengthen the research capabilities of Universities.</p> <p>The government can change its legislation to allow that universities accommodate incubators and technoparks.</p>

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<b>QUALITY INFRASTRUCTURE</b>		
<b>Conformity assessment</b>	The market for certification and testing is now mature in Bulgaria and no longer requires provision of conformity assessment services by the state.	Consider privatizing the Executive Agency for Testing and Certification.
	There is lack of capacity of Notified Bodies.	Training and consultancy services for Notified Bodies need to be provided by the government.
	There is a need for International certification to be integrated in a wider scheme that would assess quality improvement in firms.	Support for quality management system certification in Bulgarian firms could be integrated as part of wider schemes that are evaluated against actual quality improvement in firms, not just the firm's ability to meet the requirement of the standard.
<b>Accreditation</b>	Two independent quality assurance systems for conformity assessment bodies exist which creates redundancies.	Consolidation of the accreditation system with the Notified Body designation system can be considered.
	EA Bulgarian Accreditation Service is ineffective and finds it difficult to adapt to the market conditions. It does not have private sector representatives in its governance bodies and it is not autonomous.	The government could consider privatizing EA Bulgarian Accreditation Service if it is unable to provide it with more private sector representation and autonomy under its current legal status.

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The Executive Director of EA BAS is a political nominee and has the discretion to appoint technical personnel.	EA BAS technical personnel should be selected with the oversight of a technical council and could not be the discretionary responsibility of a public sector nominee.	
Accreditation delivery times are time consuming.	Accreditation delivery times could be shortened to make accreditation more appealing to the private sector.	
The market for certification body accreditation is underdeveloped.		EA Bulgarian Accreditation Service could invest in this area with the help of the government.
Proficiency testing programs are very expensive and require a high level of technical expertise, which is not available for enterprises.		The government could provide support for proficiency testing programs.
Bulgaria is not fully recognized by international organizations in the accreditation sphere		Bulgaria needs to seek full membership in ILAC and IAF
		Bulgaria needs to ensure that it becomes a full signatory to all areas of EA-MLA
<b>Metrology</b>	Bulgarian Institute of Metrology (BIM) provides just few services to commercial calibration laboratories and it is primarily concentrated on services for the secondary market.	BIM could formulate a strategy for its transition from the secondary calibration market to the primary calibration market.

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BIM provides limited technical and scientific expertise to promote the absorption of good practices and innovation in industry.	BIM's regulations could provide incentives for the provision of training and consultancy services.	
BIM has limited autonomy.		BIM could be provided with more autonomy in order to become more responsive to market needs and bring its operating structure in line with European best practice.
The Legal Metrology is divided between SAMTS and BIM and this distorts efficiency for the service.		The government may consider transferring all legal metrology functions (including enforcement) to BIM, given its existing technical expertise in scientific metrology.
The government has not invested much in the Scientific Metrology Facilities.		The government could invest in facilities that are suited for the activities of a national metrology institute and do not compromise the effectiveness of BIM's operation.
<b>Standardization</b>	Bulgaria has a large stock of obsolete national standards.	BIS needs to increase efforts to systematically review its national standards to reduce its outsized standard stock.
	There is limited English training to conformity assessment personnel.	Bulgaria needs to continue adopting European and international standards but may ensure that there are effective processes to translate them into Bulgarian and to provide English training to conformity assessment personnel.

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<p>There is limited participation of the private sector in European and international standardization activities.</p>		<p>The government needs to support participation of the private sector in European and international standardization activities.</p>
<b>REGULATION &amp; TAXATION</b>		
<p><b>Entry</b></p>	<p>Improper practice of central authorities, and primarily municipalities of registration and licensing regimes.</p>	<p>LARACEA needs a full assessment of its implementation to explore the gaps in the law and track the improper practice by municipalities and central authorities. The Assessment could identify the package of special administrative acts that have to be amended so that the law functions, as its spirit prescribes.</p>
	<p>Municipality registration procedure is cumbersome, lengthy and superfluous.</p>	<p>The Municipality registration needs to be abolished or replaced by a simple notification obligation.</p>
<p>The LARACEA needs to be amended in order to address better its implementation.</p> <p>Regulatory regimes at the municipality level that do not comply with the law need to be abolished. Regulatory Impact Assessment national system is necessary to be put in place, which will monitor the implementation of regulatory regimes by both, the central executive power and the municipality authorities.</p>	<p>The Better Regulation Unit at the Council of Ministers can monitor the implementation of this reform in consultation with Business Associations and the National Association of Municipalities in the Republic of Bulgaria.</p>	

ISSUE	SHORT-TERM RECOMMENDATION	MEDIUM-TERM RECOMMENDATION
Fees to register a business are excessive.	<p>On-line registrations at the Trade Registry should be promoted by the government.</p> <p>A special methodology for the classification of the tariffs for the central administrative service fees could be developed. A strategic policy document that will embrace the administrative practice and provide an instrument for classification of the tariffs for the central administration service fees could target universal reduction of the administrative cost for businesses.</p>	Reduce the overall administrative cost for the business to be competitive in respect to other new EU entrants.
The steps and the time to complete the registration procedures are high.	Requirements for pre-registration at the Trade Registry should be discussed with the business until an effective strategy is devised.	Streamline the effective use of the Trade Registry and the single ID for firms to improve business registration.
The Trade Registry is currently not functioning well.	Capacity building of the Trade Registry and adequate staffing are crucial elements for the institutional set-up of the national registration system.	Additional resources are required to be channeled to improve capacity building of the Trade Registry so it improves its functioning in serving the business.

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Duplication of regulatory regimes at the central and at the local level is currently in place, as well as submission of identical documents by firms.	Review the administration procedures and improve coordination among central and local authorities.	Streamline the registration procedures for firms through the functioning of the Administrative Regime and the establishment of on-line monitoring system, as a supporting tool to avoid improper application of regulatory regimes. Close consultation with business associations and the National Association of Municipalities in the Republic of Bulgaria is needed.
<b>Licensing</b>	The firms find it difficult to obtain import licenses and especially operating licenses. Duplication of documents, already submitted, is a practice.	Effective functioning of the Administrative Registry.
Problems with small businesses in obtaining import licenses and operational licenses frequently occur.	The Ministry of Economy and Energy has to specifically consider the barriers for small firms in the application process for licenses.	Streamline the process for obtaining import and operational licenses by small firms.
Existing procedures in licensing and inspection of food producers and traders of food of animal and non-animal origin are burdensome for the business.	Review existing procedures and improve coordination among municipalities, the Ministry of Health and the Ministry of Agriculture and Food.	Establish a functioning Food Safety Authority, which would replace the old system of licensing and inspection of food-processing firms and food trade industry and close the circle from the “field to the table”.

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Post-licensing inspections are missing for both, licenses that are issued for five years and licenses that are issued for indefinite period.	Risk-based inspections at the municipality level in the post-licensing period could be introduced. They could result in more efficient inspections, instead of central authorities.	
The classification system (type of licensing) in the tourism sector is burdensome	Review licensing regimes in specific dynamically developing sectors with the option to be outsourced to business associations.	The classification system can be abolished and transformed into simple registration. The inspection service can be performed by the local municipality, whereas the registration can be outsourced to a tourism business association.  Outsource licensing regimes in dynamically developing sectors to business associations.
<b>Inspection and Certification</b>	Capacity building for public and municipal authorities in implementation of regulatory regimes is needed.	Training for public and municipal authorities and technical capacity building on how to apply and maintain effectively regulatory regimes, the execution of procedures and inspection regimes.
Self-regulation of tourism activities is limited.	Transfer the mandate for regulation of the sector from the State Tourism Agency to sector associations, who can conduct rating and develop quality standards.	
The efficiency of inspections in the food processing and food trade industry is unsatisfactory.	Evaluate the efficiency of inspections and consider centralizing the inspection authority for foodstuffs.	

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Random risk-based inspections in the food sector are uncommon.		Risk-based inspections can dominate the inspection system but they could be also linked to a provision of sanctions for violations that are enforceable and that carry additional inspections in the future.
Inspection fees for laboratory testing in the food sector are excessive.		Introduce a schedule with three categories based on the size of the inspected lot.
Enterprises are not encouraged to acquire voluntary certification for the conduct of their business operation which raises consumer confidence in the quality of the product.		Devise a scheme of incentives for firms that obtain voluntary certification for business activities.
<b>Exit</b>	Timing for court proceedings is excessive and cost for exit is high.	In-depth analysis of the recent changes in the Commercial Act, addressing exit of business is needed.
	The trustee's performance in bankruptcy procedures is not motivated well enough.	The remuneration for the bankruptcy trustee might be linked to the proceeds realized from cashed assets.
	Public access to auctions that sell assets after bankruptcy is limited.	Establish Internet portals by District Courts to post court decisions and announce asset sales in cases when the state is not involved as a creditor for public receivables. Use the example of the State Receivables Collection Agency.

<b>ISSUE</b>	<b>SHORT-TERM RECOMMENDATION</b>	<b>MEDIUM-TERM RECOMMENDATION</b>
<b>Access to Land</b>	Industrial zones are still not promoted well as targets for inward FDI which links to local SMEs.	The Ministry of Economy and Energy could develop an Action Plan that would link industrial zones, export potential of the country and the link between inward FDI and local SMEs.
	The timing of the issuance of construction permits and local infrastructure is hurdled by the procedure related to the Detailed Development Plans (See Law for Spatial Planning).	Amendment in the Law for Spatial Planning, targeting improvement of the procedure for Detailed Development Plan needs to be introduced.
	Urban Planning at the Black Sea coast is problematic.	The Ministry of Regional Development and Public Works, which is now dealing with Urban Planning, could consider preparing “best practice” technical designs, introduce market-based fees for consultants, and comply with long-term strategy for tourism and sustainable development.
	Long time delays and high costs for the issuance of construction permits are cumbersome for the business. Long delays are observed in the issuance of permissions for exploitation of buildings either.	Preparation of in-depth diagnostic on problems with issuance of permission for exploitation of the buildings seems highly necessary.  A limit for the cost of construction permit per square meter should be introduced based on economic analysis.

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The procedures and transparency for the issuance of construction permit are not publicized and not monitored.	The municipalities can improve access to the procedures for issuance of construction permits by publishing on their website full information (the Sofia municipality can be a benchmarking case).	On-line system that would track the accomplishment of each step in the process of application for construction permit could be introduced at the municipality level.
Municipality administration units, dealing with issuance of construction permits, are understaffed and efficiency is low.		The staff has to be adequate to the demand. A system that tracks performance of each administrator (time to administer number of applications) can improve the efficiency for the issuance of construction permits.
<b>Courts and Crime</b>	Enforcement of contracts depends a lot on the duration of trial and judgments, which are slow.	Introduction of monitoring system to track the duration of trial and judgments for enforcing contracts.
	Enforcement of contracts' cost is high, which is an incentive for the firms to breach contracts.	Introduce a system of more effective and less costly enforcement of contracts.
	Street crime costs for the business are high.	Introduce a monitoring system of how effective the fight against street crime is.
<b>Taxation</b>	Firms engage in informal practice due to the high rate of social security contribution payments.	Reduce the social security contribution payments but in a fiscally sustainable manner.
	Business time for tax payments is high.	Review the reporting requirements of the National Revenue Agency.

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Clear guidelines and terms for delivery of public services are missing in the tax administration.	Guidelines and terms of delivery of public services for the tax administration can be developed.	Regular monitoring for corrupt practices could be established.
The permission regime by the National Revenue Agency for the avoidance of double taxation is burdensome for the business.		Simplification of the permission regime for double taxation by turning to the European practice.
<b>LABOR MARKETS</b>		
<b>Worker skills and training</b>	<p>Improving worker education and skills is improving both the quality of education and the links between education and employment.</p> <p>Worker skills are ranked as one of the major concerns among firms, particularly valid for innovative firms and firms in the IT sector.</p>	<p>Complete the on-going process of modernizing the primary, secondary, and tertiary school system, including vocational education and training, as suggested by recent World Bank studies.</p> <p>Government strategy could look closely at worker skills improvement for innovative and IT firms.</p>
	There is shortage of skilled workers and high level of inactivity among people with only basic education. There is low unemployment rate among highly educated workers.	<p>Promotion of tertiary education and second chance education programs and encouragement of adults to finish their secondary education is important.</p> <p>Improving the market relevance of degree programs and increasing the output of tertiary science and engineering graduates would be worth considering.</p>

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Small firm managers provide little training.	Further research is needed in the field of providing a better understanding of why firms do not provide training.  Pilot, test and monitor various approaches to promoting adult training.	
Firms' incentives to train workers are in general low.	The collective agreements can include a clause which provisions trainings for workers but also restitution for employers if the employee leaves the job. This needs to be further discussed among government, employers' and employees' associations.	Methods relying on financial incentives include: i) payroll levies that firms can reclaim if they invest in training their workers; ii) tax incentives for firm-level training; and iii) matching grants that provide funds to offset the cost of training. Apart from this, public-private partnerships might be encouraged to provide funding for training. Matching funds to NGOs managing projects from the OPs of the EU structural funds that target LLL activities can be provided.
<b>Life-long learning</b>	Skill-intensive industries require more workers	Specifically designed training for adults over 50 might improve the quality of the aging working force.

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<b>Labor regulation</b>	Bulgaria witnesses a dominance of labor contracts as temporary and part-time workers are hired by very few firms.	<p>Consider measures to increase flexibility with respect to working hours and part-time work within the framework of consultation with the social partners.</p> <p>Consider reducing non-wage labor costs such as social security payments and payroll taxes.</p>
<b>Roma minority</b>	10 Specialized Labor offices for the Roma minority, which suffers from high unemployment rates, needs evaluation.	The specialized labor offices need annual monitoring in order to assess their effectiveness.
<b>ACCESS TO FINANCE</b>		
<b>Investment finance</b>	Access to finance for small-and-medium-sized firms is limited.	<p>Analysis on the access to credit for SMEs is needed to identify the barriers.</p> <p>The government authorities may consider implementing relevant recommendations, to be provided by the updates of FSAP, Corporate Governance ROSC and Accounting &amp; Auditing ROSC in late 2008.</p>
	There is expanded use of real property and to a certain extent movable property as collateral and not so much other types of collateral (i.e., machinery, receivables, etc.).	The authorities could consider how to promote the use of other type of collateral, besides real property and movable property.
<b>Financial System indicators</b>	Bank spreads in Bulgaria are high vis-à-vis comparator economies and also long-term loans are rare.	<p>The phenomena of maintained high bank spreads and small percentage of long-term loans needs to be further studied.</p> <p>The government authorities may consider implementing relevant recommendations, to be provided by the updates of FSAP in late 2008.</p>

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	The median amount of collateral required for the loan (as per 2007 Enterprise Survey) was equal to about 130 percent of the loan, with most amounts between about 100 and 150 percent of the loan value, which is high.	The authorities can consider analyzing why the collateral takes so high percentage of the loan value.
<b>Financial Institutional structure</b>	The government authorities may consider conduct of Insolvency and Creditor Rights Systems ROSC to review the legal and regulatory frameworks.	The coverage of the private credit bureau is low (3 % of adults).
	The leasing companies and consumer credit companies are, in general, less supervised, and more in-depth study is needed to propose whether they might require regulation.	The government authorities are encouraged to consider implementing relevant recommendations to be provided by the Review on Consumer Protection in Financial Services in early 2009.
	Credit from the non-banking financial intermediaries has grown spectacularly in recent years. Leasing companies and consumer credit companies have proliferated.	The government authorities are encouraged to consider implementing relevant recommendations to be provided by the Review on Consumer Protection in Financial Services in early 2009 and updates of FSAP in late 2008.
	The capital market is under-developed and it provides limited opportunities for local firms to draw investment funds through securities.	The capital market could either attract solid foreign investors or it will be threatened to loose local pension and insurance funds which will start to be more active abroad in search for better capital markets

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