Republic of Serbia

Country Economic Memorandum:

The Road to Prosperity: Productivity and Exports

Volume 2 of 2
CURRENCY AND EQUIVALENT UNITS

Currency Unit = RSD (Serbian dinar)
US$1 = RSD 74.35
(As of November 8, 2011)
FISCAL YEAR
January 1 – December 31

ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>ALMP</th>
<th>Active labor market program</th>
<th>LLL</th>
<th>Lifelong Learning</th>
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<tr>
<td>ATPs</td>
<td>Autonomous trade preferences</td>
<td>NES</td>
<td>National Employment Service</td>
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<td>BEEPS</td>
<td>Business Environment and Enterprise Performance Survey</td>
<td>NBS</td>
<td>National Bank of Serbia</td>
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<td>CEEC</td>
<td>Central and Eastern Europe countries</td>
<td>PISA</td>
<td>Program for International Student Assessment</td>
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<td>EBRD</td>
<td>European Bank for Reconstruction and Development</td>
<td>SAA</td>
<td>Stabilization and Association Agreement</td>
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<td>ECA</td>
<td>Europe and Central Asia</td>
<td>SIEPA</td>
<td>Serbia Investment and Export Promotion Agency</td>
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<tr>
<td>EU</td>
<td>European Union</td>
<td>SMEs</td>
<td>Small and medium-sized enterprises</td>
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<td>EPS</td>
<td>Electric Power Industry of Serbia</td>
<td>SEE</td>
<td>South Eastern Europe</td>
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<tr>
<td>FDI</td>
<td>Foreign direct investment</td>
<td>SOE</td>
<td>Socially-owned enterprises</td>
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<td>FTA</td>
<td>Free trade agreement</td>
<td>TFP</td>
<td>Total factor productivity</td>
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<td>GDP</td>
<td>Gross domestic product</td>
<td>TTFSE</td>
<td>Trade and Transport Facilitation in South Eastern Europe</td>
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<tr>
<td>ICA</td>
<td>Investment Climate Assessment</td>
<td>UB</td>
<td>Unemployment benefits</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
<td>US$</td>
<td>US Dollar</td>
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<tr>
<td>LFS</td>
<td>Labor Force Survey</td>
<td>VAT</td>
<td>Value-added tax</td>
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<td>WTO</td>
<td>World Trade Organization</td>
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# Table of Contents

**EXECUTIVE SUMMARY** .................................................................................................................. 1

**INTRODUCTION** ............................................................................................................................... 11

1. **GROWTH PERFORMANCE AND STRUCTURAL REFORMS** .................................................. 13
   1.1. Macroeconomic Environment ........................................................................................................ 13
   1.1.1. Introduction ................................................................................................................................ 13
   1.1.2. Serbia’s Pre-crisis Growth ............................................................................................................. 14
   1.1.3. Carry on or Speed up? .................................................................................................................. 18
   1.1.4. The Medium-term Outlook: Two Illustrative Scenarios ............................................................. 19
   1.2. Structural Reforms: How to Achieve the Export “Push”? ............................................................... 23

2. **EXPORT OPPORTUNITIES AND REVEALED COMPARATIVE ADVANTAGES** .................. 29
   2.1. Trade Performance and Trade Policy .............................................................................................. 29
   2.1.1. Introduction ................................................................................................................................. 29
   2.1.2. The Structure of Serbia’s Trade ................................................................................................... 30
   2.1.3. Trade Policy ............................................................................................................................... 33
   2.2. Expanding Export Potential: What Products Could Serbia Produce? ...................................... 34
   2.2.1. Introduction – What exports could Serbia develop? ................................................................. 34
   2.2.2. The Structure of Serbian Exports ............................................................................................... 35
   2.2.3. Case Studies of Select Industries ............................................................................................... 41
   2.2.4. Conclusion .................................................................................................................................. 50
   Annex 2.1: The Product-Space Methodology ......................................................................................... 52
   Annex 2.2: Classification of Products According to RCA ................................................................. 55
   Annex 2.3: Serbia’s Position in the Product Space .............................................................................. 58
   Annex 2.4: Serbian exports and revealed comparative advantage .................................................. 62

2.3. **Industry** .................................................................................................................................... 64
   2.3.1. Introduction ............................................................................................................................... 64
   2.3.2. An Overview of the Enterprise Sector in Serbia ......................................................................... 66
   2.3.3. Trends in the Manufacturing Sector ............................................................................................ 68
   2.3.4. The Competitiveness of the Metals and Automotive Industries .............................................. 70
   2.3.5. Metals Industry .......................................................................................................................... 71
   2.3.6. The Automotive Industry ......................................................................................................... 82
   2.3.7. Synergies Between the Metals and Automotive Sectors ............................................................. 90
   2.3.8. Policy Recommendations .......................................................................................................... 91
   Annex 2.5: A New Role for Industrial Policy? Insights from Recent Research ................................. 93

2.4. **Agriculture** ............................................................................................................................... 95
   2.4.1. Introduction ............................................................................................................................... 95
   2.4.2. Structural Challenges to Serbia’s Agro-food Trade .................................................................. 97
   2.4.3. Evaluation of Serbia’s Agricultural Policy Response ............................................................... 103
   2.4.4. Policy Recommendations ......................................................................................................... 119

3. **MAJOR IMPEDIMENTS TO EXPORT-LED GROWTH** ......................................................... 121
3.1. Creating a Business Environment that is a Catalyst of Export-Led Growth ........ 121
  3.1.1. Introduction ........................................................................................................... 121
  3.1.2. Recent Changes in the Business Environment .................................................. 122
  3.1.3. How does Serbia’s business environment compare ........................................... 124
  3.1.4. Regulatory Reform and Administrative Procedures ........................................ 128
  3.1.5. Reducing the Negative Impact of Inspections ................................................... 130
  3.1.6. Serbia’s National Quality Infrastructure as a Catalyst for Trade ..................... 133
  3.2.1. Policy Recommendations ................................................................................. 139
  Annex 3.1: Overview of Econometric Analysis Methodology .................................. 140

3.3. Skills ......................................................................................................................... 143
  3.3.1. Introduction ......................................................................................................... 143
  3.3.2. Labor Market Challenges and Skills Needs ...................................................... 144
  3.3.3. Education and Training System Performance ................................................. 148
  3.3.4. Active Labor Market Policies .......................................................................... 159
  3.3.5. Policy Recommendations ................................................................................ 163

3.4. The Energy Sector .................................................................................................. 165
  3.4.1. Introduction ......................................................................................................... 165
  3.4.2. Sector Overview ................................................................................................ 166
  3.5.1. The Unfinished Reform Agenda ....................................................................... 173
  3.5.2. Financial and Commercial Viability ................................................................. 173
  3.5.3. The Potential Demand Response .................................................................... 179
  3.5.4. Policy Recommendations ................................................................................ 182

3.6. Land ......................................................................................................................... 184
  3.6.1. Introduction ......................................................................................................... 184
  3.6.2. Property Rights ................................................................................................. 185
  3.6.3. Land Management ............................................................................................ 188
  3.6.4. Institutions ......................................................................................................... 194
  3.6.5. Policy Recommendations ................................................................................ 198

3.7. Trade Facilitation: Customs, Logistics and Transport ............................................ 201
  3.7.1. Introduction ......................................................................................................... 201
  3.7.2. Comparative Assessment of Serbia’s Performance .......................................... 202
  3.7.3. Freight Forwarding and Logistics Sector Audit ............................................... 205
  3.7.4. Customs Audit ................................................................................................... 207
  3.7.5. Transport Infrastructure Review ....................................................................... 215
  3.7.6. Policy Recommendations ................................................................................ 220
  Annex 3.2: Measuring Border and Clearance Performance ....................................... 222
  Annex 3.3: Toward EU Accession – Lessons from Poland’s Experience ..................... 224

REFERENCES .................................................................................................................. 227
List of Tables

Table 1.1: Serbia, Selected Economic Indicators ................................................................. 14
Table 1.2: Savings-Investment Balance, 2001–2008 .............................................................. 17
Table 1.3: Serbia, Selected Economic Indicators under two scenarios ............................... 22
Table 2.1: Serbia’s Top Export Products, 2004–2008 (SITC 3-digit classification) ............... 31
Table 2.2: Serbian Exports According to Product Space Measures (2005–2009).................. 36
Table 2.3: Product Space Metrics for Selected Serbian Exporting Industries .................... 36
Table 2.4: Exports of Serbian Food and Food-Processing Products ................................. 41
Table 2.5: Serbian Processed Food Exports ........................................................................ 44
Table 2.6: Serbian Exports of Metal Manufactures .............................................................. 45
Table 2.7: Emerging Champions in the Metals Industry .................................................... 46
Table 2.8: Exports of Auto-related Products, Neighboring Countries ............................... 50
Table 2.9: Classic Exports in Serbia by Technological Content ........................................ 55
Table 2.10: Emerging Exports in Serbia by Technological Content .................................... 55
Table 2.11: Marginal Exports in Serbia by Technological Content ..................................... 56
Table 2.12: Disappearing Exports in Serbia by Technological Content ............................ 57
Table 2.13: FDI Inflows into the Western Balkans (US$ millions) ....................................... 65
Table 2.14: Serbia’s Industrial Structure ............................................................................ 66
Table 2.15: Productivity and Unit Labor Cost Comparisons .............................................. 67
Table 2.16: Privatization of Serbian Manufacturing Companies, 2002–2010 .................... 69
Table 2.17: Serbia’s Manufacturing Industry ..................................................................... 70
Table 2.18: Manufacturing Productivity and Unit Labor Costs Compared ......................... 70
Table 2.19: Top 10 Serbian Metals Companies .................................................................... 72
Table 2.20: Serbia’s Top 5 Steel Exports by Degree of Finishing ....................................... 75
Table 2.21: Sample Serbian Steel and Iron Imports and Exports in 2010 (US$ Thousands).. 75
Table 2.22: Steel Cost Analysis, 2010 ................................................................................ 77
Table 2.23: Top 10 Automotive Companies in Serbia ....................................................... 84
Table 2.24: Automotive Cost Analysis (2010) ................................................................... 87
Table 2.25: Investment of the Non-Financial Sector in European Countries ..................... 89
Box 3.5: The EU2020 and Early School Leaving .......................................................... 150
Box 3.6: European Qualifications Framework (EQF) ....................................................... 152
Box 3.7: “Critical Thinkers Prepared for the Complexities of a Global Society” ........... 155
Box 3.8: The UK Experience with Sector Skills Councils ............................................... 156
Box 3.9: Does Adult Education Improve Labor Market Outcomes? .............................. 157
Box 3.10: Practical Challenges ......................................................................................... 158
Box 3.11: Do Active Labor Market Policies Improve Labor Market Outcomes? .......... 161
Box 3.12: Payment Discipline in the Electricity Sector ...................................................... 176
Box 3.13: The Power Sector in Turkey .............................................................................. 177
Box 3.14: How Energy Prices in Serbia Affect Manufacturing Exports ....................... 181
Box 3.15: The Slovenia Building Cadastre ...................................................................... 193
Box 3.16: Experiences in Land Consolidation in Europe ................................................. 193
Box 3.17: Initial Croatian Asset Management Model ......................................................... 196
Box 3.18: Municipal Asset Management Framework ......................................................... 196
Box 3.19: Case Study: Slovenia’s Real Estate Tax and Valuation System .................... 198
Box 3.20: Supply Chain Analysis: Frozen Fruit Exports ..................................................... 207
Box 3.21: Examples of Joint Border Stations ................................................................. 214
Box 3.22: Bosphorus Europe Express .............................................................................. 219
Box 3.23: Inter-agency Border Management: How to Integrate Services ..................... 225

List of Figures

Figure 1.1: Real GDP Growth, Average for 2004–2008 ..................................................... 15
Figure 1.2: Share of Trade, Transport, and Financial Intermediation in Nonagricultural GDP, EU10 and Serbia, 1996–2008 ................................................................. 15
Figure 1.3: Merchandise Exports (percent of GDP) .......................................................... 16
Figure 1.4: Contribution to GDP Growth, 2000–2008 (percentage points) .................... 16
Figure 1.5: Serbia, Balance of Payments, 2004–2008 (percent of GDP) ......................... 16
Figure 1.6: Real Effective Exchange Rate, (2004 Average = 100) ..................................... 16
Figure 1.7: Real Unit Labor Costs (2009 Average =100) .................................................... 17
Figure 2.21: Serbia, Net FDI Inflows (€ million) ................................................................. 69
Figure 2.22: FDI Inflows in Serbia by Sector, 2005–10 (€ Million) ................................. 71
Figure 2.23: Global and Serbian Steel Exports (US$ millions) .................................... 73
Figure 2.24: Serbia Steel Export Destinations (2010) ..................................................... 73
Figure 2.25: Steel Value Chain ......................................................................................... 74
Figure 2.26: Percentage of Value Added at Each Stage of Steel Manufacturing .......... 74
Figure 2.27: Position of US Steel and Fiat on their Value Chains .................................. 91
Figure 2.28: Trade in Agricultural Products in Serbia, USD millions .......................... 96
Figure 2.29: Structure of Serbian Agrarian Budget by Type of Measures (planned) .... 108
Figure 2.30: Price of Pork in EU, Serbia and Croatia, 2005-March 2011, in EUR .......... 115
Figure 3.1: Manager Perceptions of Obstacles to Running a Business ....................... 124
Figure 3.2: Cumulative Change in Doing Business Indicators, 2006–2011 .................. 125
Figure 3.3: Serbia’s Global Competitiveness Ranking .................................................... 126
Figure 3.4: Binding Obstacles to Investment As Perceived by Managers ....................... 127
Figure 3.5: Differences in Perceived Constraints ............................................................ 127
Figure 3.6: The Reliance of Serbia on Domestic Standards ........................................... 135
Figure 3.7: Internationally Calibration and Measurement Capabilities .......................... 137
Figure 3.8: Employment in Serbia, Neighboring Countries, and EU27 by Gender ........ 144
Figure 3.9: Work Activity by Gender and Age ................................................................. 145
Figure 3.10: Serbian and EU27 Cohort-Specific Employment, by Gender and Age ...... 146
Figure 3.11: Employment by Education and Region, by Gender ................................. 146
Figure 3.12: Reasons for Labor Force Inactivity, by Gender and Age ........................... 147
Figure 3.13: Skills Shortages in Selected Manufacturing Occupations ....................... 148
Figure 3.14: Importance of Specific Skills to Firms Expecting Growth ....................... 148
Figure 3.15: Educational Attainment of 25–64-year-olds, by Gender ............................ 149
Figure 3.16: Educational Attainment, Male and Female ................................................. 149
Figure 3.17: Pre-primary Education Enrolment (net rates, percent 3-6 years old, 2008) .. 150
Figure 3.18: Number of Secondary School Students at the Start of the School year .... 151
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EXECUTIVE SUMMARY

Before the crisis Serbia’s growth performance had been solid, but characterized by major imbalances. In order to have both dynamic and better balanced growth, Serbia needs to rely more on exports. In the last decade, Serbia’s growth has relied primarily on domestic demand. In the future Serbia could do much better by emphasizing development of exports as a new, potentially powerful, source of growth. The share of exports in Serbia’s GDP, currently only 25 percent, should be double or triple that, which is the current average for the new EU member states. The point is not that consumption should be cut but that by pushing exports and thus speeding up growth, all components of GDP could grow faster.

EU accession, as well as access to markets of developing countries are major opportunities not to be missed. On October 12, 2011, the European Commission recommended granting Serbia candidate status for membership in the European Union (EU). This landmark event on Serbia’s road to the EU reflects the significant progress Serbia has made so far in structural and institutional reforms. These reforms are preparing the country for the opportunities and challenges of joining the ranks of one of the world’s largest economic blocks. Within this context, this report explores the opportunities and challenges in Serbia accelerating economic growth in a complex international environment.

Serbia also needs to look for options how to access other markets beyond Europe, and how to increase its exports there. Serbia has been traditionally trading with numerous developing countries, and needs to explore options for returning also to those markets. This is in particular important given the depth and length of the current international economic crisis and state of economies of some of the major Serbian trading partners in the Western Europe. But tapping these opportunities is by no means automatic. Important internal challenges must be overcome and the way to compete with various competitors from the emerging world, primarily from Asia, needs to be found. The key to success for Serbia will be implementing and sustaining a series of macroeconomic, sectoral, and microeconomic reforms to make its economy much more competitive, productive, and especially export-oriented.

This report looks beyond the current global financial crisis to the restoration of dynamic long-run growth in Serbia. The global financial crisis has already had significant impact on Serbia that may be felt with even greater force in coming months and years. The inflow of investments and loans has almost vanished, the economy has slipped into recession, unemployment has increased and living standards have deteriorated. With monetary policy still focused on controlling inflation, fiscal policy is the primary buffer against spillovers from the crisis. Government has endured a painful budget reshuffling and is using the support of the international financial institutions to moderate the impact of the crisis. Once the crisis passes, the big question is how Serbia can find a rapid, sustainable growth path and best prepare for the economic opportunities of the EU membership.

The answer in this report is that Serbia will need to fundamentally alter its growth model to compete effectively in world markets. The past model relying on excessive inflows of capital, credit and consumption boom has run its course in all
European countries. Now Serbia could shift to a greater export orientation so that it can attain the major gains in productivity and competitiveness necessary to propel economic growth to a much higher trajectory. This cannot happen without an explicit export strategy that attracts commitment and coordination at the highest political level and reforms a number of areas to remove constraints and bottlenecks.

**International experience shows that igniting rapid, export-led growth is possible.** Countries much less favorably located and with far fewer resources have achieved it. There is no reason why a European country in the vicinity of the largest European markets and on the road to EU membership should not also accomplish it. The EU history is an important guide: All new member states started from a similar position of major structural challenges, yet today their incomes are far closer to the EU average than before membership.

**One of the world’s largest markets awaits Serbia’s companies and entrepreneurs.** Challenges to government, sectors, and firms are surmountable, and thus require concerted and sustained effort, monitoring of progress, and vigilance to confront new problems as they emerge. In general, this challenge cannot be met by the public sector alone. While it has much to do – improve the investment climate, reduce regulatory barriers, upgrade infrastructure – domestic and foreign private partners will be central to the success of Serbia’s new export strategy.

**Over the medium term, Serbia needs to concentrate more effectively on making most of EU accession as well as to expand trade with other huge foreign markets.** Export-led growth is necessary to convert Serbia’s vast resources into higher Serbian living standards. Some sectors are already better positioned than others to export. Sectors in the traditional export base of Serbia, such as food products, still have vast potential for growth. Others, such as the automotive sector, are reemerging and already offer promise of major industrial transformation and of export growth not seen in Serbia for decades. Indeed, there are major opportunities in Serbia and throughout European markets for these sectors and the related value chains, not to mention many other activities and products. The rising sophistication of Serbia’s exports and many “emerging export champion” goods attest to the ability of the economy to produce and export even under current constraints.

**The number one task of the authorities now is to accelerate reforms to create an environment that is highly conducive to export-led growth in the private sector, both domestic and foreign owned.** This report identifies four constraints to private sector growth: skills of available labor and opportunities for their upgrade, supply of electric power, access to land and property rights, and trade facilitation (ie, performance of transport and logistics sectors). In all these areas, there are many remaining, more specific constraints that hamper prospects for private businesses and discourage more significant inflows of much-needed foreign direct investment (FDI).

**Responsible fiscal policy will continue to be necessary, even though some reforms might turn out to be costly.** Many of the measures proposed in this report will require additional public expenditures, on, for example, active labor market policies, expansion of adult training, additional incentives to attract FDI, expansion of agricultural extension services, and building agricultural supply chains. There are also
costs related to removing the key obstacles to doing business, streamlining trade facilitation, and dealing with land and energy issues. The fiscal envelope needs to make room for these measures without violating the spending rules and the deficit ceiling set out in the fiscal responsibility legislation. At the same time, Serbia still has options for introducing different legal changes that at the same time mean significant improvements in the business environment and have no or only limited fiscal costs.

Organization of the Report

The report comes in two volumes. The Overview, Volume 1, summarizes the full report. It emphasizes the recommendations but tries to provide sufficient analysis to justify them. As such it is aims to inform the top level policy makers on priority policy reforms that emerged from the analysis. Volume 2 (this volume) goes into far greater analytical detail and explains the methodological approaches. Therefore, this Volume allows readers to get into greater detail of both analysis and policy recommendations and is envisaged to inform analysts working in different areas of public policy, as well as academics and other researchers. The remainder of the Executive Summary summarizes the context and the main thrusts of the report, including key recommendations, for which supporting evidence comes later. A summary Policy Matrix of the priority short and medium term policy recommendations completes the Executive Summary.

Chapter Summaries and Recommendations

Part I. Macroeconomic Environment and Structural Reforms

In the decade up to 2008 Serbia experienced dynamic, but unsustainable, growth. It was fueled by capital inflows and a credit boom that fueled domestic consumption at the expense of competitive exports. Then came the global crisis. Serbia’s current lackluster economic recovery, high unemployment, and a narrow export base suggest a need now to shift to a much more dynamic growth model, based on higher productivity, competitiveness, and exports. With productivity-boosting reforms that are supported and coordinated at the highest levels, Serbia, like other countries, can achieve much higher growth and raise the employment and standards of living of its citizens.

A number of reforms recommended in this report can be paid for by reallocating budgetary funds within the sector. Others will need additional financing. The overall budget needs to make room for these measures without violating fiscal responsibility rules for spending and deficits ceilings. Given the competing demands on public resources, this will not be easy.

Part II: Opportunities: Revealed Comparative Advantage

Which Products Could Serbia Export?
Chapter 2 uses a Product Space (PS) analysis to identify promising product export clusters. Supplemented by deep sectoral expertise, this could provide clues to an
effective export strategy for Serbia. Using detailed industry data for the past 15 years, products are classified as classics, emerging champions, marginals, and those disappearing. The first three product categories, correspond roughly to product rankings along the value chain, from highest to lowest value-added products. The aim would be to find policy measures that will move Serbia’s production and export structure up the value chain.

Fully half of Serbia’s exports fall into the emerging champions category. This means that Serbia’s export is already diversified and shows increasing sophistication. A detailed study of food-processing, metals, and automobiles provides further insights. The first two were chosen because a significant portion of Serbia’s current export basket is in those areas. The third recognizes the large investments FIAT is making in Serbia. The diagnostic suggests that there are many profitable opportunities to be seized, especially in food processing, and metals manufactures. Serbia’s current position in the automotive sector is weaker, but the FIAT investment could be transformational if Serbia can provide the right environment. Other chapters explain how this could be done.

**Industry**

Chapter 3 reviews government policies to promote competitiveness and exports as well as indicators of the competitiveness of Serbia’s industry relative to regional comparators. It also looks again at the metals and auto industries, this time from a bottom-up perspective using value-chain analysis. The conclusion complements the previous analysis and suggests that there remains a comparative productivity and competitiveness problem in Serbia’s manufacturing. Yet there is also considerable potential for synergies, not only to generate export growth and penetration of EU markets but also for to expand of domestic value chains, which could boost the growth of small and medium-size enterprises (SMEs).

The FIAT investment promises to be transformational for Serbia’s auto industry. To take full advantage of it, the industry will have to work aggressively to boost productivity, cut and control costs, and overcome constraints such as slow customs and the inadequate pool of possible domestic suppliers. The government has a role to play in alleviating the constraints under its direct control such as infrastructure, regulations, and customs, and improving the investment climate. This is especially important so that SMEs can become suppliers in the various value chains.

Six policies are recommended to build the capacity of the auto and metals sectors for dynamic export and growth:

- Gear policies toward coherent and well-connected clusters to maximize forward and backward linkages and spillovers and promote synergies between the sectors.
- Target high-value-added FDI.
- Promote private sector partnerships and R&D with academia to foster skills and innovation.
- Align national quality standards with EU standards.
- Enhance the business environment in Serbia, especially for the SMEs.


**Agriculture**

Agriculture is widely considered to have significant potential for improvement. Serbia has recently become a net food exporter, but its exports could be much higher. There are different reasons for suboptimal performance of this sector. Extension services could be much more effective. Supply chains are not properly established. Some segments of the supply chains are not functioning or are missing altogether. Trade liberalization is not fully completed and the costs of trade (customs, logistics, transport) are still relatively high. Budget structure does not reflect priorities for this sector and its size is not sufficient to finance all necessary activities. Not least, unpredictable policies and a lack of attention to structural reforms are making it hard for farmers, processors, and traders to plan ahead. Yet there are major opportunities they could seize both within and beyond the EU.

The key recommendations in agriculture are to:

- Make the policy process more predictable, particularly by clearly defining the role of government.
- Build an effective extension service that can change the behaviors of hundreds of thousands of farmers.
- Work on improvement of the supply chain – investments in storage, packaging, processing and transport can stimulate exports and transmit benefits right down the supply chain to the small-scale farmer.
- Continue with trade liberalization and resist the temptation to apply ad hoc trade bans, licensing systems or non-tariff barriers as quick solutions to short-term problems.
- Rethink the agricultural budget; consider reallocating resources away from ineffective support measures (e.g. area payments scheme) and increase the budget envelope.

**Part III. Impediments to Export-Led Growth**

**The Business Environment**

In recent years, multiple government reforms have streamlined the procedures for opening and closing businesses, improved access to credit, reinforced competition policy laws, and made it easier to enforce contracts. For example, today it takes 13 days and costs 7.9 percent of income per capita to start a new business, compared to 56 days and 15 percent in 2005. Business Environment and Enterprise (BEEPS) surveys show that managers recognize the improvements in the courts, tax administration, business licensing and permits, and labor and trade regulations. Yet, neighboring countries were improving their investment climates even faster, so Serbia ranks behind them in *Doing Business 2011*.

One particularly problematic area for Serbia is the onerous process of securing construction permits, where Serbia is ranked among the bottom 10 countries in the world. Logistics, infrastructure, and skills are other major constraints to businesses. BEEPS surveys also suggest that managers are seriously concerned about corruption, electricity supply, tax rates, and access to finance.

An overarching recommendation is to focus reforms on reducing the regulatory and administrative burden wherever Serbia clearly lags most: construction permits, paying
taxes, registering property, enforcing contracts, inspections, and improving national quality standards.

**Skills**

To increase countries competitiveness Serbia needs much better skills for its labor. In Serbia the skills produced by the educational system are often not those most in demand by the economy. The mismatch results simultaneously in high unemployment (especially among younger workers) and shortages of specific skills. A rapidly aging population exacerbates the skills problem because the system is losing skills faster than it is building them. Serbia’s educational system has some strengths – for instance there is high functional literacy at the secondary school level – but there are questions about quality at all levels. Over the long run, solving the skills problem will take a set of comprehensive reforms across the board: starting with early childhood education, general secondary and technical and vocational education and training (TVET), higher education, adult education and training, completion of the Serbian National Qualifications Framework, and continuous evaluations of what does and does not work. Only with a comprehensive overhaul of the entire system can education in Serbia meet the demands of the modern economy and equip people with skills that make them competitive in the wider European market.

Given the level of unemployment, Serbia urgently needs to rethink its active labor market Programs (ALMPs). At 0.1 percent of GDP, Serbia spends much less on ALMPs than most neighboring countries and EU member states. Just to reach the OECD average of 0.4 percent of GDP—still far below the 1 percent of Denmark, one of the best-functioning labor markets in the world—will require an additional investment of €100 million. That would allow 100,000–180,000 more people to receive training annually. Other ALMP offices in Europe are increasingly using a one-stop-shop approach, offering a mix of job search assistance, training, employment subsidies, and sanctions. However, the ALMPs in Serbia, both old and new, should be regularly and rigorously evaluated.

The education policy recommendations are:

- **Early Childhood Education:** get children off to the right start. Continue to expand provision of early childhood education (ECE), lengthening the time children spend in ECE and ensuring that vulnerable groups like Roma participate fully.
- **General Secondary and TVET:** keep students in school longer, learning more relevant skills. Serbia should continue working to reduce dropping out and increase school completion. Government should try to make curricula more relevant to the labor market and this should be done in an integrated and coordinated way, emphasizing partnership between different education councils and with employers.
- **Higher education:** ensure student accountability in higher education and build field-specific knowledge. There should be additional efforts aimed at ensuring that more students finish as scheduled.
- **Adult Education and Training:** scale up adult training, build partnerships, and ensure labor market relevance. The government could consider how to increase the amounts spent on adult education and training in order to increase
the coverage and revise the scope of training by focusing on the skills that employers are demanding.

- **Active Labor Market Policies:** evaluate both current and planned activities in order to improve its effects. Budgets for active labor market programs need to be scaled up to bring them closer to the European levels.

**Energy**

Energy, especially electricity, is perhaps the most acute constraint on sustained expansion of Serbia’s economy, especially once the economy moves to a more rapid growth trajectory. A power sector crisis looms; already generating capacity cannot meet the peak demand, and projections of consumption and new capacity show the problem worsening after 2015. Serbia consumes considerable amounts of energy, and the energy intensity in Serbia is substantially higher than in other Balkan and EU countries. High energy intensity reflects the effect of policies that directly and indirectly promoted energy consumption by subsidizing prices and tolerating nonpayment.

Any viable reform strategy for the sector will need to seek to rationalize demand by, e.g., changing tariff policy toward full cost recovery (with an appropriate social safety net) and instituting payment discipline. The energy sector not only needs substantial institutional and regulatory improvement, it also needs to reduce commercial losses, build new capacity, and rehabilitate the transmission and distribution network. This cannot be done by the public sector alone. In fact, estimates of the needed supply suggest that the private sector, domestic and foreign, will have to take a major role in transforming the system and increasing its capacity for efficient delivery. For this to happen, reforms are necessary to open up the system to foreign and domestic private participation and well-designed public-private partnerships (PPPs).

To implement the needed reforms, the following measures are recommended:

- **Improve the financial viability of the power sector by increasing tariffs and cutting unjustifiable costs.**
- **Make arrangements to protect the poor from the adverse effects of price increases.**
- **Improve payment discipline to reduce commercial losses and bring the sector to commercial viability.**
- **Improve energy efficiency, particularly in exporting industries.**
- **Consider establishing a pricing authority to address the problem of setting efficient relative prices for district heating, electricity, natural gas, and solid fuels.**
- **Reinvigorate the energy sector reform by implementation of the new energy law in line with the EU’s *acquis communautaire* and the Energy Community Treaty.**

**Land**

Serbia has significant land policy issues: insecure property rights, poor land management, and institutional inefficiencies. Conversion and restitution problems undermine the security of property rights. Hindrances to the efficient use of land and thus economic growth include bottlenecks in the issuance of permits, the complexity
of the process to regularize illegal developments, and land fragmentation. Institutional inefficiencies, such as poor management of state assets and tax collection, lower government revenue. The government has moved in the right direction to tackle these issues, but has often fallen short due to lack of capacity, resources, transparency, and good governance.

To address these issues, the following measures are recommended:

Property Rights:
- Restitution:
  - Ensure that the proposed restitution agency is properly resourced so that the agency can finalize claims within a reasonable time.
  - Create public relations programs to build confidence among the public and investors.
- Conversion of urban land from use rights to ownership rights:
  - Assign a trained and dedicated team whose sole responsibility is to deal with conversion applications, and hire additional staff if needed to process hundreds of thousands of applications. Valuation training or use of private valuation services could be particularly important.
  - Create a public awareness campaign to make the population more aware of the government’s policy position.

Land Management:
- Issuance of construction permits:
  - Create a plan to increase capacity, in particular at the municipal level, to implement the provisions of the 2009 Law on Spatial Planning and Construction and assign a team to monitor the implementation of the law.
  - Review and simplify procedures associated with obtaining construction permits to encourage investment.
  - Create a cadastre in which every building, private- or state-owned, is recorded and its status (legal or illegal) identified.
- Land fragmentation:
  - Build upon the pilot programs to install a national land program for land consolidation.

Institutions:
- Management of state-owned property:
  - To improve records, create up to date inventory of state properties and introduce a system for keeping the inventory current. (The building cadastre would help in establishing this inventory.)
  - To improve transparency, report results of public tenders and auctions that result in transactions (numbers, prices, recipients).
  - To increase understanding of property values, make the tax administration valuation database public, or at least available to government officials who manage state property.
  - To improve capacity, conduct training for local municipalities on good management of public assets.
- Valuation system:
Create an authority responsible for mass valuation either within the tax administration or independent of it, and properly train and resource its staff.

**Trade Facilitation: Customs and Logistics**

Serbia performs relatively well on the Trading Across Borders subindex of Doing Business, and it is ranked 67th out of 125 countries in the 2010 Enabling Trade Index (ETI). However, it is ranked 83rd out of 155 countries in the World Bank’s Logistics Performance Index (LPI) 2010, and ranks even worse on timeliness (137th). Serbian Customs Administration is identified as a significant obstacle to improved trade across borders. Thus, improvements in targeted areas of transport and trade facilitation could yield substantial gains in terms of more efficient economic activity in Serbia. LPI surveys show that at 15 percent physical inspections at entry are relatively high and take a long time, although clearance in Belgrade is much faster than in the rest of the country. While the Customs Administration had become significantly more productive, in recent years progress had slowed. Reform will need to be accelerated, starting with the implementation of the new customs law. International comparisons of the quality of Serbia’s transport infrastructure also confirm significant shortcomings and generally poor performance relative to neighboring countries.

Though transport is not emphasized in this section because it has been covered in other World Bank reports, integration of Serbian and the core regional transport networks is recognized as a policy necessity for stimulating economic development. Road transport would be given a major boost if missing sections of Serbia’s motorways system that are part of the European Corridor 10 were completed earlier. Better rail performance along freight corridors is also critical to competitiveness. This requires coordination both regionally and between agencies. Finally, the location of Serbia offers natural advantages for efficient river transport, especially on the Danube River, one of the major transport axes in Europe.

Recommendations to enhance trade facilitation include:

- Rethink Integrated Border Management that calls for a close inter-agency integration and cooperation, compatible IT systems, and strong compliance and traceability.
- Give the Customs Administration a greater role in customs policy and develop proper HR policies.
- Consider juxtaposed border facilities with the neighboring countries, probably starting with Croatia or Bosnia and Herzegovina.
- Finish developing an inland customs clearance process.
- Install new technology for containers management and inspection.
- Simplify procedures for trade in food products.
- Make product quality standards and the tariff system consistent with those for EU member states.
- Build an IT system that can support the entire Customs reform agenda.
### Priority short and medium-term policy measures

#### In the Short Term

<table>
<thead>
<tr>
<th>Industry</th>
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<tbody>
<tr>
<td>- Target high-value-added FDI through investment promotion programs.</td>
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<tr>
<th>Agriculture</th>
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<tbody>
<tr>
<td>- Make the public policy process more predictable by adopting and sticking to a sectoral strategy.</td>
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<tr>
<td>- Build an effective extension service.</td>
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<thead>
<tr>
<th>Business Environment</th>
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<tbody>
<tr>
<td>- Continue to develop national quality infrastructure to reach EU standards</td>
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<tr>
<th>Skills</th>
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<tr>
<td>- Revamp Active Labor Market Programs that have been successful.</td>
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<tr>
<td>- Reform curriculum in secondary education</td>
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<td>- Introduce measures to reduce the average length of studying in tertiary education</td>
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<td>- Explore additional ALMPs and scale up those with positive impact evaluations</td>
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<td>- Intensify efforts to reduce early school leaving in secondary education</td>
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<td>- Build field-specific knowledge with transferable skills within higher education</td>
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<thead>
<tr>
<th>Energy</th>
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<tr>
<td>- Make the power sector financially viable by increasing tariffs and cutting unjustifiable costs and losses.</td>
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<th>Land</th>
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<tr>
<td>- Assign and train a dedicated team to deal with conversion of land use into ownership rights.</td>
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<tr>
<td>- Simplify procedures for issuing construction permits.</td>
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<tr>
<td>- Build municipal capacity to deal with construction permit issues.</td>
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<tr>
<td>- Create a comprehensive buildings cadastre.</td>
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<tr>
<th>Trade Facilitation</th>
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<tbody>
<tr>
<td>- Rethink Integrated Border Management and consider juxtaposed border facilities</td>
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<th>In the Medium Term</th>
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<table>
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<tr>
<th>Industry</th>
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<tbody>
<tr>
<td>- Promote private sector partnerships and investments in R&amp;D.</td>
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<tr>
<th>Agriculture</th>
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<tr>
<td>- Reallocate budget resources away from ineffective support measures (like area payments, milk subsidy) and gradually increase the budget envelope.</td>
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<table>
<thead>
<tr>
<th>Business Environment</th>
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<tr>
<td>- Prepare the inventory of business related national and subnational procedures.</td>
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<th>Skills</th>
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<th>Trade Facilitation</th>
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<tr>
<td>- Give Customs Administration a larger role in setting customs policy.</td>
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INTRODUCTION

There is little doubt that sound economies are usually based on strong exports, particularly when the range of exports is broad. Every country that has had rapid sustained annual growth of GDP of 7 percent or more for several decades has had a solid export base. It is no coincidence that the international Commission on Growth and Development named exports one of the five key characteristics of economies with a long output growth record (CGD 2008).

Serbia is no exception: If it wishes its economy to grow rapidly, it will have to pay much more attention to expanding its exports. In the last decade, growth has relied on domestic demand—understandably, after a decade of turmoil during which the economy did poorly and domestic demand was stagnant. Now Serbia can do even better by putting emphasis on exports as a new, potentially powerful, source of growth. Serbia’s share of exports in GDP is currently 25 percent; it should be 50 to 75 percent, considering that all European Union (EU) comparator countries (in this report, the Czech Republic, Hungary, Slovakia, and Poland are used as comparators) have export shares of GDP of 60 to 80 percent. The point is not that domestic consumption should be cut. Rather, by promoting exports that speed up growth, all components of GDP could grow faster—the economic growth engine would be firing on all cylinders.

Productivity is what determines long-term export and output growth. It is true that accumulation of physical and human capital can contribute significantly to growth. But this is not enough for sustainable rapid long-run growth. Factors of accumulation must be used efficiently. Only this leads to a strong rate of growth of total factor productivity (TFP). And it is strong TFP growth that over time results in sustained output growth and high GDP per capita. The reason is that growth in TFP creates opportunities for private investors to earn high returns. This attracts new investments, which by enhancing growth further boost growth in productivity (Helpman 2004). Serbia could thus adopt policies that promote TFP growth over the longer term. Due to the virtual collapse of the Serbian economy in the 1990s, utilization of Serbian factors of production is well below pre-1990s levels, which suggests there is scope for significant one-off increases in productivity as utilization of productive factors increases.

The most important determinants of long-term productivity are the adoption of new technologies and constant improvements in production processes. For these to happen, entrepreneurs need an enabling business environment, capable institutions, regulations that support competition, a skilled labor force, and quality infrastructure. Recent analysis of a large sample of enterprises from six EU countries found that, irrespective of country characteristics, enterprise export performance depends on firm size (medium to large is better), labor productivity, skill intensity, and ability to innovate. Size seems to matter as small firms have a harder time paying the large fixed costs of global operations. Although, to get strong medium-size and large companies, one must start with small ones and have a business environment that helps them grow. In addition, while almost 90 percent of the firms in the sample exported to the EU, very few had significant exports beyond EU borders; however, those that did fared better during the recent global crisis (Navaretti et al. 2010). The point is that high-productivity enterprises drive growth rather than general country characteristics, but the state has the responsibility to help provide the public goods
entrepreneurs need to thrive. It is also the case that highly productive enterprises can better compete in geographically diverse markets. This diversifies their “export portfolio” and makes them less vulnerable to downturns. This report pinpoints the policy actions that would be most effective at this stage in raising the productivity of Serbian enterprises. If this can be achieved, better export performance and sustained growth would follow.

The report is structured into two volumes: A shorter Volume 1 is a self-contained resume of the in-depth studies that are presented in (this) Volume 2. Part I reviews Serbia’s macroeconomic situation and its progress on structural reforms. Part II first analyzes the current status of Serbia’s exports and discusses its trade policy and regional trade arrangements. It then uses product space analysis to examine areas where Serbia has a revealed or potential comparative advantage. Two such areas, metal processing and automobile production, are then subjected to value chain analysis to identify bottlenecks that need to be removed if Serbia is to succeed as an exporter of these products. Finally, Part II ends with a discussion of agriculture, another area of comparative advantage, with special attention to what needs to be done to take maximum advantage of Serbia’s prospective entry into the EU. Part III discusses the main obstacles to more rapid and sustainable expansion of exports. It starts with an analysis of the business environment based on a range of surveys and then moves on to the analysis of the four obstacles found to be most binding in the business environment: labor skills, power supply and the efficiency of its use, use of land, and trade facilitation.

A final but crucial point is that it will take a coordinated push in all the areas analyzed if the economy is to grow at 6-7 percent annually for the next two to three decades. The macroeconomic environment must be kept stable. The business environment has to be improved so that backward and forward linkages are fostered across a wide range of industries, not just the metals and automobiles production analyzed. Agricultural policies should be improved and budgets reoriented toward extension services and promotion of supply chains so that Serbia’s farmers can move up the value chain to be competitive in the demanding EU market. Active labor market policies should be rapidly refined, funded, and rigorously evaluated. Reforms in education from early childhood to adult learning need to be reinvigorated. Tough reforms in the energy sector need to be implemented to improve efficiency and turn the sector from a constraint into a supporting pillar of long-term growth. Construction permits must become much easier and less costly to obtain, the cadastre completed, and the land restitution process wrapped up. Customs and logistics processes will need to become faster and more predictable. To make these reforms possible, room will need to be found in the budget to pay for all these initiatives while maintaining fiscal discipline.

Half measures will not do. Because these areas are interconnected, policies for all of them need to be implemented in a coordinated fashion or stagnation in one area will drag down the others. Clearly, doing everything at once is not possible, but to be successful the program needs to be ambitious, with priorities reset as progress is made. The program could be designed so that it can be implemented in the existing political environment and adapted to the specificity of Serbia. The few countries that have managed to make the transition from per capita GDP of less than US$10,000 to more than US$20,000 all did it through comprehensive, coordinated reforms.
1. GROWTH PERFORMANCE AND STRUCTURAL REFORMS

During the first phase of transition, up to 2008, Serbia experienced remarkable but unsustainable growth built on capital inflows and a credit boom that fueled domestic consumption at the expense of competitive exports. Following the first wave of the global crisis, Serbia’s lackluster economic recovery, high unemployment, and its limited export base suggest that it is time to shift to a more dynamic growth model based on increased productivity, competitiveness, and exports. With appropriate productivity-boosting reforms supported and coordinated at the highest levels, Serbia can follow other countries that have achieved much higher growth and employment and higher standards of living for their citizens. Moreover, Serbia’s structural reforms have a clear institutional destination—the European Union. Indeed, if Serbia sustains institutional reforms on the road to the European Union and prepares its economy by boosting productivity and exports, there is no reason why it should not expect rapid income convergence similar to that of the other new member states. Illustrative growth scenarios show that if Serbia successfully rebalances drivers of growth towards exports on the heels of accelerated reforms, it could expect rapid gains in productivity, exports and overall growth, as was the experience with several comparator countries.

1.1. Macroeconomic Environment

1.1.1. Introduction

1. Between 2000 and 2008, Serbia’s economy grew at an average rate of about 5 percent, driven increasingly by domestic consumption, fueled by large capital inflows, and a credit boom. Growth in domestic consumption was concentrated in nontradable sectors of the economy. Capital inflows and foreign direct investment (FDI), which financed a rapidly increasing current account deficit, resulted in a significant build-up of private external debt, which peaked in 2008 at about 53 percent of GDP.

2. With the unprecedented global economic crisis that suddenly put the brakes on capital flows and the credit boom, the foundation of Serbia’s growth disintegrated. The economy entered recession with a drop in real GDP of 3.5 percent and unemployment reached 22 percent. Two years later, Serbia’s growth has been lackluster, averaging just 1.5 percent a year. Unemployment is still extremely high, and credit growth has not supported sustained economic recovery. Real output is yet to return to the pre-crisis level.

3. How can the Serbian economy grow faster and what should Serbia’s growth strategy be? These are the main questions discussed in this report. One tentative answer starts from the fact that Serbia faces both economic opportunities and challenges. The opportunity is to take full advantage of the progress made so far of the European “convergence train” to begin to realize the potential for Serbian incomes to catch up to Western European levels. The challenge—the subject of this report—is that to do so Serbia’s government is advised to significantly improve its business environment and reduce structural bottlenecks in order to strike out on a new path to dynamic, long-run growth, which would now be much more export-led.

4. No single policy intervention will make Serbia’s exports more productive and competitive than they have been. Instead, a concerted multi-pronged policy effort carefully
coordinated at the top level of government is needed to rev up Serbia’s export growth engine. It will require structural reforms in industry, agriculture, the labor market, energy, transport, land use, and trade facilitation. It can be done, as the Czech Republic, Hungary, and Slovakia have demonstrated within Europe and Korea and Singapore beyond the European continent. With growth much more export-driven, the Serbian economy will become more balanced, firing on all cylinders of aggregate demand --- consumption, investments, and exports. Such a growth model will also be much more sustainable and conducive to improvements in the investment climate that will attract FDI and know-how that would in turn support the new export base.

1.1.2. Serbia’s Pre-crisis Growth

5. Serbia’s growth in the first decade of transition was solid but episodic, reliant on an unusually benign international environment, significant capital inflows, and a credit boom. At first (2000–2003), growth was somewhat slower, averaging 4.3 percent. It then accelerated slightly, averaging 5.5 percent for 2004–2008 (Table 1.1), on par with EU10 countries during the same period (Figure 1.1). Output rose in real terms by nearly 50 percent between 2000 and 2008, as the corporate and banking sectors began to restructure, expand, and increase their profitability. Inflation, which was very high at first, was slowly being brought under control later on.

<table>
<thead>
<tr>
<th>Table 1.1: Serbia, Selected Economic Indicators</th>
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<tbody>
<tr>
<td><strong>Indicators</strong></td>
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<tr>
<td>Real GDP growth (percent)</td>
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<tr>
<td>Gross domestic investment (percent of GDP)</td>
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<tr>
<td>Gross domestic savings (percent of GDP)</td>
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<tr>
<td>Consumer price inflation (end of period)</td>
</tr>
<tr>
<td><strong>Public sector (percent of GDP)</strong></td>
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<tr>
<td>General government revenues</td>
</tr>
<tr>
<td><em>Of which</em> Value-added taxes</td>
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<tr>
<td>General government expenditures</td>
</tr>
<tr>
<td><em>Of which</em> Current expenditure</td>
</tr>
<tr>
<td>Balance</td>
</tr>
<tr>
<td><strong>External accounts (percent of GDP)</strong></td>
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<tr>
<td>Exports of goods</td>
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<tr>
<td>Imports of goods</td>
</tr>
<tr>
<td>Current account balance, after grants</td>
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<tr>
<td>Foreign direct investment, net</td>
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</table>

Source: World Bank staff.

6. But growth was being driven increasingly by the expansion of domestic demand for nontradables. Unfortunately, Serbia did not take advantage of one of the fastest expansions of global trade during this period, to significantly increase its exports as a proportion of GDP. Instead, as much as 85 percent of growth in real value-added from 2000 to 2008 was
attributable to nontradables. Retail and wholesale trade, transport and telecommunications, and financial intermediation were booming at the annual rate of 11.3 percent, contributing 75 percent of total growth between 2000 and 2008. The rest of the economy was growing at just 2.2 percent a year. As a result, the share of nontradables in nonagricultural value-added almost doubled, from 21 to 37 percent. While this shift toward services was not unusual for transition countries, its speed and scale were exceptional (Figure 1.2). While real GDP expanded by 47 percent from 2000 to 2008, domestic demand expanded by as much as 71 percent (Figure 1.4).

Figure 1.1: Real GDP Growth, Average for 2004–2008

Figure 1.2: Share of Trade, Transport, and Financial Intermediation in Nonagricultural GDP, EU10 and Serbia, 1996–2008

Source: Eurostat, RZS. Note: Weighted averages for selected country groups: Baltics; V4 – Czech Republic, Hungary, Slovakia, Poland; BgRo – Bulgaria, Romania.

7. **Exports were very low by regional standards, net exports made a negative contribution to GDP growth, and Serbia built up a large current account deficit.** Exports stood at only about 20 percent of GDP in 2007, even after some increase during that decade (Figure 1.3). With goods imports outpacing exports, the import share in GDP grew from 36 percent to 48 percent and averaged 42 percent throughout the pre-crisis period. As a result, Serbia developed a structural current account deficit of about 22 percent of GDP as excessive domestic investments were fuelled by external inflows.

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In this report, as tradable sectors are classified agriculture and industry (consisting of manufacturing, mining, and energy), which are characterized by large shares of goods entering foreign trade. All other sectors are considered nontradables.
8. The current account deficit was financed by capital inflows including FDI, perpetuating the unsustainable increase in domestic demand. Most of the first decade of Serbia’s transition coincided with an era of low global interest rates, when capital was readily available to emerging economies. True, Serbia saw relatively strong FDI inflows because of some large privatizations, in particular from 2004 to 2008, but about 80 percent of the FDI went to nontradables, particularly telecoms, banking, and retail trade, which reinforced the underlying growth pattern (Figure 1.5).

9. Not surprisingly, the surge in capital inflows and the rise in nontradable prices brought about a significant real appreciation of the dinar through 2008, undermining the competitiveness of exporters (Figure 1.6). Unit labor costs (ULC) in local currency terms, however, were mostly flat and trended slightly downward for 2005–10 (Figure 1.7). Increases in productivity exceeded rapid wage growth, partly because there was considerable labor shedding with privatizations and the closure of many dying enterprises. But, due to the
significant appreciation of the real exchange rate until 2008, ULCs continued to rise in euro terms, undermining the competitiveness of Serbia’s exports, which were largely denominated in euros (Figure 1.8). With the industrial base already devastated because of years of regional wars, external sanctions, and economic isolation, Serbia’s economic structure had become stuck at an extremely low level of exports (Figure 1.3).

Figure 1.7: Real Unit Labor Costs (2009 Average =100)

Figure 1.8: Real ULC in Euro Terms (2004 Average =100)

The other side of the current account gap was the rapid buildup of private external debt, taking advantage of historically low foreign interest rates. Corporations, households, and the government borrowed externally to finance internal consumption. With consumption booming and savings exceptionally low in all sectors (corporate, household, and government), in 2008 the current account deficit peaked above 21 percent of GDP. Government threw fuel on the fire by moving from a surplus of 0.6 percent of GDP in 2005 to a deficit of −2.0 percent in 2008 despite rising government revenues (Table 1.2).

Table 1.2: Savings-Investment Balance, 2001–2008

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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</thead>
<tbody>
<tr>
<td>Savings - investment balance</td>
<td>-2.5</td>
<td>-8.3</td>
<td>-7.3</td>
<td>-12.1</td>
<td>-8.7</td>
<td>-10.2</td>
<td>-16.2</td>
<td>-21.4</td>
</tr>
<tr>
<td>Nongovernment sector</td>
<td>-2.4</td>
<td>-4.1</td>
<td>-4.2</td>
<td>-11.8</td>
<td>-9.3</td>
<td>-8.5</td>
<td>-14.3</td>
<td>-19.4</td>
</tr>
<tr>
<td>Gross national savings</td>
<td>10.0</td>
<td>3.5</td>
<td>7.8</td>
<td>13.9</td>
<td>11.8</td>
<td>11.5</td>
<td>9.8</td>
<td>6.5</td>
</tr>
<tr>
<td>Gross investment</td>
<td>12.5</td>
<td>7.6</td>
<td>12.0</td>
<td>25.7</td>
<td>21.1</td>
<td>20.0</td>
<td>24.2</td>
<td>25.9</td>
</tr>
<tr>
<td>Government sector</td>
<td>-0.1</td>
<td>-4.1</td>
<td>-3.1</td>
<td>-0.3</td>
<td>0.6</td>
<td>-1.7</td>
<td>-1.9</td>
<td>-2.0</td>
</tr>
<tr>
<td>Gross national savings</td>
<td>1.4</td>
<td>-0.7</td>
<td>-0.6</td>
<td>2.3</td>
<td>3.3</td>
<td>2.4</td>
<td>2.9</td>
<td>1.8</td>
</tr>
<tr>
<td>Gross investment</td>
<td>1.4</td>
<td>3.4</td>
<td>2.5</td>
<td>2.6</td>
<td>2.7</td>
<td>4.1</td>
<td>4.8</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Source: IMF

As a result, public and private debt shot up. Early in the transition, external debt was reduced significantly due to successful arrangements on debt relief and restructuring with the Paris and London clubs of creditors; this was particularly important because at that stage most of the external debt was public. But after 2004, with international monetary conditions increasingly loose, in Serbia as in many other countries, there was a steady and significant build-up of private as well as public external debt. Although the level of external public debt is not a cause for immediate concern, the pace of new debt build-up raises the question of how sustainable the old growth model is (Figure 1.9).
12. **As the global crisis escalated in 2008 and international capital markets froze, Serbia’s economic activity ground to a halt and the weaknesses of its growth model were fully exposed.** With almost a sudden stop in capital flows, domestic demand contracted, output dropped, and the dinar depreciated. Many companies in Serbia had relied on unhedged loans indexed to the euro to finance not just investments but often current operations. As credit dried up and interest payments in euros jumped, corporations experienced a massive squeeze on their balance sheets. New financing was difficult to obtain; banks were extremely reluctant to lend because of their own liquidity problem and insolvency fears. Companies were forced to slash costs, investment demand collapsed, and many companies resorted to layoffs. Employment declined sharply, even though the output contraction was relatively modest (Figure 1.10). Exports collapsed, too, as the main trading partners went into recession. The result: Serbia’s exports in 2009 were fully 20 percent lower than in 2008.

1.1.3. **Carry on or Speed up?**

13. **As it emerges from the crisis, Serbia should not just carry on business as usual.** There is an important lesson that growth based on capital and credit flows that fuel high consumption is unsustainable. Even if consumption were to return to pre-crisis levels, external debt would again start rising, driven by the buildup of private sector debt. In this scenario, by 2016 external debt would likely rise above 90 percent of GDP and continue on its way upward. On average, external financing needs for 2012–2016 would be €2–3 billion a year higher than they would be if growth were more balanced, i.e., much more export-intensive. It would become increasingly difficult to secure financing. The outcome would likely be a new cycle of boom, hard landing, and bust.
14. **Countries that achieve high and sustained growth rates over long periods followed a different path from Serbia.** As the Growth Commission Report has documented (2008) documents, countries that have had high and sustained growth rates over long periods—despite many idiosyncratic characteristics—shared five features that can be viewed as necessary, though not sufficient, preconditions for high and sustained growth: (1) They fully exploited the opportunities of the huge world market by rapidly increasing their exports. (2) They maintained macroeconomic stability. (3) They mustered high rates of saving and investment, with most of the investment covered by domestic saving. (4) They let markets allocate resources. (5) They had committed, credible, and capable governments.

15. **Balanced growth, relying much more on exports and integration with European goods markets, seems to be a promising path for Serbia.** As reported in Bruegel (2010), the basic assumption of the growth model of emerging European countries—close integration with the EU—is sound, but some modifications will be necessary, in particular for Baltic and Balkan countries. The model for these countries should emphasize even more strongly trade openness and trade integration. A similar conclusion also emerges from the EBRD Transition Report (2010), which points out advantages to building up export capacity. Using empirical data, Dollar and Kraay (2002) show the importance of exports, as well as good institutions, for long-term sustained growth. Although both are crucial in the long term, improvements in trade are particularly important for medium-term growth. Finally, exports greatly improve growth prospects through two channels: (i) an increasing returns-to-scale effect, especially for small economies, when the country can export into a large world market, and (ii) a “stock of knowledge” effect, which allows a country to absorb knowledge developed elsewhere for use in its production (Helpman 2004).

### 1.1.4. The Medium-term Outlook: Two Illustrative Scenarios

16. **Rebalancing growth sources would help place Serbia on a significantly more rapid and sustainable growth path.** The report sets out two illustrative scenarios for Serbia’s medium-term growth that demonstrate the effects of rebalancing of sources of growth. The
scenarios are merely illustrative – actual outcomes could fall within or outside the range – yet they do provide a rationale for the policy changes called for in this report.

17. **Both scenarios assume that in the next decade Serbia will face a much more stringent external financing constraint than in the first decade of transition.** Capital flows are generally volatile (IMF 2011) and have become more so over the last three decades, and they have tended to come in waves of short duration. As policy rates in advanced economies rise from their present unusually low levels, capital flows may again leave the emerging market economies. It is unrealistic, and certainly not wise, for Serbia to rely on huge capital inflows for financing expansion of consumption. Therefore, our starting assumption in both scenarios is that the current account (especially trade) deficit will need to be significantly reduced. The main difference between the two scenarios is in how the necessary adjustment is achieved. In the first, the **high (export-led) scenario**, the adjustment is primarily based on successful structural reforms and improvements in competitiveness and productivity that engender high rates of export growth, which in turn leads to much higher growth generally. In the second, the **low (business-as-usual) scenario**, the pace of reform stays lackluster and Serbian companies do not significantly improve productivity and competitiveness, so that export growth is much more modest. To ensure that the trade deficit does not spiral out of control, this implies low growth of imports and sluggish economic expansion generally.

18. **The high scenario illustrates the trajectory of the Serbian economy if growth sources are successfully rebalanced.** Here the assumption is that as a result of accelerated structural reforms, exports take off vigorously. Nominal growth of exports (in euro terms) over the next decade would average close to 16 percent annually. Although this may seem ambitious, particularly in the current economic environment, it is very much in line with what similar countries have achieved (Box 1.1). The starting point for Serbia’s exports is lower than in any of these countries, so achieving the assumed growth rate should be relatively easier. In this scenario, there is also an assumption of increased in investment, peaking at about 28 percent of GDP. The average investment-to-GDP ratio over the next decade would be 26.5 percent, again very much in line with what comparable countries have achieved. Further, in this scenario there is an assumption of a responsible yet realistic fiscal policy. Real growth of government consumption over the next decade would average about 3.5 percent. This is slower than the rate of GDP growth, so the share of government consumption would gradually decrease, from about 19 percent of GDP in 2011 to 15 percent in 2020. Finally, there is an assumption that private consumption would grow throughout the period at a rate slightly below that of GDP so that its share in GDP would gradually decrease.

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2 Investment rates among new EU member states from 1999 to 2008 averaged 27 percent of GDP—22 percent in Poland, 23 percent in Lithuania, 28 percent in Slovakia and the Czech Republic, and over 30 percent in Latvia and Estonia.
19. The result would be average annual real GDP growth of about 6 percent (Table 1.3). Again, this is similar to the early transition period of new EU member states, whose growth averaged 5 percent from 1999 to 2008 (even with a contraction for many of them in 2008), although the international environment then was notably more benign. In this high scenario, growth would peak at about 8 percent a year in the 2013 to 2015 period, a good portion of it coming from the scaling up of Fiat’s operations, which is already underway. This scenario also sees imports accelerate, especially during the first few years. This is the consequence of the uptick in investments that would be necessary to achieve the desired growth rates for exports. The trade balance gradually improves throughout the scenario period, and by 2017, the merchandise trade deficit drops to less than 10 percent of GDP.

20. The low, business as usual, scenario illustrates a path with only mediocre growth of exports. In this scenario, the average nominal growth rate of exports over the next decade is about 11 percent (Table 1.3 and Box 1.1). The assumption is that exports grow strongly in the next few years as Serbia recovers from the initial impact of the crisis and some large
investments, in particular by Fiat, come on-line. But because productivity-enhancing reforms are slow, the impact of increased exports quickly wears off, dropping to a rate of growth of about 8 percent annually in the second half of the decade. In this case, growth is constrained by the availability of financing. Consumption, both government and private, grows much more slowly than in the high scenario, and investments hold at only about 23 percent of GDP throughout the period. This slows the growth of imports, so that the merchandise trade deficit also drops below 10 percent of GDP by 2017. However, the narrowing of the trade deficit is the result of sluggish growth, not a shift towards export-led growth.

Table 1.3: Serbia, Selected Economic Indicators under two scenarios

<table>
<thead>
<tr>
<th>High scenario</th>
<th>2011-2015</th>
<th>2016-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP, real growth rate</td>
<td>6.7</td>
<td>5.7</td>
</tr>
<tr>
<td>Private consumption, real growth rate</td>
<td>4.2</td>
<td>5.4</td>
</tr>
<tr>
<td>Exports (EUR), nominal growth rate</td>
<td>20.0</td>
<td>11.4</td>
</tr>
<tr>
<td>Consumption, in % of GDP</td>
<td>86.3</td>
<td>80.4</td>
</tr>
<tr>
<td>Investment, in % of GDP</td>
<td>26.2</td>
<td>27.6</td>
</tr>
<tr>
<td>Trade balance, in % of GDP (end of period)</td>
<td>-12.5</td>
<td>-7.9</td>
</tr>
<tr>
<td>Exports of goods, in % of GDP</td>
<td>35.2</td>
<td>46.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low scenario</th>
<th>2011-2015</th>
<th>2016-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP, real growth rate</td>
<td>4.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Private consumption, real growth rate</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Exports (EUR), nominal growth rate</td>
<td>13.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Consumption, in % of GDP</td>
<td>88.7</td>
<td>85.0</td>
</tr>
<tr>
<td>Investment, in % of GDP</td>
<td>23.2</td>
<td>22.4</td>
</tr>
<tr>
<td>Trade balance, in % of GDP (end of period)</td>
<td>-12.0</td>
<td>-7.6</td>
</tr>
<tr>
<td>Exports of goods, in % GDP</td>
<td>32.8</td>
<td>38.7</td>
</tr>
</tbody>
</table>

Source: staff calculations

Box 1.1: What Export Growth Rate Could Serbia Realistically Expect?

The main difference between the two illustrative scenarios is the assumption about the rate of growth of exports. In the low-case scenario there is an assumption of a very modest expansion of exports of 11 percent a year. In the high-case scenario a much more ambitious annual export growth rate of close to 16 percent is assumed. Since the two sets of assumptions produce very different outcomes, it is important to assess whether our assumptions, particularly those for the high scenario, are realistic.

A smooth evolution of the export growth rate could not be assumed. Rather, we assume a burst of activity from 2012 to 2014 and then a gradual moderation. This burst is realistic because it is linked to the expected impact of the Fiat production line in Serbia coming online. Another assumption is that the export growth rate peaks at about 20–25 percent (Figure 1.10a). This assumption makes sense, because once Fiat production comes fully on line (likely in 2012 and 2013), this alone will generate an estimated €1.5 billion of new exports (see the value chain analysis below), or 15 to 20 percent of
2011 exports. Even with modest growth of other exports, achieving a 20 to 25 percent annual growth of exports for 2012 to 2014 does seem feasible.

Assumptions about the experiences of comparator countries. As shown in the table, assumption is that in the high scenario exports grow an average of 15.7 percent a year from 2011 through 2020 (in the low scenario the rate is 10.8 percent). The same table also shows actual growth rates of comparator countries for a comparable 10-year period (1999 through 2008, which was their second decade of transition). All the comparators achieved similar or higher export growth rates. Furthermore, most of these countries exhibited a pattern of growth similar to what was assumed for Serbia, with a burst of growth at some point during the 10-year period, with the growth rate moderating over time. In our case, for 2012–2014 average annual growth of exports is 22 percent—again in line with other countries. For example, from 2004 to 2006 average growth of Polish exports was 20 percent and Bulgarian 22 percent; Hungarian exports grew 24 percent from 1999 to 2001 and Slovakian 24 percent from 2005 to 2007, although these were admittedly expansive years for world trade. Granted, current economic environment may well disappoint these expectations, but the point is the expected pattern if and when global economic conditions improve.

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Growth Rate</th>
<th>Serbia &quot;High&quot;</th>
<th>Serbia &quot;Low&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>15.5</td>
<td>15.7</td>
<td></td>
</tr>
<tr>
<td>Czech. R.</td>
<td>15.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>15.0</td>
<td>15.7</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>15.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>16.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>18.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>15.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>10.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Eurostat, national banks, World Bank staff calculations

21. The two scenarios result in very different growth and export trajectories, with Serbia reaching much higher growth rates and living standards under the scenario that reflects determined reform efforts and hence higher export growth. Both scenarios result in a sustainable pattern of growth in terms of financing constraints, but there is a vast difference in outcomes. The high scenario assumes a serious effort to boost productivity and competitiveness of Serbia’s exporters. This would result (Figure 1.11a) in higher and more sustained export growth, so growth rates of GDP would also be higher (Figure 1.11c). By 2020 GDP in constant prices would be some 80 percent larger than in 2010 in the high scenario, compared to just 40 percent in the low scenario. Private consumption, the main determinant of living standards and poverty levels, also follows a much more favorable path in the first scenario. By 2020 private consumption would be almost 60 percent higher in real terms, compared to just 30 percent in the second scenario.

22. Importantly, the strong reform scenario would generate 20,000 jobs a year more than the “business as usual” scenario. In the high scenario, using an employment elasticity of 0.3 (see World Economic Forum 2006), the assumed GDP growth rates would generate 400,000 new (additional) jobs by 2020. If the growth rates continued for another 4-5 years, the unemployment rate could be as low as 5% by 2025. In the low scenario, an additional 230,000 jobs would be generated by 2020, but it would take until 2035 (10 years longer than in the high scenario) to bring the unemployment rate to 5%. As in the skills chapter (later) the assumption is that there are 90,000 people in each cohort (or 4 million adults aged 20-65) and that Serbia’s goal would be to reach the EU active labor target of 75% or all people in that age group.

1.2. Structural Reforms: How to Achieve the Export “Push”? 

23. Boosting exports to achieve growth that is both sustainable and significant will crucially depend on reforms that improve competitiveness. While Serbia made clear
progress early in its transition, “reform fatigue” set in earlier than in other transition economies. Given the heritage of the Yugoslav era, Serbia’s starting position was on average slightly better than in the new EU member countries (Figure 1.12). Early in the transition, after 2000, progress of reforms in Serbia was comparable to that of the EU10. However, momentum seems to have been lost relatively early, and the pace of reforms in Serbia has since been slower. At the end of the first decade of transition Serbia was behind the EU10 average at a similar point in their transitions, as measured by the EBRD’s Transition Indicators (Figure 1.13).

Figure 1.12: EBRD Transition Indicators for Serbia, 2000-2010

Note: T0 is 1989 for EU10 and 2000 for Serbia. EU10 is the average score for new EU member states, except the Czech Republic.

24. Serbia’s progress in price liberalization, banking, trade, and foreign exchange reforms is close to that of the EU10 countries in their tenth year of transition (Figure 1.14), though the reasons why progress in these areas was faster in Serbia than in other areas were different. One is that these reforms are quite easily achievable through simple changes in regulation. In addition, there is only one institution in charge of most of these reforms, the National Bank of Serbia (NBS), which has itself undergone substantial reforms. But while Serbia’s progress with reforms related to competition policy is close to that of EU10 countries in their tenth year of transition, it is far from satisfactory. Arguably, Serbia’s interrupted transition has meant that in many areas it is still less than halfway toward a full-fledged market economy.

25. Less progress was made in areas where there are multiple stakeholders and where the political costs of reforms were more obvious, reflecting Serbia’s complex political economy (Box 1.2). Thus Serbia has made the least progress in the areas of privatization (both large and small-scale), enterprise restructuring, the regulatory framework for infrastructure, and nonbank financial institutions (Figure 1.15). These are all areas where multiple stakeholders push to maintain the status quo rather than urging market-oriented reforms. Achieving a more export-driven economy is constrained by the fact that privatization and restructuring of socially and publicly owned enterprises is an unfinished item on the reform agenda.
26. **Fiscal policy must continue to be responsible, even though some reforms might prove costly.** In the remainder of this report some measures that are proposed and that could improve Serbia’s competitiveness will certainly require additional public spending. For example, it is proposed increased spending on active labor market policies, expansion of adult training, possible additional incentives to attract FDI, an expansion of agricultural extension services, and the building of agricultural supply chains. There are also costs related to removing obstacles to doing business, streamlining trade facilitation, and handling the remaining land and energy issues. The fiscal envelope needs to make room for these measures without violating the rules for spending and deficit levels set out in the fiscal responsibility legislation.
Political developments in the previous decade had a significant impact on structural reforms. Immediately after the fall of Milosevic’s regime in October 2000, Serbia demonstrated capacities to create and implement a broad spectrum of structural reforms. It also benefited from significant international support and from the fact that it could learn from the experience of other transition economies. As a result, achievements in the first two years of transition were impressive: liberalization of prices and of the foreign trade regime; restructuring of the real sector, including privatization of all socially-owned enterprises; and macroeconomic stability. However, major challenges soon exposed weaknesses in the political system. Most importantly, Serbia was facing the issues of building a state while redefining relations with Montenegro and Kosovo. In addition, elections were frequent because the political scene was fragmented. The political crisis culminated in the assassination of Prime Minister Zoran Djindjić in March 2003.

Fragmented political scene led to frequent elections, which slowed policymaking process and reforms. In Serbia, there are about 80 registered political parties, of which 21 participate in the Republican parliament. The current government is also complex, representing 13 parties. With a fragmented political scene where many parties comprise the ruling coalition, it often happened that there were changes in coalitions or there were early elections. Since 2000 Serbian citizens have voted 14 times in presidential, republic, provincial, and local elections, and Serbia has had five governments.
in 11 years. There was also a new constitution adopted in 2006 which had to be approved in a state-
wide referendum.

**Weak institutional framework contributed further to a situation where having coherent public policies is not always possible.** On top of the unstable political scene, Serbia was and to some extent still is challenged by weak or completely missing institutions. After more than a decade of rule by Milošević and Serbia’s international isolation, the institutional framework has been devastated. As a result, Serbia achieved far fewer structural reforms in the first decade of transition than it otherwise might have. Once the reforms started in 2000, there were constant changes and even reversals in the design of institutions that further slowed implementation of reforms.

27. **The rest of this report translates the broad insights of this chapter into concrete policy advice to reinvigorate Serbia’s reform efforts.** This chapter has shown that although Serbia achieved some notable results in the first decade of its transition in terms of growth performance, its growth model left it highly vulnerable to boom and bust cycles and too dependent on volatile external developments.

28. **A new and robust model is needed if Serbia is to achieve sustained and stable growth and raise the living standards of its citizens.** The illustrative scenarios suggest that the only model that is both sustainable and achieves high growth rates is one relying on much greater productivity and competitiveness and higher exports. Putting the model into practice will require dismantling barriers to domestic and foreign investment, boosting competitiveness through sectoral reforms, and much closer integration with European and global markets. This implies that economic policy needs to focus on significantly improving the supply side of the economy by reinvigorating the stalled reforms. Agreeing on overarching goals and translating them into concrete policy action will not be easy. Hope is that this report provides specific advice that will help policy makers to design and prioritize policies that will help strengthen Serbia’s long-term economic prospects.
2. EXPORT OPPORTUNITIES AND REVEALED COMPARATIVE ADVANTAGES

What has been the pattern of Serbia’s exports? Which sectors and activities are positioned to boost exports in the near future? These are the two main questions addressed in this chapter. The second question definitely does not have anything to do directly with the old industrial policy of “picking winners”—trying to identify new export champions and then supporting them with expensive budgetary and quasi-budgetary instruments. Our aim is much more basic: to identify sectors and activities that are already showing significant export momentum and are poised for a significant expansion of exports. Because these have already crossed a vital threshold by successfully entering the much more competitive international markets, understanding their opportunities and challenges can unveil useful clues for Serbia’s export growth strategy. Highlighting their experiences can also have a demonstration effect in Serbia for domestic and foreign investors that are considering entering into export areas.

This part of the report, therefore, first reviews Serbia’s export performance and trade policy during the last decade, including its structure of export products and geographical concentration of exports. It then reviews the findings of a product space (PS) analysis that identifies products that seem to have the most potential for export. Based on these findings and the path dependence of several of the products, this part of the report then zeroes in on two major sectors—industry and agriculture—providing a detailed sectoral analysis of their export potential. The conclusion is optimistic: Serbia already has emerging export product “champions” and some “classics” that can be scaled up significantly with the right mix of policies and reforms, providing a major boost to overall exports, growth and jobs. The massive export potential of the Fiat production now coming on stream should be exploited to develop strong backward linkages in the local markets.

2.1. Trade Performance and Trade Policy

29. Serbia’s exports grew fast in the first decade of transition, but their share of GDP is still well below that of comparator countries and Serbia’s own potential. Thanks to privatizations and considerable enterprise restructuring, Serbia was able to attract significant amounts of FDI. However, to grow robustly in the future it will have to do much more to solidify its current export base and improve productivity and therefore competitiveness. Serbia’s exports are, in fact, becoming increasingly sophisticated, so there is great potential for substantive growth and export diversification. In particular, the potential for food processing and metals is substantial. And, although the position of the auto industry is currently weak, with only limited exports, the impact of the coming Fiat exports will be huge.

2.1.1. Introduction

30. Though starting from a very low base, Serbia’s goods exports grew 17 percent a year in euro terms over the past decade,3 bringing the share of exports in the economy up from about 15 to 25 percent. But even at 25 percent the goods export share in Serbian GDP is

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3 In dollar terms average annual growth rate was about 21 percent.
far below the 70 percent average for Central and Eastern European Countries (CEEC).\(^4\) That average is an ambitious but achievable target for Serbia for this decade. In this chapter comparator countries are those of the CEEC, which have economic, political, and social similarities to Serbia, and analyze their success in going through transition.

31. **The main reasons for the growth of Serbia’s exports during the last decade are:** reopening of the Serbian economy after years of isolation, its considerable restructuring, successful privatizations, and FDI inflows. In the 1990s the Serbian economy suffered the consequences of regional wars, UN trade sanctions, the loss of regional markets, and the dissolution of domestic supply chains with the breakup of Yugoslavia. Since 2001, with momentous political changes an ambitious program of pro-market, pro-European reforms have started. Most socially-owned enterprises (SOEs) have been privatized and the business environment has become more attractive to investors. In the past 10 years, Serbia attracted cumulative FDI of €13.2 billion, equivalent to about a third of 2010 GDP—a solid achievement in a region where several countries had begun attracting significant FDI and improving productivity a decade earlier.

32. **The strong export growth, however, masks serious weaknesses in terms of geographical and product concentration of exports.** The brisk export growth over the previous decade was concentrated in just a few, mainly low-value-added, products. Almost two-thirds of exports were raw materials; consumer goods accounted for just 30 percent (Figure 2.1). Serbia’s primary exports are metals, plastics, and some agriculture products (Table 2.1). Almost 90 percent of Serbian exports go to Europe (55 percent to the EU and about one third to the CEFTA region\(^5\)).

33. **Which products, activities, and sectors showed solid performance in Serbia? Which are showing real momentum, and why?** Over the medium term the potential of service exports should not be ignored. While this report focuses on goods exports, trade in services will soon become increasingly important to Serbia’s export diversification.

2.1.2. **The Structure of Serbia’s Trade**

34. **Serbia’s merchandise exports are dominated by fairly low value-added products.** Although manufacturing accounted for as much as 94 percent of the total exports over the period 2004-2008\(^6\), most of these are low value-added products, including basic metals, chemicals and food products. The top five export products include rolled iron products, copper, tires, fruit and aluminum. Looking at broader SITC categories (Figure 2.2) it is evident that food, chemical and manufactured products dominate Serbian exports, and account for 61 percent of the total.

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\(^4\) In this report we use the Czech Republic, Hungary, and Slovakia as CEEC comparators.

\(^5\) CEFTA is a South East Europe trade agreement that has replaced bilateral agreements between Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Moldova, Montenegro, Serbia, and UNMIK/Kosovo.

\(^6\) For discussion on the structure of trade we decided to use the period 2004-2008 given the impact of the “transition shocks” in the early years of transition and the impact of the international economic crisis in 2009 and 2010.
Table 2.1: Serbia’s Top Export Products, 2004–2008 (SITC 3-digit classification)

<table>
<thead>
<tr>
<th>Rank</th>
<th>SITC Code</th>
<th>Title</th>
<th>Value (average) US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>673</td>
<td>Flat-rolled products of iron or non-alloy steel, not clad, plated or coated</td>
<td>684,670</td>
</tr>
<tr>
<td>2</td>
<td>682</td>
<td>Copper</td>
<td>315,495</td>
</tr>
<tr>
<td>3</td>
<td>625</td>
<td>Rubber tires, tire flaps, and inner tubes for wheels of all kinds</td>
<td>204,682</td>
</tr>
<tr>
<td>4</td>
<td>058</td>
<td>Fruit, preserved, and fruit preparations (excluding fruit juices)</td>
<td>194,482</td>
</tr>
<tr>
<td>5</td>
<td>684</td>
<td>Aluminum</td>
<td>176,527</td>
</tr>
<tr>
<td>6</td>
<td>893</td>
<td>Plastic articles, n.e.s.,</td>
<td>167,649</td>
</tr>
<tr>
<td>7</td>
<td>061</td>
<td>Sugars, molasses, and honey</td>
<td>162,253</td>
</tr>
<tr>
<td>8</td>
<td>851</td>
<td>Shoes</td>
<td>159,942</td>
</tr>
<tr>
<td>9</td>
<td>674</td>
<td>Flat-rolled iron or non-alloy steel, clad, plated, or coated</td>
<td>151,832</td>
</tr>
<tr>
<td>10</td>
<td>571</td>
<td>Ethylene polymers in primary forms</td>
<td>134,902</td>
</tr>
</tbody>
</table>

Note: n.e.s. stands for Not Elsewhere Specified

Figure 2.1: Exports (BEC classification) 7

Figure 2.2: Exports (SITC classification)

Source: NBS

35. **Exports of services could become more significant.** Though not featured here, services have considerable potential for improving the country’s external position. Over the last five years Serbia annually earned €2.4 billion (US$3.3 billion) from services exports. These grew pre-crisis by 33 percent a year before declining by 13 percent in 2009. Thus, their share in GDP nearly doubled in the decade, from 5 percent of GDP in 2001 to 9.2 percent in 2010 (Figure 2.3). But the net effect of these relatively good export results on Serbia’s current account was close to zero, since import of services was also growing fast. Services imports have nearly tripled since 2001, growing from 3.2 to 9.2 percent of GDP. As a result, from 2005 to 2008 Serbia had a negative services trade balance (averaging 0.4 percent of GDP), though in the last two years that trade was again in balance.

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7 BEC stands for Broad Economic Category
36. Professional services, construction, and road transport are Serbia’s most important services exports, accounting for about €100 million of net exports a year. Average revenues from exporting professional services (2007–09) were €528 million, construction services €184 million, and road transport services €206 million. Personal and cultural services and information technology services are also growing; annual exports of these two broad categories of services now exceed €100 million. Serbia’s least favorable trade balances are in oil pipeline transport (negative balance of EUR 185 million), tourism (EUR -134 million), and royalties and fees (EUR -89 million). Given the relatively high level of investment in services sectors and their consequent fast growth, it is reasonable to expect that they will soon be contributing more to the country’s export performance (for international experience see Box 2.1).

Box 2.1: Sophistication in Services Exports and Economic Growth

A 2011 World Bank report emphasizes that because many services can now be stored and traded digitally, they are not subject to many of the trade barriers that physical exports have to overcome. As a result, many countries are now leveraging services exports as part of their growth strategy.

Even though manufacturing remains very important to growth, the services exports of developing countries almost tripled between 1997 and 2007. China’s growth strategy has centered on manufacturing, but India’s nearly 7 percent growth rate has been driven significantly by services. Examples of services exports are call centers in Kenya, business consulting and knowledge processing offices in Singapore, accountancy services in Sri Lanka, and human resource processing in Abu Dhabi.


37. Europe is the destination for 87.7 percent of Serbian exports. The EU alone accounted for about 55 percent (Figure 2.4). Within the EU, Serbian exporters mainly trade with the old member states (the EU15), though this has changed somewhat in recent years (Figure 2.5). In the last decade, however, there have been only small changes in the structure of Serbian export destinations, with the EU share declining marginally and the CEFTA share similarly increasing. Such geographic concentration makes the Serbian economy highly sensitive to economic developments in Europe. Therefore one policy recommendation would be to explore options for further expansion of exports to other emerging markets, outside Europe.
2.1.3. Trade Policy

38. **Since 2001 Serbia has introduced a number of measures that demonstrate its commitment to opening up its market for foreign goods and tapping into opportunities abroad.** Liberalization and deregulation of foreign trade was one of the pillars of the post-2000 reforms. In the first two years of transition Serbia halved its tariffs and began negotiating a number of free trade agreements (FTAs). Currently, Serbia is a party to CEFTA and has favorable FTAs with the EU, Russia, and several other countries (members of EFTA, Turkey, Kazakhstan and Byelorussia). Since 2004, Serbia has been working on accession to the WTO; it entered the final accession stage in October 2010.

39. **Given the geographical concentration of its exports, the most important trade arrangements for Serbia are those with the EU and CEFTA.** Since November 2000 Serbia has benefited from EU autonomous trade preferences (ATP) similar to those all other Western Balkan countries have. That means practically duty-free export to the EU of all Serbian goods except wine, veal, fish products, sugar, and some textiles. ATPs were expected to end in December 2010, but in 2008 Serbia and the EU signed the Interim Agreement on Trade and Trade-Related Matters to regulate trade relations until the Stabilization and Association Agreement comes into force. The Interim Agreement envisages the opening of Serbian market in stages over six years and, more important, it covers competition and consumer protection. The CEFTA agreement is also very important for Serbia but provides somewhat less legal protection for trade with the other Balkan countries; there are many violations and some political issues.
2.2. Expanding Export Potential: What Products Could Serbia Produce?

2.2.1. Introduction – What exports could Serbia develop?

40. Countries can, and often do, try to build their export base through policy interventions. Yet the common denominator of countries whose export-led strategies were successful is simple: they had a strategy. Serbia is advised to have one, too. But what should a viable export strategy consist of, beyond solidifying and expanding the export base? In this context, PS analysis, pioneered by Hausmann, Hwang, and Rodrik (2007), Hausmann and Klinger (2006), and Hidalgo et al. (2007), offers a fact-based, data-driven evaluation of the feasibility and desirability of alternative sectoral and product transformation options. On the basis of very detailed data on global and Serbian trade and GDP per capita, under certain conditions this approach can generate useful insights into links between sectors and possible production and export priorities.

41. PS analysis uses empirical measures that could help Serbia refine its export strategy. These may be traditional, such as revealed comparative advantage (RCA), or new (metrics) measures that consider how different products may be related and the incomes associated with exporters of particular products. Analysis on which to base export strategies begins with an examination of RCA dynamics to identify traditional, emerging, and sluggish exporting sectors. It then uses PS concepts to identify best prospects for export diversification—products that have an RCA above 1 or have higher density (a greater probability of developing an RCA>1 in a particular new product); larger path values (larger values indicate products closer to the PS core and hence with more potential for diversification), and higher income potential – PRODYs (proxied by the per capita GDP of countries that already export this product; it is a measure of a product that may be able to generate greater income).

42. Empirically there is typically a trade-off between products that are within reach and those that are more profitable. This trade-off is often what slows initial diversification: not doing what is already being done well, even if it is not as profitable, has a high short-term opportunity cost, especially if alternatives are uncertain and economic agents risk-averse. Policy makers and analysts are forced to choose, because generally there are negative relationships between the concepts of density (the probability of developing comparative advantage) and PRODY (potential for income growth), and between density and path (representing potential for export diversification), even though there is a positive relationship between PRODY and path. In other words, products that are potentially profitable are often not within reach; those that are within reach often offer limited scope for diversification and growth. It is important to keep in mind, however, that PS analysis alone is mainly indicative, not definitive, and must be scrutinized by experienced trade or product specialists before concrete conclusions can be drawn about diversification potential.

43. This analysis uses bilateral trade data from 1995 to 2009 with SITC Rev. 2 at the 4-digit level. There are 237 product categories accounting for more than 75 percent of Serbian exports. These products were classified according to long-term RCA shifts as

- Classics
- Emerging champions
44. **Our analysis identifies two most important groups of products: classical and emerging export products.** Serbia’s main classical export groups, in declining order of importance, are vegetables and fruit, cereals, apparel and clothing, iron and metals, sugar, and paper. The main emerging champion groups, again in declining order of importance, are iron and metal products, non-ferrous metals, rubber products, manufactures of metals, miscellaneous manufactures, and artificial resins and plastic materials.

45. **The long term is defined as changes between the periods 1995–99 and 2005–09.** A product is considered to have an RCA in a period if it had an RCA value greater than unity in every year of the period. Classics are products with a RCA greater than unity in both periods. Emerging champions are products with an RCA greater than one only during 2005–09, and disappearing products had an RCA greater than one only during 1995–99. Marginals did not have an RCA in either period, although those with relatively high PRODY and density (above the sample mean) are included. Table 2.2 summarizes the statistics for each category.

46. **In what follows,** there is a presentation of the general structure of Serbian exports and the country’s location in the world PS and then the results for food and food-processing, metals, and auto-related industries. The last section below discusses the main findings and concludes.⁸

### 2.2.2. The Structure of Serbian Exports

47. **The good news is that classics and emerging champions account for nearly 70 percent of total Serbian exports,** but classics offer slightly less promise of further diversification than emerging champions or marginals (Table 2.2, Path column). The differences are even larger when income potential (PRODY) is considered, which is much lower for classics than for emerging champions and marginal products. Moreover, in terms of ease of diversification, emerging champions have higher densities (prospects for a strong RCA) than marginals. Not surprisingly, disappearing products have very low density values.

48. **The fact that emerging champions comprise half the export basket suggests the transformation and increasing sophistication of Serbia’s exports over the last decade.** Nevertheless, this increase in export basket sophistication (EXPY – a weighted average of PRODYs) has not been sufficient for Serbia to catch up with dynamic regional competitors like Hungary, Slovakia, the Czech Republic, or Romania (Figure 2.6). Evidence suggests that another metric, EXPY is a good predictor of future growth (Hausmann, Hwang, and Rodrik, 2007).

49. **What does this mean for Serbia’s export growth?** In a nutshell, an optimal export strategy for Serbia could give priority to:

- Scaling up the most profitable emerging champions (fresh vegetables and fruits, frozen meat, milk, and steel, iron, or aluminum manufactures), while

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• Exploring ways to build linkages for marginal products (e.g., processed food, cheese, cream, and sophisticated auto parts).

Table 2.2: Serbian Exports According to Product Space Measures (2005–2009)

<table>
<thead>
<tr>
<th>Product Classification</th>
<th>Number of Products</th>
<th>Exports (percent of total)</th>
<th>Average PRODY</th>
<th>Average Path</th>
<th>Average Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classics</td>
<td>34</td>
<td>17.6</td>
<td>10,405</td>
<td>138</td>
<td>0.40</td>
</tr>
<tr>
<td>Emerging</td>
<td>102</td>
<td>51.6</td>
<td>13,291</td>
<td>144</td>
<td>0.39</td>
</tr>
<tr>
<td>Marginal</td>
<td>81</td>
<td>7.9</td>
<td>19,277</td>
<td>144</td>
<td>0.34</td>
</tr>
<tr>
<td>Disappearing</td>
<td>20</td>
<td>3.9</td>
<td>13,476</td>
<td>127</td>
<td>0.33</td>
</tr>
<tr>
<td>Excluded</td>
<td>71</td>
<td>14.0</td>
<td>16,328</td>
<td>130</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Note: Classics are products with RCA>1 in both 1995–99 and 2005–09. Emerging champions are products with RCA>1 from 2005–09, but not earlier. Disappearing products had RCA>1 during 1995–99, but RCA<1 in 2005–09. Marginals did not have RCA >1 in either period but have relatively high PRODY and density. Excluded products did not have RCA>1 in either period and have either low PRODY or low density. Source: Authors’ calculations.

50. The PS analysis can help to formulate the short, medium, and long-term strategies for export diversification. The basis for a short-term strategy is to support traditional exports with strong linkages to more sophisticated activities. Serbia’s main classical exports are vegetables, fruits, cereals and sugar in the food and agro-processing industry; traditional iron and metal manufactures, and apparel and clothing. The scope of the medium-term strategy is to scale-up those existing income-enhancing options ie, emerging export products. This group is formed by sectors with a larger number of emerging champions such as non-traditional exports of iron and metal manufactures, including non-ferrous metals, auto-related products such as pneumatics (rubber products), artificial resins (paper) and plastic materials. A longer-term strategy should remove the binding constraints for those sectors with a large number of marginals, with strong linkages to classics and emerging champions, and with high income-enhancing potential, such as the auto-related sector (Table 2.3).

Table 2.3: Product Space Metrics for Selected Serbian Exporting Industries

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (%)</th>
<th>Average PRODY</th>
<th>Average Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Manufactures</td>
<td>5</td>
<td>13</td>
<td>12</td>
<td>23.5</td>
<td>16,965</td>
<td>0.351</td>
</tr>
<tr>
<td>Auto-related products*</td>
<td>0</td>
<td>6</td>
<td>7</td>
<td>3.9</td>
<td>19,659</td>
<td>0.344</td>
</tr>
<tr>
<td>Food and Agro-Processing</td>
<td>9</td>
<td>12</td>
<td>8</td>
<td>11.3</td>
<td>13,539</td>
<td>0.389</td>
</tr>
<tr>
<td>Organic chemicals</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1.4</td>
<td>19,893</td>
<td>0.353</td>
</tr>
<tr>
<td>Artificial resins and plastic materials, and cellulose esters etc</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2.8</td>
<td>18,201</td>
<td>0.344</td>
</tr>
<tr>
<td>Power generating machinery and equipment</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1.8</td>
<td>18,916</td>
<td>0.339</td>
</tr>
<tr>
<td>Electric machinery, apparatus and appliances</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2.3</td>
<td>14,395</td>
<td>0.381</td>
</tr>
<tr>
<td>Furniture and parts thereof</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1.8</td>
<td>14,855</td>
<td>0.409</td>
</tr>
<tr>
<td>Articles of apparel and clothing accessories</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>3.5</td>
<td>8,799</td>
<td>0.410</td>
</tr>
<tr>
<td>Footwear</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1.5</td>
<td>10,165</td>
<td>0.401</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations
51. There is a negative empirical relationship between the income potential of a product (PRODY) and its density. Figure 2.7 plots each of the Serbian exports (black dots were excluded from the analysis because of their minuscule values; grey dots represent product categories that are traded globally but not produced by Serbia). In general, classics have lower PRODYs and paths (Table 2.2) and higher densities than emerging and marginal products.

Figure 2.7: Serbian Exports (PRODY vs. Density) Compared to World Exports

52. Potentially more profitable exports—those associated with higher per capita GDP—tend to be more difficult to move into. As a consequence, easily reachable (high-density) opportunities tend to have limited income (low PRODY) or diversification (low path) potential. Figure 2.8 also shows the relative contribution of each product category to the Serbian export basket, the size of the bubble indicating the share of that product in total exports. By comparing the figures it can be distinguished how Serbia has been able to jump
into some marginal products that have high income potential while recognizing that there is still plenty of room to scale up some valuable classics and emerging champions.

**Figure 2.8: Serbian Exports (PRODY, Density and Export Shares)**

Size of the bubbles corresponds to the share in total exports
53. **Hausmann et al. (2007) constructed the world product space** by using an indirect measure of the relatedness in the inputs of production (via RCA) of all products exported globally (using SITC Rev. 2 classification). They represented PS as a network⁹ (Figure 2.9) and showed that a country’s location in the PS determines the sophistication of its economic base and hence its degree of economic development. Exports from richer countries tend to be

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⁹ Taken from http://www.chidalgo.com/productspace/
located at the core of the PS (machinery, vehicles and other capital intensive products) and those of poorer countries at the periphery (resources, garments, other labor intensive products) (Hausmann and Klinger, 2006). Products produced with similar inputs tend to form clusters in the PS, sometimes at a considerable “distance” from the core – see, for example, the garments cluster in the world map. The closer a pair of products, the easier it is to reallocate production resources from one to the other.

54. **Serbia is well-positioned in food-processing and the metals industry and also has a presence in some garments, but the position of Serbia in world PS is relatively sparse.** (Figure 2.10).

**Figure 2.10: Serbia’s Position in the Product Space**

Its classical exports (red triangles in Figure 2.10) tend to be at the periphery of the PS, indicating that they are resource based (cereals, metals). However, the number of its emerging (blue diamonds) and marginal (green hexagon) products has grown rapidly and some are near the core of the PS. What this means is that emerging export products in Serbia are not only numerous but are also more sophisticated than its traditional exports (classics) (Table 2.2, above).
2.2.3. Case Studies of Select Industries

55. Food processing, metals, and the automotive industry were selected for detailed treatment because of the size of their shares in current Serbian exports and a relatively long industrial tradition, which may suggest that they could be used as a platform for both diversification into neighboring PS and expansion into new markets. Given Serbia’s significant agricultural production, the food processing industry has traditionally been important. Much of the metals industry has been privatized and restructured since the start of transition in the early 2000s and became a major export sector. Finally, the automotive industry was chosen because Italian carmaker Fiat is investing massively in a new plant in Serbia, raising hopes of a major development of enterprises that could participate in the Fiat supply chain. In the next chapter, the report presents detailed results of the value chain analysis of the metals and automotive industries which allows us to understand sources and constraints to competitiveness at the enterprises level.

Food Processing

56. While this industry is dominated by classics and emerging champions, more profitable activities in terms of income potential (PRODY) are still in the marginals’ territory and may need to be scaled-up to exploit the industry potential. The food-processing industry accounts for more than 11 percent of total exports. It incorporates 30 primary and resource-based products and a variety of exports, such as edible meats (fresh or prepared); dairy products (milk, butter, cheese); vegetables and fruits, some prepared (juices, jellies); sugars and related products; and some alcoholic beverages (Table 2.4).

Table 2.4: Exports of Serbian Food and Food-Processing Products

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Products</th>
<th>Exports (percent total)</th>
<th>Average PRODY</th>
<th>Average Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classics</td>
<td>9</td>
<td>4.5</td>
<td>11,451</td>
<td>142</td>
</tr>
<tr>
<td>Emerging</td>
<td>12</td>
<td>6.3</td>
<td>10,640</td>
<td>137</td>
</tr>
<tr>
<td>Marginal</td>
<td>8</td>
<td>0.3</td>
<td>21,121</td>
<td>137</td>
</tr>
<tr>
<td>Disappearing</td>
<td>1</td>
<td>0.2</td>
<td>6,464</td>
<td>118</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>11.3</td>
<td>13,539</td>
<td>137</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations.

Figure 2.11: Destinations of Food Processing Exports

- Bosnia Herzegovina: 22%
- Poland: 15%
- Hungary: 11%
- Czech Rep.: 11%
- TFYR of Macedonia: 6%
- Slovakia: 6%
- Russian Federation: 6%
- Montenegro: 7%
- Austria: 6%
- Rest: 9%
57. **Serbia’s food-processing industry has grown steadily since 2000** (Figure 2.12). It has even done well relative to some comparator countries (Figure 2.13). The industry has undoubtedly gained momentum from the penetration of some of its products into the EU (Figure 2.11); Italy, Germany, France, and Austria receive 30 percent of Serbian processed food exports.

58. **Moreover, Serbia’s agribusiness seems to have a bright European future.** This industry stands to be a major beneficiary of EU agricultural incentive programs as soon as Serbia becomes a candidate country and even more when it becomes a member. The question is: how can Serbia’s agricultural industry build capacity for dynamic growth and exports in anticipation of substantial further support and open access to the massive EU food markets?

**Figure 2.12: Exports of Food and Food-Processing Products (1995–2002)**
59. **Within the industry there are noteworthy opportunities, especially in dairy products** (Table 2.5). Specific dairy products (products with SITC2 Code 223, 224, 240, 230 and 240) have much higher income potential (PRODY) than the rest and have relatively high density (our measure of easiness of diversification). Nearly 60 percent of all dairy exports are destined for the EU market but dairy products are not yet reaching the most important markets in Europe (France, Germany, and Italy). Instead, the top five consumers of Serbian dairy exports are Bosnia-Herzegovina (14.8 percent), Poland (11.4 percent), Hungary (11.2 percent), the Czech Republic (9.0 percent), and the FYR of Macedonia (8.2 percent). Germany receives only 2.5 percent and Italy 0.2 percent. This is both a limitation and an opportunity. A USAID sponsored value chain analysis recommends promotion of exports of higher-quality specialty products to neighboring Balkan countries and cheese to Russia to create catalytic impact for the future. The analysis suggests this could prompt far more entrepreneurs to invest in production of better-quality processed dairy foods (USAID 2008).
### Table 2.5: Serbian Processed Food Exports

<table>
<thead>
<tr>
<th>STC2 CODE</th>
<th>Product Description</th>
<th>Tech</th>
<th>Prody</th>
<th>Path</th>
<th>%</th>
<th>Cumulative Exports 2005-09 ('000 USD)</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>118</td>
<td>Other fresh, chilled or frozen meat or edible meat offal</td>
<td>Primary Products</td>
<td>20,953</td>
<td>136</td>
<td>0.0%</td>
<td>17</td>
<td>0.324</td>
</tr>
<tr>
<td>121</td>
<td>Bacon, ham, other dried, salted or smoked meat of domestic swine</td>
<td>Resource Based</td>
<td>28,287</td>
<td>126</td>
<td>0.0%</td>
<td>11,959</td>
<td>0.325</td>
</tr>
<tr>
<td>142</td>
<td>Sausages and the like, of meat, meat offal or animal blood</td>
<td>Resource Based</td>
<td>16,853</td>
<td>173</td>
<td>0.3%</td>
<td>100,824</td>
<td>0.405</td>
</tr>
<tr>
<td>149</td>
<td>Other prepared or preserved meat or meat offal</td>
<td>Resource Based</td>
<td>15,641</td>
<td>158</td>
<td>0.2%</td>
<td>80,063</td>
<td>0.393</td>
</tr>
<tr>
<td>223</td>
<td>Milk and cream fresh, not concentrated or sweetened</td>
<td>Primary Products</td>
<td>19,401</td>
<td>169</td>
<td>0.3%</td>
<td>116,048</td>
<td>0.397</td>
</tr>
<tr>
<td>224</td>
<td>Milk and cream, preserved, concentrated or sweetened</td>
<td>Primary Products</td>
<td>18,358</td>
<td>135</td>
<td>0.0%</td>
<td>4,170</td>
<td>0.341</td>
</tr>
<tr>
<td>230</td>
<td>Butter</td>
<td>Resource Based</td>
<td>20,923</td>
<td>142</td>
<td>0.0%</td>
<td>14,177</td>
<td>0.359</td>
</tr>
<tr>
<td>240</td>
<td>Cheese and curd</td>
<td>Resource Based</td>
<td>21,268</td>
<td>156</td>
<td>0.2%</td>
<td>59,683</td>
<td>0.341</td>
</tr>
<tr>
<td>541</td>
<td>Potatoes, fresh or chilled, excluding sweet potatoes</td>
<td>Primary Products</td>
<td>17,527</td>
<td>132</td>
<td>0.0%</td>
<td>10,714</td>
<td>0.357</td>
</tr>
<tr>
<td>545</td>
<td>Other fresh or chilled vegetables</td>
<td>Primary Products</td>
<td>6,465</td>
<td>118</td>
<td>0.2%</td>
<td>76,906</td>
<td>0.403</td>
</tr>
<tr>
<td>546</td>
<td>Vegetables, frozen or in temporary preservative</td>
<td>Primary Products</td>
<td>14,176</td>
<td>144</td>
<td>0.3%</td>
<td>100,928</td>
<td>0.393</td>
</tr>
<tr>
<td>548</td>
<td>Vegetable products roots and tubers, nes, fresh, dried</td>
<td>Primary Products</td>
<td>5,339</td>
<td>103</td>
<td>0.1%</td>
<td>25,358</td>
<td>0.417</td>
</tr>
<tr>
<td>561</td>
<td>Vegetables (excluding leguminous), dried, evaporated, etc</td>
<td>Resource Based</td>
<td>7,700</td>
<td>134</td>
<td>0.2%</td>
<td>71,584</td>
<td>0.393</td>
</tr>
<tr>
<td>564</td>
<td>Flour, meals and flakes of potatoes, fruit and vegetables, nes</td>
<td>Resource Based</td>
<td>9,324</td>
<td>140</td>
<td>0.0%</td>
<td>3,862</td>
<td>0.380</td>
</tr>
<tr>
<td>565</td>
<td>Vegetables, prepared or preserved, nes</td>
<td>Resource Based</td>
<td>11,139</td>
<td>143</td>
<td>0.2%</td>
<td>92,614</td>
<td>0.424</td>
</tr>
<tr>
<td>574</td>
<td>Apples, fresh</td>
<td>Primary Products</td>
<td>10,392</td>
<td>145</td>
<td>0.2%</td>
<td>67,747</td>
<td>0.383</td>
</tr>
<tr>
<td>579</td>
<td>Fruit, fresh or dried, nes</td>
<td>Primary Products</td>
<td>6,696</td>
<td>114</td>
<td>0.6%</td>
<td>211,229</td>
<td>0.400</td>
</tr>
<tr>
<td>583</td>
<td>Jams, jellies, marmalades, etc, as cooked preparations</td>
<td>Resource Based</td>
<td>11,009</td>
<td>149</td>
<td>0.1%</td>
<td>24,740</td>
<td>0.416</td>
</tr>
<tr>
<td>585</td>
<td>Fruit or vegetable juices</td>
<td>Resource Based</td>
<td>10,064</td>
<td>125</td>
<td>0.5%</td>
<td>180,751</td>
<td>0.411</td>
</tr>
<tr>
<td>586</td>
<td>Fruit, temporarily preserved</td>
<td>Resource Based</td>
<td>10,799</td>
<td>144</td>
<td>2.8%</td>
<td>1,034,050</td>
<td>0.426</td>
</tr>
<tr>
<td>589</td>
<td>Fruit prepared or preserved, nes</td>
<td>Resource Based</td>
<td>12,189</td>
<td>133</td>
<td>0.1%</td>
<td>42,972</td>
<td>0.417</td>
</tr>
<tr>
<td>612</td>
<td>Refined sugar etc</td>
<td>Resource Based</td>
<td>8,563</td>
<td>133</td>
<td>2.1%</td>
<td>761,851</td>
<td>0.417</td>
</tr>
<tr>
<td>615</td>
<td>Molasses</td>
<td>Resource Based</td>
<td>4,628</td>
<td>118</td>
<td>0.1%</td>
<td>27,993</td>
<td>0.423</td>
</tr>
<tr>
<td>620</td>
<td>Sugar confectionery and preparations, non-chocolate</td>
<td>Resource Based</td>
<td>11,986</td>
<td>153</td>
<td>0.1%</td>
<td>44,039</td>
<td>0.408</td>
</tr>
</tbody>
</table>
Metals

60. **Serbia is gaining ground in metals industry exports.** This group is composed of manufactures of metals classified in SITC as 67, iron and steel; 68, non-ferrous metals; and 69, manufactures of metals, n.e.s. Detailed overview of the sector is provided in the next chapter, section 2.3.5. Of these, 30 products have high income potential and relatively large path values, which means they offer opportunities for growth and diversification (Table 2.6).

Table 2.6: Serbian Exports of Metal Manufactures

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Products</th>
<th>Exports (percent in total)</th>
<th>Average PRODY</th>
<th>Average Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classics</td>
<td>5</td>
<td>5.2</td>
<td>14,420</td>
<td>151</td>
</tr>
<tr>
<td>Emerging champions</td>
<td>13</td>
<td>15.6</td>
<td>16,574</td>
<td>159</td>
</tr>
<tr>
<td>Marginals</td>
<td>12</td>
<td>1.4</td>
<td>20,424</td>
<td>159</td>
</tr>
<tr>
<td>Disappearing</td>
<td>6</td>
<td>1.3</td>
<td>13,014</td>
<td>117</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>23.5</td>
<td>16,965</td>
<td>151</td>
</tr>
</tbody>
</table>

61. **These 30 products account for 22 percent of total exports of which emerging champions account for the larger share** (Table 2.6). These products are exported to a diversity of markets in Europe, predominantly Italy and Germany (Figure 2.14). Though most of the emerging champions are low-tech manufactures, they have high PRODYs and path values, which suggests they are good prospects for diversification. They include iron, steel, and aluminum products, such as worked aluminum alloys; iron structures; chains and iron or steel parts; sheet iron; and steel rolled of various thicknesses (Table 2.7). Growth in this sector partially reflects recent growth of demand in emerging markets. Figures 2.15 and 2.16 demonstrate that global growth in exports of metal-manufactures pushed the sector up in Serbia and other countries. Nevertheless, Serbia has room to gain market power and catch up with regional competitors.

---

10 For more details see section 2.3.5.
Table 2.7: Emerging Champions in the Metals Industry

<table>
<thead>
<tr>
<th>SITC2 Code</th>
<th>Product Description</th>
<th>Tech</th>
<th>Prody</th>
<th>Path</th>
<th>percent</th>
<th>(’000 USD)</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>6842</td>
<td>Aluminum and aluminum alloys, worked</td>
<td>Primary</td>
<td>21,666</td>
<td>164</td>
<td>2.3</td>
<td>857,112</td>
<td>0.394</td>
</tr>
<tr>
<td>6992</td>
<td>Chain and parts thereof, of iron or steel</td>
<td>Low Tech</td>
<td>19,547</td>
<td>157</td>
<td>0.0</td>
<td>17,702</td>
<td>0.317</td>
</tr>
<tr>
<td>6745</td>
<td>Sheet, plates, rolled of thickness 3mm to 4.75mm, of iron or steel</td>
<td>Low Tech</td>
<td>18,550</td>
<td>151</td>
<td>0.6</td>
<td>235,810</td>
<td>0.350</td>
</tr>
<tr>
<td>6746</td>
<td>Sheet, plates, rolled of thickness 3mm to 4.75mm, of iron or steel, of other than high carbon or alloy steel</td>
<td>Low Tech</td>
<td>17,858</td>
<td>163</td>
<td>1.5</td>
<td>548,260</td>
<td>0.354</td>
</tr>
<tr>
<td>6911</td>
<td>Structures and parts of, of iron, steel; plates, rods, and the like</td>
<td>Low Tech</td>
<td>17,364</td>
<td>170</td>
<td>0.6</td>
<td>239,003</td>
<td>0.405</td>
</tr>
<tr>
<td>6912</td>
<td>Structures and parts of, of iron, steel; plates, rods, and the like</td>
<td>Low Tech</td>
<td>16,981</td>
<td>169</td>
<td>0.2</td>
<td>70,741</td>
<td>0.397</td>
</tr>
<tr>
<td>6924</td>
<td>Structures and parts of, of aluminum; plates, rods, and the like</td>
<td>Low Tech</td>
<td>15,482</td>
<td>163</td>
<td>0.7</td>
<td>244,541</td>
<td>0.398</td>
</tr>
<tr>
<td>6793</td>
<td>Steel and iron forging and stampings, in the rough state</td>
<td>Low Tech</td>
<td>15,175</td>
<td>156</td>
<td>0.1</td>
<td>37,649</td>
<td>0.371</td>
</tr>
<tr>
<td>6727</td>
<td>Iron or steel coils for re-rolling</td>
<td>Medium</td>
<td>14,917</td>
<td>143</td>
<td>5.4</td>
<td>2,020,822</td>
<td>0.357</td>
</tr>
<tr>
<td>6744</td>
<td>Sheet, plates, rolled of thickness 4.75mm plus, of iron or steel</td>
<td>Low Tech</td>
<td>14,833</td>
<td>162</td>
<td>1.7</td>
<td>647,371</td>
<td>0.371</td>
</tr>
<tr>
<td>6747</td>
<td>Tinned sheets, plates of steel (not of high carbon or alloy steel)</td>
<td>Low Tech</td>
<td>14,672</td>
<td>142</td>
<td>2.1</td>
<td>789,854</td>
<td>0.342</td>
</tr>
<tr>
<td>6921</td>
<td>Iron, steel, aluminum reservoirs, tanks, etc, capacity 300 lt plus</td>
<td>Low Tech</td>
<td>14,367</td>
<td>173</td>
<td>0.1</td>
<td>26,339</td>
<td>0.396</td>
</tr>
<tr>
<td>6935</td>
<td>Gauze, cloth, grill, netting, reinforced fabric and the like</td>
<td>Low Tech</td>
<td>14,053</td>
<td>159</td>
<td>0.2</td>
<td>62,622</td>
<td>0.386</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations

Figure 2.14: Destinations for Emerging Metals Exports
Auto Industry

62. Serbian auto industry exports are small in comparison with the world market, although they have grown steadily for the last decade. Auto exports have tripled since 1995 and rose past US$600 million in 2008 (Figure 2.17)\textsuperscript{11}. To analyze the auto industry in Serbia, the PS proximity measures are used by grouping products that are close to those in the code 78 in the SITC Rev. 2 classification (road vehicles). The list of products in the 78 code does not include certain categories that serve either as inputs to the auto industry or that are closely related, such as safety glass (code 6647) or pneumatics (6251). The standard 78-code group has been expanded by adding in the 20 products that have the most proximity to the standard group (Table 2.8). Theoretically, in the categories mentioned inputs of production (skills, capital, know-how, and infrastructure) are closely related. This would imply that the costs of transferring factors of production between them are relatively low and that

\textsuperscript{11} Detailed overview of the sector is provided in the section 2.3.6.
investments that directly affect one area have spillover effects on others. Plotted in a PS network format, the auto-related categories form a neighborhood of products around the core (Figure 2.18) of the product space.

Figure 2.17: Exports of Auto-related Products, Serbia and the World (1995–2008)

63. In recent times, Serbia’s position has been weak, with only a few products that have a Relative Comparative Advantage. Options for scaling-up the auto industry thus do not look promising with the existing structure of the sector. In fact, Hungary and Romania account for 95 percent of auto-related production in the region (Table 2.8).

64. Yet prospects for diversification are encouraging. Serbia’s geographic position in the Balkans is favorable. Not so long ago, the country was the hub of a much larger economic structure that had the technical skills, capacity, and infrastructure to produce nearly 250,000 automotive units in 1989. While substantial capacity and skills have since been lost, expanding this industry would still start from a powerful industrial tradition that in countries like the Czech and Slovak republics has proved critical to the growth of industry.

65. What factors suggest that Serbia has potential to attract foreign investors for the auto industry and then substantially grow its auto exports? The precedent is the large investment by Fiat, which also supplied the technological base for the Yugoslav auto industry. Fiat had both market and industry reasons to invest in Serbia (Trifunović et al. 2009). First, it bought into the Serbian firm Zastava with the intent to reinforce and enhance its position in the Balkans. Second, it counted on the possibility of entering the Russian market through Serbia, because the automotive sector is covered by the Russian-Serbian free-customs agreement. Third, Serbia’s strategic position, intellectual capital and skilled workforce, low tax burden, and outstanding growth potential attracted Fiat. Certainly, Serbia’s accumulated automotive industry experience and knowledge were important assets.

66. If it is to diversify toward the auto industry Serbia will need to exploit the opportunity arising from the investment of Fiat and related component producers. Moreover, Serbia will also need to increase its competitiveness in such areas as
infrastructure, higher order skills training, and labor market efficiency, where it lags behind some regional competitors.

Figure 2.18: Auto-related Industry in the Product Space
Table 2.8: Exports of Auto-related Products, Neighboring Countries (US$ millions), average 2005-2009

<table>
<thead>
<tr>
<th>SITC Code</th>
<th>Product Description</th>
<th>HUN</th>
<th>ROM</th>
<th>HRV</th>
<th>BGR</th>
<th>SRB</th>
<th>BIH</th>
<th>MKD</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>7132</td>
<td>Int. combustion piston engines</td>
<td>6,345</td>
<td>6,345</td>
<td>6,345</td>
<td>6,345</td>
<td>6,345</td>
<td>6,345</td>
<td>6,345</td>
<td>6,345</td>
</tr>
<tr>
<td>7810</td>
<td>Passenger motor cars, for transport</td>
<td>4,510</td>
<td>1,160</td>
<td>5,670</td>
<td>5,670</td>
<td>5,670</td>
<td>5,670</td>
<td>5,670</td>
<td>5,670</td>
</tr>
<tr>
<td>7849</td>
<td>Other motor parts and accessories</td>
<td>3,111</td>
<td>1,673</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
</tr>
<tr>
<td>7139</td>
<td>Parts of int. comb. piston engines of</td>
<td>667</td>
<td>96</td>
<td>34</td>
<td>178</td>
<td>975</td>
<td>704</td>
<td>704</td>
<td>704</td>
</tr>
<tr>
<td>7492</td>
<td>Taps, cocks, valves etc. for pipes, tan</td>
<td>373</td>
<td>138</td>
<td>40</td>
<td>153</td>
<td>7810</td>
<td>7810</td>
<td>7810</td>
<td>7810</td>
</tr>
<tr>
<td>7851</td>
<td>Tires, pneumatic, new and used</td>
<td>3,111</td>
<td>1,673</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
<td>4,783</td>
</tr>
<tr>
<td>7139</td>
<td>Electronic equipment for combustion</td>
<td>382</td>
<td>77</td>
<td>11</td>
<td>9</td>
<td>478</td>
<td>478</td>
<td>478</td>
<td>478</td>
</tr>
<tr>
<td>7202</td>
<td>Harvesting &amp; threshing machinery</td>
<td>366</td>
<td>366</td>
<td>366</td>
<td>366</td>
<td>366</td>
<td>366</td>
<td>366</td>
<td>366</td>
</tr>
<tr>
<td>7912</td>
<td>Materials of rubber</td>
<td>207</td>
<td>131</td>
<td>2</td>
<td>36</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>390</td>
</tr>
<tr>
<td>7919</td>
<td>Rail &amp; tramway track fixtures &amp; fitting</td>
<td>214</td>
<td>62</td>
<td>15</td>
<td>15</td>
<td>2</td>
<td>9</td>
<td>334</td>
<td>334</td>
</tr>
<tr>
<td>6299</td>
<td>Other articles of rubber, n.e.s.</td>
<td>182</td>
<td>78</td>
<td>6</td>
<td>25</td>
<td>19</td>
<td>1</td>
<td>312</td>
<td>312</td>
</tr>
<tr>
<td>8124</td>
<td>Lighting fixtures and fittings and</td>
<td>201</td>
<td>48</td>
<td>12</td>
<td>3</td>
<td>264</td>
<td>264</td>
<td>264</td>
<td>264</td>
</tr>
<tr>
<td>4615</td>
<td>Paper and paperboard in rolls</td>
<td>188</td>
<td>16</td>
<td>49</td>
<td>3</td>
<td>260</td>
<td>260</td>
<td>260</td>
<td>260</td>
</tr>
<tr>
<td>7442</td>
<td>Lifting, handling, loading machinery</td>
<td>186</td>
<td>15</td>
<td>24</td>
<td>225</td>
<td>225</td>
<td>225</td>
<td>225</td>
<td>225</td>
</tr>
<tr>
<td>8121</td>
<td>Boilers &amp; radiators for central heating</td>
<td>103</td>
<td>51</td>
<td>15</td>
<td>13</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>194</td>
</tr>
<tr>
<td>6644</td>
<td>Cast, rolled, drawn or blown glass</td>
<td>72</td>
<td>44</td>
<td>43</td>
<td>159</td>
<td>159</td>
<td>159</td>
<td>159</td>
<td>159</td>
</tr>
<tr>
<td>6991</td>
<td>Locksmiths wares, safes, strong rooms</td>
<td>108</td>
<td>17</td>
<td>21</td>
<td>146</td>
<td>146</td>
<td>146</td>
<td>146</td>
<td>146</td>
</tr>
<tr>
<td>7211</td>
<td>Agricultural &amp; horticulture machines</td>
<td>70</td>
<td>17</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>0</td>
<td>0.1</td>
<td>109</td>
</tr>
<tr>
<td>6647</td>
<td>Safety glass</td>
<td>77</td>
<td>3</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>98</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>5335</td>
<td>Color</td>
<td>19</td>
<td>8</td>
<td>12</td>
<td>20</td>
<td>1</td>
<td>14</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>6635</td>
<td>Slag wool, rock wool and similar min</td>
<td>38</td>
<td>2</td>
<td>25</td>
<td>9</td>
<td>0</td>
<td>73</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td>7831</td>
<td>Public-service type passenger motor</td>
<td>54</td>
<td>8</td>
<td>0</td>
<td>62</td>
<td>62</td>
<td>62</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>7372</td>
<td>Rolling mills</td>
<td>8</td>
<td>32</td>
<td>13</td>
<td>4</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>6632</td>
<td>Natural or artificial abrasive powder</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>7832</td>
<td>Road tractors and semi-trailers</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>6994</td>
<td>Springs &amp; leaves for springs</td>
<td>26</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>6572</td>
<td>Bonded fiber fabrics, similar bonded</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>7842</td>
<td>Bodies for the motor vehicles of 72</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>7822</td>
<td>Special purpose motor lorries and v</td>
<td>14</td>
<td>14</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

As a percent of total exports

<table>
<thead>
<tr>
<th></th>
<th>HUN</th>
<th>ROM</th>
<th>HRV</th>
<th>BGR</th>
<th>SRB</th>
<th>BIH</th>
<th>MKD</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.8</td>
<td>13.8</td>
<td>3.4</td>
<td>2.2</td>
<td>3.9</td>
<td>6.7</td>
<td>1.0</td>
<td>15.0</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Shaded in gray are products in which Serbia has an RCA > 1; Products were selected according to their proximity to the auto cluster. Exports for classics, emerging and marginal products in each country

Source: Authors’ calculations

2.2.4. Conclusion

67. With increasing sophisticated exports, Serbia has the capacity to expand and diversify its export base. This chapter has used PS methodology to evaluate its options for export diversification. Success with export diversification and expansion strategy significantly depends on government’s ability to help to resolve some of the remaining sector specific obstacles. In order to understand what are the main sector specific obstacles for increased competitiveness of the most promising export sectors in Serbia the report relied on
a value chain analysis (VCA). VCA done for the purpose of this report covered metals industry (a sector which has the highest share in total export and highest number of promising export goods) as well as automotive industry (a sector which is expected to provide significant export revenues in the near future). Some of the key findings include that in each of the two analyzed sectors there is a dominant producer with only limited linkages with other participants from the sector. Reasons for limited integration of domestic producers are numerous but to large extent stem from the fact that various domestic companies to not meet international standards in their production processes.

Three principal conclusions from the PS analysis stand out:

1. **Serbia has made its export basket more sophisticated, mainly by augmenting the number of emerging products, such as processed food or processed aluminum alloys.** These new products are aligned with Serbia’s RCA (based on PS metrics), have high income potential, and offer good options for further diversification. Nevertheless, this new sophistication alone is not sufficient for Serbia to catch up with more dynamic competitors. There is still plenty of room to scale up emerging products, and bridges will need to be built to ever more sophisticated products. So far, such products are still in the group of “marginals”; they include such categories as cream or cheese in the dairy sector and auto parts.

2. **There are many profitable export opportunities in food processing and metal manufactures alone.** The PS analysis indicates that the position of Serbia is strong in the food and food-processing industry but still moderate in metals manufactures. By increasing the share of emerging exports and building on marginal products, Serbia will not only increase the general sophistication of its export mix (EXPY) but will also create production linkages to more advanced activities, such as those in the auto industry. Though there are several issues related to building these linkages within the automotive industry, as explained in the section 2.3.6. of the next chapter.

3. **Serbia currently has few exports in the automotive sector, but the impact of Fiat will be significant.** Diversification towards the auto industry requires Serbia to position itself as the hub of the auto industry in the Balkans. In the short run, the industry can take advantage of the country’s free-trade agreement with Russia, but to increase its long-term competitiveness Serbia will need to address major constraints for the industry, such as dilapidated infrastructure, weakened skills, and labor market inefficiencies. It will also have to greatly improve its business environment to encourage the entry and growth of Serbian enterprises in the automobile supply chain.
Annex 2.1: The Product-Space Methodology

PS analysis was pioneered by Hausmann, Hwang, and Rodrik (2007), Hausmann and Klinger (2006), and Hidalgo et al. (2007). It is based on a country’s current capabilities or initial conditions and on international evidence that arises from patterns of comparative advantage and path dependence in its basket of goods exports, implicitly underpinned by similar path dependence in its production basket. PS analysis provides detailed information about the income and diversification potential of different strategies, considering links between sectors. The main data source for PS analysis is Comtrade’s global trade records (the SITC Rev. 2 Classification at the 4-digit level, which covers 784 products and 130 countries from 1980 to 2008); this information is complemented by country data on GDP per capita. One significant shortcoming of PS analysis is that, because there is limited export data for services, they are not covered; this means that goods sectors are viewed in isolation from services. Since its inception, PS analysis has been applied to a wide range of countries, including numerous studies by the World Bank that have enriched its dialogue with clients.

Empirically, PS analysis involves construction of set of export-related indicators, showing both the historical record of a country and projections for the future. Some of these, such as revealed comparative advantage (RCA) are standard. Others, derived from network theory and validated empirically, have been pioneered more recently in PS analysis (Hausmann and Klinger 2006; Hidalgo and Hausmann 2009; Hidalgo et al. 2007).

More specifically, the RCA may be defined as follows (where $E_{c,i,t}$ is the value of exports for country $c$, commodity $i$, in time $t$)

$$
RCA_{c,i,t} = \frac{\sum_i E_{c,i,t}}{\sum_{i'} \sum_{c'} E_{c',i,t}} = \left[ \frac{\text{shr of good in } i \text{ in country exports}}{\text{shr of good in } i \text{ in world exports}} \right] = \frac{\sum_{i'} E_{c,i,t}}{\sum_{c'} \sum_{i'} E_{c',i,t}} = \left[ \frac{\text{shr of country in } c \text{ exports of good } i}{\text{shr of country in } c \text{ world exports}} \right]
$$

A country has an RCA in product $i$ if the indicator has a value above one.

Depending on the evolution of their RCAs over time, exported goods may be classified as classic, emerging, disappearing, or marginal. The classics may be understood as the traditional exports of a country, i.e., products in which it has always had a comparative advantage. Emerging champions are products in which the country did not have a comparative advantage in the past but has developed one in recent years. The analyst specifies what constitutes “past” and “present”. Disappearing products are those in which the country had a comparative advantage that it no longer has, and marginal products are those in which the country never had a comparative advantage.
PS analysis indicators include:

- The potential income level of a product $i$ in $t$, $PRODY_{i,t}$, is defined on the basis of GDP per capita ($GDPPC$) of all exporting countries, with the weight of each country defined by how important $i$ is in its exports (measure by the share of $i$ in the total export value of country $c$):

$$PRODY_{i,t} = \frac{\sum_c \left( \frac{E_{c,i,t}}{\sum_j E_{c,j,t}} \right) \cdot GDPPC_{c,t}}{\sum_c \left( \frac{E_{c,i,t}}{\sum_j E_{c,j,t}} \right)}$$

Evidence suggests that developing countries that start to produce and export a product may be able to raise the prices that they receive as quality improves over time, reducing the price gap vis-à-vis developed country producers (Hausmann, Hwang, and Rodrik 2007, pp. 13-14).

- The potential income level of the entire export basket of a country, $EXPY$, is defined using the $PRODY$ of each commodity $i$ weighted by its share in the exports the country:

$$EXPY_{c,t} = \sum_i \frac{E_{c,i,t}}{\sum_j E_{c,j,t}} \cdot PRODY_{i,t}$$

$EXPY$ is thus a measure of the “sophistication” of a country’s entire export basket. Econometric cross-country time-series analysis indicates that $EXPY$ is a strong and robust predictor of subsequent economic growth.

- The proximity ($\varphi$) between two products, $i$ and $i'$, in time $t$, a key building-block of all network indicators in the PS analysis, indicates the extent to which having an $RCA$ simultaneously in two products is related:

$$\varphi_{i,j,t} = \min \left\{ P \left( x_{i,t} \mid x_{j,t} \right), P \left( x_{j,t} \mid x_{i,t} \right) \right\}$$

where $P$ (the conditional probability of producing a product, given that some other product is already being produced) is computed using all countries $c$ in year $t$, and where

$$x_{c,i,t} = \begin{cases} 1 & \text{if } RCA_{c,i,t} > 1 \\ 0 & \text{otherwise} \end{cases}$$

- $PATH$ is a measure of the relative position of each product $i$ in the product space in time $t$. It is defined as the sum of all proximities between product $i$ and all other products. Larger values of $PATH$ are indicative of products that are at the core of the product space and whose proximities with the rest of the nodes have larger values. A product with a large $path$ value offers a better platform for further diversification than products at the periphery (with smaller $path$ values). Mathematically, the $PATH$ of a product $i$ at time $t$ may be defined as:

$$PATH_{i,t} = \sum_{i'} \varphi_{i,i',t}$$

12 The $PRODY$ concept was developed by Hausmann, Hwang and Rodrik (2007). According to Schott (2008), $PRODY$ may overestimate the income potential of complex manufactured products such as hi tech electronics if they are exported both by relatively poor countries like China and rich Western countries. However, Schott (2008) has also noted that for simpler products exported by most developing countries, especially low income ones, the $PRODY$ is a reasonable representation of the income potential of the products exported.
However, it is important to note that the PATH indicator does not consider the characteristics of the products $i'$ to which $i$ is close, such as the income level of countries that tend to have an RCA $> 1$ in products $i'$.

- The density of a product $i$, can be seen as a measure of the probability (or capability) of developing an RCA $> 1$ in product $i$ in the future. For each product, it is the ratio between (a) the sum of all proximities between that particular product and all products in which the country has an RCA $> 1$; and (b) the sum of all proximities of the product (irrespective of whether or not the country has an RCA in the other product):

$$density_{i \text{ if } RCA_{i'j'} > 1} = \frac{\sum_{i' \in i} \varphi_{i',j'} \cdot x_{i',j'}}{\sum_{i' \in i} \varphi_{i',j'}} = \frac{\sum_{i' \in i' \text{ and } RCA_{i'j'} > 1} \varphi_{i',j'}}{\sum_{i' \in i} \varphi_{i',j'}}$$

With sufficiently long time series data, it is possible to analyze determinants of the evolution of RCAs, including the role of density – has the country been able to develop an RCA $> 1$ in goods for which it was well-positioned to do so given density values?
Annex 2.2: Classification of Products According to RCA

Classics: Low PRODY and strong RCA

- Top 10 classics account for 13.9 percent of total exports
- The rest of classics is a group of 24 products that account for the other 3.7 percent.
- The group is dominated by resource based products
- Recommendation for Classics: Nurture and Maintain.
  - There is a lot of potential to scale up. There are 24 product categories with relatively small shares and strong RCA.
  - It is important to nurture the products with larger path values, possibly low- and medium-tech manufactures, because they are more likely to generate greater diversifications linkages in the medium term.

Table 2.9: Classic Exports in Serbia by Technological Content

<table>
<thead>
<tr>
<th>Tech Definition</th>
<th>Number of Products</th>
<th>Exports ( percent in total)</th>
<th>Average Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Products</td>
<td>8</td>
<td>6.7</td>
<td>119</td>
</tr>
<tr>
<td>Resource Based</td>
<td>17</td>
<td>7.6</td>
<td>141</td>
</tr>
<tr>
<td>Low-Tech</td>
<td>7</td>
<td>1.9</td>
<td>150</td>
</tr>
<tr>
<td>Med-Tech</td>
<td>2</td>
<td>1.3</td>
<td>143</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>17.6</strong></td>
<td><strong>138</strong></td>
</tr>
</tbody>
</table>

* Simple Average

Source: Authors' calculations; Lall (2000) technology definition

Emerging Champions: High PRODY and Strong RCA

- The top 10 emerging champions account for 22.8 percent of total exports
- The rest is a group of 92 products that account for 28.7 percent
- The group is dominated by resource-based, low- and medium-tech manufactures
- Recommendation for Emerging Champions: Explore linkages and scale up.
  - These products have large income potential
  - They offer further diversification potential
  - There is plenty of room to scale them up

Table 2.10: Emerging Exports in Serbia by Technological Content

<table>
<thead>
<tr>
<th>Tech Definition</th>
<th>Number of Products</th>
<th>Exports (percent in total)</th>
<th>Average Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Products</td>
<td>20</td>
<td>4.8</td>
<td>128</td>
</tr>
<tr>
<td>Resource Based</td>
<td>29</td>
<td>15.5</td>
<td>139</td>
</tr>
<tr>
<td>Low-Tech</td>
<td>32</td>
<td>18.5</td>
<td>153</td>
</tr>
<tr>
<td>Med-Tech</td>
<td>19</td>
<td>11.1</td>
<td>154</td>
</tr>
<tr>
<td>High-Tech</td>
<td>2</td>
<td>1.6</td>
<td>162</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>102</strong></td>
<td><strong>51.6</strong></td>
<td><strong>145</strong></td>
</tr>
</tbody>
</table>

* Simple average

Source: Authors' calculations using Lall (2000) technology definition
Marginals: High Density and Weak RCA

- Top 10 marginals account for 3.4 percent of total exports
- A sub-group of marginal products with weak RCA was identified:
  o 50 products that account for 5.5 percent of total exports
  o The majority of them are medium-tech manufactures
  o Recommendation for Weak RCA: Proceed with caution. Statistically, there is a high probability of generating strong RCA in the medium-term.
  o Investigate the binding constraints for these products.
- Identically, a sub-group of marginal products with no-RCA was identified:
  o 31 products that account for around 2.5 percent of total exports
  o The majority of them are resource based products
  o Recommendation for No RCA: Although there is a high probability of generating RCA in these products in the long term, there exist still a lot of uncertainty

Identically a sub-group of marginal products with no-RCA was identified:

<table>
<thead>
<tr>
<th>Tech Definition</th>
<th>Number of Products</th>
<th>Exports (percent in total)</th>
<th>Average Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak RCA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Products</td>
<td>3</td>
<td>&lt;0.1</td>
<td>117</td>
</tr>
<tr>
<td>Resource Based</td>
<td>14</td>
<td>1.1</td>
<td>149</td>
</tr>
<tr>
<td>Low-Tech</td>
<td>11</td>
<td>0.8</td>
<td>161</td>
</tr>
<tr>
<td>Med-Tech</td>
<td>21</td>
<td>3.4</td>
<td>138</td>
</tr>
<tr>
<td>High-Tech</td>
<td>1</td>
<td>0.1</td>
<td>162</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>5.5</strong></td>
<td><strong>145</strong>*</td>
</tr>
<tr>
<td>No-RCA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Products</td>
<td>5</td>
<td>0.1</td>
<td>125</td>
</tr>
<tr>
<td>Resource Based</td>
<td>11</td>
<td>0.4</td>
<td>138</td>
</tr>
<tr>
<td>Lot-Tech</td>
<td>8</td>
<td>0.7</td>
<td>156</td>
</tr>
<tr>
<td>Med-Tech</td>
<td>6</td>
<td>1.1</td>
<td>150</td>
</tr>
<tr>
<td>High-Tech</td>
<td>1</td>
<td>0.2</td>
<td>167</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
<td><strong>2.5</strong></td>
<td><strong>144</strong>*</td>
</tr>
</tbody>
</table>

* Simple Average
Source: Authors’ calculations using Lall (2000) technology definition

Disappearances: Low Density and Low Path

- Top 10 products that are disappearing account for 3.8 percent of total exports
- The majority of them are primary or resource based products
Table 2.12: Disappearing Exports in Serbia by Technological Content

<table>
<thead>
<tr>
<th>Tech Definition</th>
<th>Number of Products</th>
<th>Exports (percent in total)</th>
<th>Average Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Products</td>
<td>8</td>
<td>1.4</td>
<td>111</td>
</tr>
<tr>
<td>Resource Based</td>
<td>8</td>
<td>0.2</td>
<td>129</td>
</tr>
<tr>
<td>Low-Tech</td>
<td>2</td>
<td>0.2</td>
<td>148</td>
</tr>
<tr>
<td>Med-Tech</td>
<td>1</td>
<td>&lt;0.1</td>
<td>162</td>
</tr>
<tr>
<td>High-Tech</td>
<td>1</td>
<td>2.0</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>3.9</td>
</tr>
</tbody>
</table>

* Simple average
Source: Authors' calculations using Lall (2000) technology definition
Annex 2.3: Serbia’s Position in the Product Space

Serbia’s Classic Exports in the Product Space
Serbia’s Emerging Exports in the Product Space
Serbia’s Marginal Exports in the Product Space
Serbia’s Disappearing Exports in the Product Space

Classics    Emerging    Marginals    Disappearing
### Annex 2.4: Serbian exports and revealed comparative advantage
(averages for 2005-09)

#### Food and live animals chiefly for food

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (%)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live animals chiefly for food</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.0</td>
<td>16,079</td>
</tr>
<tr>
<td>Meat and preparations</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0.5</td>
<td>20,434</td>
</tr>
<tr>
<td>Dairy products and birds' eggs</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0.5</td>
<td>19,987</td>
</tr>
<tr>
<td>Fish, crustacean and moll.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.0</td>
<td>15,416</td>
</tr>
<tr>
<td>Cereals and cereal preparations</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>4.0</td>
<td>11,727</td>
</tr>
<tr>
<td>Vegetables and fruit</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>5.0</td>
<td>10,529</td>
</tr>
<tr>
<td>Sugar, sugar preparations and honey</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2.2</td>
<td>8,392</td>
</tr>
<tr>
<td>Coffee, tea, cocoa, and spices</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0.9</td>
<td>10,830</td>
</tr>
<tr>
<td>Feeding stuff for animals (not including</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0.5</td>
<td>9,949</td>
</tr>
<tr>
<td>Miscellaneous edible products</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1.1</td>
<td>16,464</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>25</strong></td>
<td><strong>4</strong></td>
<td><strong>10</strong></td>
<td><strong>14.8</strong></td>
<td><strong>13,981</strong></td>
</tr>
</tbody>
</table>

#### Beverages and tobacco

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (%)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1.6</td>
<td>12,371</td>
</tr>
<tr>
<td>Tobacco and tobacco manufactures</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0.2</td>
<td>13,040</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3</strong></td>
<td><strong>0</strong></td>
<td><strong>3</strong></td>
<td><strong>1.9</strong></td>
<td><strong>12,706</strong></td>
</tr>
</tbody>
</table>

#### Crude materials, inedible, except fuels

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (%)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hides, skins and fur, skins, raw</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>7,697</td>
</tr>
<tr>
<td>Oil seeds and oleaginous fruit</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0.2</td>
<td>10,301</td>
</tr>
<tr>
<td>Crude rubber (including synthetic and re)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0.5</td>
<td>13,824</td>
</tr>
<tr>
<td>Cork and wood</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0.8</td>
<td>11,003</td>
</tr>
<tr>
<td>Pulp and waste paper</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.1</td>
<td>20,306</td>
</tr>
<tr>
<td>Textile fibers (not wool tops) and their</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0.0</td>
<td>19,344</td>
</tr>
<tr>
<td>Crude fertilizer and crude minerals</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>11,673</td>
</tr>
<tr>
<td>Metal, ferous ores and metal scrap</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1.8</td>
<td>10,883</td>
</tr>
<tr>
<td>Crude animal and vegetable materials, ne</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0.3</td>
<td>7,630</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>19</strong></td>
<td><strong>0</strong></td>
<td><strong>8</strong></td>
<td><strong>3.9</strong></td>
<td><strong>12,518</strong></td>
</tr>
</tbody>
</table>

#### Mineral fuels, lubricants and related materials

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (%)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal, coke and briquettes</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0.1</td>
<td>8,606</td>
</tr>
<tr>
<td>Petroleum, petroleum products and relate</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.2</td>
<td>15,270</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1</strong></td>
<td><strong>0</strong></td>
<td><strong>1</strong></td>
<td><strong>0.3</strong></td>
<td><strong>11,938</strong></td>
</tr>
</tbody>
</table>

#### Animal and vegetable oils, fats and waxes

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (%)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed vegetable oils and fats</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1.1</td>
<td>11,965</td>
</tr>
<tr>
<td>Animal and vegetable oils and fats, proc</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0.1</td>
<td>5,974</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3</strong></td>
<td><strong>0</strong></td>
<td><strong>1</strong></td>
<td><strong>1.1</strong></td>
<td><strong>8,970</strong></td>
</tr>
</tbody>
</table>
### Chemicals and related products, nes

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (percent)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic chemicals</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1.4</td>
<td>19,893</td>
</tr>
<tr>
<td>Inorganic chemicals</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.0</td>
<td>20,377</td>
</tr>
<tr>
<td>Dyeing, tanning and coloring materials; toiletry and c</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0.6</td>
<td>17,637</td>
</tr>
<tr>
<td>Oils and perfume materials; toilet and c</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.8</td>
<td>16,561</td>
</tr>
<tr>
<td>Fertilizers, manufactured</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.4</td>
<td>12,105</td>
</tr>
<tr>
<td>Explosives and pyrotechnic products</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.1</td>
<td>13,663</td>
</tr>
<tr>
<td>Artificial resins and plastic materials, nes</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2.8</td>
<td>18,201</td>
</tr>
<tr>
<td>Chemical materials and products, nes</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0.1</td>
<td>11,708</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4</strong></td>
<td><strong>7</strong></td>
<td><strong>8</strong></td>
<td><strong>6.2</strong></td>
<td><strong>16,268</strong></td>
</tr>
</tbody>
</table>

### Manufactured goods classified chiefly by materials

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (percent)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leather, leather manufactures, nes, and</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.0</td>
<td>12,440</td>
</tr>
<tr>
<td>Rubber manufactures, nes</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3.4</td>
<td>17,523</td>
</tr>
<tr>
<td>Cork and wood, cork manufactures</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0.4</td>
<td>14,450</td>
</tr>
<tr>
<td>Paper, paperboard, and articles of pulp,</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>2.1</td>
<td>19,040</td>
</tr>
<tr>
<td>Textile yarn, fabrics, made-up articles,</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0.5</td>
<td>15,238</td>
</tr>
<tr>
<td>Non-metallic mineral manufactures, nes</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>1.8</td>
<td>16,949</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>12.5</td>
<td>18,867</td>
</tr>
<tr>
<td>Non-ferrous metals</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6.6</td>
<td>16,519</td>
</tr>
<tr>
<td>Manufactures of metals, nes</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>3.4</td>
<td>16,925</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>20</strong></td>
<td><strong>19</strong></td>
<td><strong>33</strong></td>
<td><strong>31.8</strong></td>
<td><strong>16,439</strong></td>
</tr>
</tbody>
</table>

### Machinery and transport equipment

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (percent)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power generating machinery and equipment</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1.8</td>
<td>18,916</td>
</tr>
<tr>
<td>Machinery specialized for particular industries</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>0.8</td>
<td>19,339</td>
</tr>
<tr>
<td>Metalworking machinery</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0.2</td>
<td>21,099</td>
</tr>
<tr>
<td>General industrial machinery and equipment</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0.5</td>
<td>20,818</td>
</tr>
<tr>
<td>Electric machinery, apparatus and appliances</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2.3</td>
<td>14,395</td>
</tr>
<tr>
<td>Road vehicles</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0.5</td>
<td>18,072</td>
</tr>
<tr>
<td>Other transport equipment</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>1.4</td>
<td>17,397</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2</strong></td>
<td><strong>8</strong></td>
<td><strong>19</strong></td>
<td><strong>7.4</strong></td>
<td><strong>18,576</strong></td>
</tr>
</tbody>
</table>

### Miscellaneous manufactured articles

<table>
<thead>
<tr>
<th>SITC Category (2-digit)</th>
<th>Classics</th>
<th>Emerging</th>
<th>Marginals</th>
<th>Exports (percent)</th>
<th>Prody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanitary, plumbing, heating, lighting</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0.2</td>
<td>16,374</td>
</tr>
<tr>
<td>Furniture and parts thereof</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1.8</td>
<td>14,855</td>
</tr>
<tr>
<td>Articles of apparel and clothing accessories</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>3.5</td>
<td>8,799</td>
</tr>
<tr>
<td>Footwear</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1.5</td>
<td>10,165</td>
</tr>
<tr>
<td>Miscellaneous manufactured articles, nes</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2.9</td>
<td>17,002</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
<td><strong>5</strong></td>
<td><strong>2</strong></td>
<td><strong>9.8</strong></td>
<td><strong>13,439</strong></td>
</tr>
</tbody>
</table>

Note: Categories are shaded according to its overall importance
Source: Authors’ calculations based on data from Comtrade
2.3. Industry

Here the report widens the lens to take in government policies to promote competitiveness and exports and indicators of the competitiveness of Serbian industry relative to regional comparators. Also the report takes a bottom-up approach to the metals and auto industries using value-chain analysis. The conclusion, which complements the previous analysis, identifies a comparative productivity and competitiveness problem that can be traced to poor quality infrastructure, somewhat rigid labor regulations, and inadequate skills. Yet there is also considerable potential for synergies in these industries and in their capacity not only to generate export growth and penetration of EU markets but also for domestic value chains to expand. This last holds significant potential for the growth of small and medium size firms (SMEs), which are currently rare in Serbia.

The Fiat investment promises to transform Serbia’s auto industry. To take full advantage of it, the industry must work aggressively to boost productivity, cut and control costs, and overcome not only administrative constraints but also the fact that the pool of possible domestic suppliers is small. The government is challenged to alleviate constraints under its direct control, such as infrastructure, regulations, and customs, to improve the investment climate. This is especially important if SMEs are to become suppliers in various value chains.

2.3.1. Introduction

68. During the past decade Serbian industrial policy\(^\text{13}\) was guided by prudent macroeconomic policies and market-oriented structural reforms. A cornerstone was a comprehensive privatization process that attracted significant brownfield FDI. Between 2002 and 2010 most SOEs were privatized. Over 2,400 enterprises were put up for sale through public tenders and auctions and another 700 were privatized through capital markets. While privatization stalled during the global recession with the largest and most complex firms yet to be privatized, the government has moved to resume the process for a number of companies, including the national airline and Telekom Srbija.

69. The low level of exports is a serious problem for Serbia. While its position as a potential candidate for EU accession has increased Serbia’s market opportunities, companies are confronted with several challenges. It is encouraging (see the PS analysis above) that emerging champions compose half the export basket because this indicates increasing sophistication, but Serbia will need to do even better if it is to catch up with regional competitors like Hungary, Slovakia, the Czech Republic, and Romania.

70. A striking feature of Serbia’s enterprise structure is its “missing middle”—the lack of dynamic middle-sized companies that would significantly contribute to the overall economy. Resources are heavily concentrated in a relatively small number of large companies,\(^\text{14}\) all with less than average productivity. There are also numerous small and micro companies that have not succeeded in growing to medium size and achieving the economies of scale necessary to become competitive exporters. The following analysis

\(^{13}\) See Annex 1 of this chapter for more details on recent literature on industrial policy.

\(^{14}\) Companies are categorized by number of employees. “Micro” companies have up to 10 employees, “small” 10 to 50, “medium” 50 to 250, and “large” companies more than 250.
demonstrates that companies in the manufacturing sector are not as cost-competitive as regional peers.

71. To make exports more competitive, the government recently launched its Strategy and Policy for the Development of Industry to set priorities for the next decade. The focus of the policy is on export growth, more investment, and job creation. Industries targeted are the food industry, transportation equipment, information communications and technology (ICT), metals, and pharmaceuticals.

72. This strategic vision looks to FDI to provide capital and new jobs and introduce modern technology, efficient management strategies, and a new corporate culture. So far Serbia has attracted FDI from Italy, Greece, Norway, Germany, Austria, the United States, and Russia. FDI began to pick up in 2003 with the launch of the privatization process (Table 2.13).

Table 2.13: FDI Inflows into the Western Balkans (US$ millions)

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>135</td>
<td>178</td>
<td>343</td>
<td>279</td>
<td>324</td>
<td>653</td>
<td>866</td>
<td>940</td>
<td>1.086</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>266</td>
<td>381</td>
<td>614</td>
<td>355</td>
<td>279</td>
<td>1,743</td>
<td>919</td>
<td>255</td>
<td>195</td>
</tr>
<tr>
<td>FYR Macedonia</td>
<td>105</td>
<td>117</td>
<td>322</td>
<td>94</td>
<td>424</td>
<td>700</td>
<td>601</td>
<td>186</td>
<td>294</td>
</tr>
<tr>
<td>Montenegro</td>
<td>72</td>
<td>49</td>
<td>65</td>
<td>478</td>
<td>615</td>
<td>771</td>
<td>856</td>
<td>1,485</td>
<td>719</td>
</tr>
<tr>
<td>Serbia</td>
<td>475</td>
<td>1,365</td>
<td>965</td>
<td>1,550</td>
<td>4,264</td>
<td>2,491</td>
<td>2,648</td>
<td>1,904</td>
<td>1,133</td>
</tr>
</tbody>
</table>

Source: WB, UNCTAD, FDI/TNC database.

73. To become more competitive as an FDI destination, Serbia is creating instruments and incentives that make the investment climate very favorable for large manufacturers. The Serbia Investment and Export Promotion Agency (SIEPA) operates as a one-stop shop for FDI. Among other services, it arranges site visits for potential investors, helps with licensing, and provides statistics for analyzing an industry and potential suppliers. The government has also created a generous incentive package for FDI in sectors other than retail, tourism, and agriculture that incorporates

- A 10 percent corporate profit tax rate;
- A 10 year corporate profit tax holiday for investments in manufacturing over €8 million that create more than 100 jobs.
- VAT reimbursement on imports that are inputs into the production of goods for export.

74. A flagship initiative of Serbia’s industrial strategy is to establish free trade zones. There are already seven, administered by the Ministry of Finance, in Pirot, Subotica, Zrenjanin, Kragujevac, Šabac, Novi Sad, and Užice; two more are being set up in Niš and Smederevo. Free trade zones offer tax exemptions, exemption from customs duties for goods that will be exported, a dedicated customs administration office, and a variety of subsidies and services, such as transportation costs free of VAT. Firms exporting outside the free trade zone can also receive the benefits on imports and exports, though the paperwork is cumbersome. Goods produced in free trade zones that are not exported are subject to customs and import costs.

65
75. Financial grants for large-scale projects are another centerpiece of the current industrial policy. These can reach 25 percent of the total for investments over €200 million that create more than 1,000 jobs and 20 percent for investments over €50 million that generate at least 300 jobs. Investments of at least €0.5 million that create at least 50 jobs receive grants ranging from €2,000 to €10,000 per new job, depending on where the investment is located and whether it is export-related.

76. On a smaller scale, the government offers financial support to export-oriented domestic companies. Grants are provided to SMEs to finance activities that have the potential to increase exports, such as design of new products and organized visits to foreign markets. The government also provides short-term loans to larger export-oriented companies.

77. While incentives are important for attracting FDI, particularly in the early stages, the Serbian enterprise sector will in the long term need to become attractive on its own merits. The next section examines recent trends in Serbia, particularly in manufacturing. The results expose large gaps in productivity between Serbian firms and firms in neighboring countries. The following section assesses the competitiveness of two industries identified by the government as strategic, the steel and automotive industries, and offers recommendations to support their growth.

2.3.2. An Overview of the Enterprise Sector in Serbia

78. The 95,000 companies in the enterprise sector together employ 1 million of the 1.8 million people formally employed in Serbia. The rest work in public administration and related services, or for unregistered micro companies. The sector adds value equivalent to about 50 percent of GDP (Table 2.14).

Table 2.14: Serbia’s Industrial Structure

<table>
<thead>
<tr>
<th>Micro (0 to 9 employees)</th>
<th>Number of Companies 2009</th>
<th>Employment (percent) 2009</th>
<th>Revenues (percent) 2009</th>
<th>Value-added (percent) 2009</th>
<th>Worker Productivity 2007–09#</th>
<th>Unit Labor Costs 2007–09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (10 to 49 employees)</td>
<td>9,148</td>
<td>17.6</td>
<td>21.7</td>
<td>19.2</td>
<td>1,216</td>
<td>0.42</td>
</tr>
<tr>
<td>Medium (50 to 249 employees)</td>
<td>2,457</td>
<td>22.5</td>
<td>22.3</td>
<td>19.7</td>
<td>947</td>
<td>0.65</td>
</tr>
<tr>
<td>Large (over 250 employees)</td>
<td>533</td>
<td>40.2</td>
<td>39.7</td>
<td>48.1</td>
<td>1,260</td>
<td>0.59</td>
</tr>
<tr>
<td>TOTAL</td>
<td>94,573</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>1,093</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Source: Serbian Agency for Business Registries, Statistical Office, World Bank staff calculations/
# Value added/Worker in ‘000 dinars.

79. Serbian companies are less productive and their labor costs higher than companies elsewhere in the region. Table 2.15 shows that Serbian workers produce less than those in peer countries but cost significantly more. They produce less than half of workers in Slovakia and little more than half of workers in the Czech Republic and Hungary.

---

15 “Enterprise sector” covers all companies that report to the Agency for Business Registries.
### Table 2.15: Productivity and Unit Labor Cost Comparisons

<table>
<thead>
<tr>
<th>Country</th>
<th>Worker Productivity* (€)</th>
<th>Unit Labor Costs Average 2007-09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>23,548</td>
<td>0.37</td>
</tr>
<tr>
<td>Hungary</td>
<td>20,812</td>
<td>0.42</td>
</tr>
<tr>
<td>Poland</td>
<td>18,527</td>
<td>0.36</td>
</tr>
<tr>
<td>Romania</td>
<td>12,544</td>
<td>0.38</td>
</tr>
<tr>
<td>Slovakia</td>
<td>25,043</td>
<td>0.32</td>
</tr>
<tr>
<td><strong>Serbia</strong></td>
<td><strong>12,837</strong></td>
<td><strong>0.54</strong></td>
</tr>
</tbody>
</table>

Source: Eurostat, Agency for Business Registries, * Value added/worker

80. **Like comparator countries, the Serbian enterprise sector has a preponderance of micro enterprises (fewer than 10 employees), but the relatively few large companies have a disproportionate impact on the economy.** The gap in the middle could mean that small enterprises have growth ceilings. Recent research (Bruegel 2010) shows that for firms based in Europe, it is size, productivity, and the ability to innovate that have the most impact on export performance. While large firms in Serbia seem to benefit modestly from economies of scale, their unit labor costs are surprisingly high compared to micro and small firms. Medium-sized firms seem to perform worst, with lower productivity and higher unit costs than both small and large companies. The international performance of such firms is best explained by firm-specific rather than country- or sector-specific features.

81. **In other European countries, workers in medium and large companies tend to be more productive (measured as value added per worker) than in small companies** (Figure 2.19). Workers in medium-sized companies in both the EU as a whole and new EU member countries are 15 to 20 percent more productive than those in small companies (Figure 1a). In sharp contrast, Serbian workers in medium-sized companies are 20 percent less productive than those in small companies. Workers in large companies in both the EU and new EU member states are typically 35 to 50 percent more productive than those in small companies; in Serbia the difference is only 5 percent.

82. **The difference in relative productivity is even more striking when manufacturing companies are looked separately.** In both the entire EU and the new EU member states, manufacturing workers in medium-sized companies are 25 percent more productive than in small companies and those in large companies are almost twice as productive (Figures 2.19 and 2.20). In contrast, workers in Serbia’s medium-sized manufacturers are slightly less productive than in small companies and in large companies they are only 15 to 20 percent more productive. This suggests that the significant resources that medium and large manufacturers control are used inefficiently.
2.3.3.  Trends in the Manufacturing Sector

83. **Manufacturing, a vital Serbian export sector, experienced severe strain in the previous two decades.** In the 1990s manufacturing was among the sectors hardest hit by the breakup of Yugoslavia and subsequent international sanctions on Serbia. It was also hard hit by the loss of markets, in the former Yugoslavia and abroad, and by severe disruptions to supply chains, since many Serbian manufacturers relied on inputs from other republics of former Yugoslavia, and vice versa. As a result, industrial output in real terms more than halved from 1991 to 1994.

84. **After the political changes in 2000, manufacturing recovery was slow and patchy.** Between 2000 and 2008 output increased by less than 20 percent in real terms (implying a cumulative annual growth rate of just 2 percent), while the economy as a whole was expanding by almost 50 percent. Manufacturing also suffered a heavy loss of jobs: Formal employment halved from 2000 to 2010, down from some 600,000 to less than 300,000.

85. **In recent years manufacturing has been threatened by underinvestment and a significant number of unsuccessful privatizations.** From 2004 to 2009 manufacturing attracted just 20 percent of FDI in Serbia (Figure 2.21). This amounted to €2 billion (1.3 percent of GDP for the period), or an average of just €343 million annually. In addition, privatization was less successful in manufacturing than in other sectors. Of 878 manufacturing companies privatized, 250 (about 30 percent) of the privatizations were annulled (Table 2.16). Thus, although manufacturers accounted for about 33 percent of all companies privatized in Serbia, they accounted for 44 percent of annulled privatizations.
As in the enterprise sector generally, manufacturing tends to be dominated by a few large firms, and medium-size firms have below-average productivity. About 18,600 manufacturing companies that report to the Agency for Business Registries employ a total of 380,000 people. The vast majority of these companies are micro and small size, but both revenue generation and employment are concentrated in large companies, which account for 44 percent of total enterprise employment (Table 2.17). As in the enterprise sector as a whole, worker productivity in medium-sized manufacturers is below that in small companies.
Table 2.17: Serbia’s Manufacturing Industry

<table>
<thead>
<tr>
<th></th>
<th>Number of Companies 2009</th>
<th>Employment (percent), 2009</th>
<th>Worker Productivity 2007–09</th>
<th>ULC 2007–09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro (0 to 9 employees)</td>
<td>14,386</td>
<td>11</td>
<td>638</td>
<td>0.42</td>
</tr>
<tr>
<td>Small (10 to 49 employees)</td>
<td>2,925</td>
<td>16</td>
<td>897</td>
<td>0.48</td>
</tr>
<tr>
<td>Medium (50 to 249 employees)</td>
<td>1,027</td>
<td>29</td>
<td>829</td>
<td>0.65</td>
</tr>
<tr>
<td>Large (over 250 employees)</td>
<td>252</td>
<td>44</td>
<td>995</td>
<td>0.71</td>
</tr>
<tr>
<td>Overall</td>
<td>18,590</td>
<td>100</td>
<td>895</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Source: Agency for Business Registries, Statistical Office, World Bank staff calculations.
# Value added/Worker in ‘000 dinars

87. **A comparison of productivity and costs suggests that the manufacturing sector in Serbia is not competitive with other countries in the region.** Worker productivity in Serbian manufacturing is well below that in comparator countries; Serbian workers produce about a third less than Romanians and just half of those in other comparator countries (Table 2.18). Of course, if lower productivity were accompanied by lower wages, Serbia would not necessarily be in an inferior competitiveness position. However, unit manufacturing labor costs in Serbia are well above those in comparator countries. For Serbian manufacturing to be more competitive internationally, it would need to cut wages—not a desirable strategy—or significantly boost productivity by investing more in technology and R&D.

Table 2.18: Manufacturing Productivity and Unit Labor Costs Compared

<table>
<thead>
<tr>
<th>Country</th>
<th>Worker Productivity*</th>
<th>Unit Labor Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average 2007-09</td>
<td>Average 2007-09</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>21,824</td>
<td>0.40</td>
</tr>
<tr>
<td>Hungary</td>
<td>20,410</td>
<td>0.39</td>
</tr>
<tr>
<td>Poland</td>
<td>16,933</td>
<td>0.42</td>
</tr>
<tr>
<td>Romania</td>
<td>14,020</td>
<td>0.46</td>
</tr>
<tr>
<td>Slovakia</td>
<td>23,354</td>
<td>0.35</td>
</tr>
<tr>
<td>Serbia</td>
<td>10,515</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Source: Eurostat, Agency for Business Registries.
* Value added/worker (in EUR)

2.3.4. **The Competitiveness of the Metals and Automotive Industries**

88. **This section analyzes drivers of growth in the metals and automotive industries based on a value chain analysis.** The McKinsey Global Institute (2010) stated that “top down analysis of the drivers of growth has all too often failed to capture the fact that the conditions that promote competitiveness differ significantly from sector to sector and so therefore do the most effective potential regulations and policies.” Only when a sectoral approach is used can policy be customized to specific industry needs. Sectoral analysis requires an understanding of the value chain of industries that have the potential to spearhead the upgrading of the competitiveness of Serbian exports internationally.
89. **The steel and automotive industries were selected to illustrate growth and export opportunities and challenges facing Serbia’s enterprise sector.** The steel industry is a major generator of exports and employment. Since the early 2000s it has been privatized and restructured—today US Steel Serbia (USSS) is the dominant producer. The automotive industry was selected because the entry of Fiat to assemble cars in Serbia will be a major source of export growth, helping to significantly diversify the export basket. Potential synergies between the two industries are explored, since the automotive industry is a major consumer of metals, especially steel.

2.3.5. **Metals Industry**

90. **Metals, the largest export sector in Serbia, accounted for 22 percent of exports and 6 percent of GDP in 2010, in addition, this sector employs about 25,000 people.** As in many other countries, metals sector led the economic recovery as commodity prices soared in response to buoyant demand from emerging markets. According to SIEPA, total metal manufacturing revenues were €1.5 billion in 2010, a significant rebound from €1 billion in 2009 and almost back to the 2008 level of €1.6 billion.

91. **Brownfield FDI in the metals industry following the privatizations in the early 2000s helped the industry to retain its position as Serbia’s major exporter.** However, the industry has attracted relatively little FDI. At just under €400 million the sector ranks 11th in FDI since 2005 (Figure 2.22). In Serbia food and beverages, financial services, and telecommunications have attracted the lion share of FDI.

**Figure 2.22: FDI Inflows in Serbia by Sector, 2005–10 (€ Million)**

<table>
<thead>
<tr>
<th>Sector</th>
<th>2005–10 Inflows (€ Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and Beverage, Agriculture</td>
<td>399.1</td>
</tr>
<tr>
<td>Financial</td>
<td>313.0</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>711.1</td>
</tr>
<tr>
<td>Retail</td>
<td>256.2</td>
</tr>
<tr>
<td>Oil and Gas</td>
<td>264.2</td>
</tr>
<tr>
<td>Real Estate</td>
<td>1,427.0</td>
</tr>
<tr>
<td>Tobacco</td>
<td>847.0</td>
</tr>
<tr>
<td>Automotive Industry</td>
<td>760.0</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>752.5</td>
</tr>
<tr>
<td>Construction</td>
<td>711.1</td>
</tr>
<tr>
<td>Metallurgy and Metalworking</td>
<td>399.1</td>
</tr>
<tr>
<td>Insurance and Pension</td>
<td>1,016.0</td>
</tr>
<tr>
<td>Tourism</td>
<td>1,853.2</td>
</tr>
<tr>
<td>Others</td>
<td>2,400.0</td>
</tr>
<tr>
<td>Total</td>
<td>2,172.0</td>
</tr>
</tbody>
</table>

Source: SIEPA

92. **The metals industry is dominated by the production of a single steel company.** The metals industry is a prime example of the missing middle phenomenon: the 10 largest companies account for over 77 percent of all sector revenue (Table 2.19). In 2003 US Steel, the 8th largest global steel producer, bought the Serbian SOE Sartid, the only integrated steel mill in Serbia, out of bankruptcy; it now accounts for 50 percent of industry revenues (see below for more detail). Because of its central place in exports, the steel industry was selected for detailed assessment.

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16 The SIEPA supplier database lists companies that have worked with SIEPA in some way and tend to be export-oriented.
17 World Steel Association.
### Table 2.19: Top 10 Serbian Metals Companies

<table>
<thead>
<tr>
<th>Name</th>
<th>Ownership</th>
<th>Metal</th>
<th>Stage of Production</th>
<th>2010 Revenues (€ millions)</th>
<th># of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Steel Serbia d.o.o</td>
<td>Private</td>
<td>Steel</td>
<td>Primary production</td>
<td>783</td>
<td>5,400</td>
</tr>
<tr>
<td>Impol Seval Sevonjo</td>
<td>70 percent Private, 30 State</td>
<td>Aluminum</td>
<td>Primary production</td>
<td>107</td>
<td>579</td>
</tr>
<tr>
<td>Valjaonica Bakra Sevojno</td>
<td>Private</td>
<td>Copper</td>
<td>Primary production</td>
<td>100</td>
<td>946</td>
</tr>
<tr>
<td>RTB Bor</td>
<td>State-owned</td>
<td>Copper</td>
<td>Raw materials</td>
<td>93</td>
<td>100</td>
</tr>
<tr>
<td>Ball Packaging</td>
<td>Private</td>
<td>Multiple</td>
<td>Intermediate production</td>
<td>82</td>
<td>161</td>
</tr>
<tr>
<td>Cable Factory Majdanpek</td>
<td>Private</td>
<td>Copper</td>
<td>Intermediate production</td>
<td>70</td>
<td>440</td>
</tr>
<tr>
<td>Fabrika Kablova Zaječar</td>
<td>Private</td>
<td>Copper</td>
<td>Intermediate production</td>
<td>57</td>
<td>474</td>
</tr>
<tr>
<td>Metalac Gornji Milanovac</td>
<td>Private</td>
<td>Steel</td>
<td>Finished products</td>
<td>42</td>
<td>1,700</td>
</tr>
<tr>
<td>Jeep commerce</td>
<td>Private</td>
<td>Steel/Aluminum</td>
<td>Intermediate production</td>
<td>38</td>
<td>243</td>
</tr>
<tr>
<td>Utva silos</td>
<td>Private</td>
<td>Steel</td>
<td>Intermediate production</td>
<td>38</td>
<td>232</td>
</tr>
</tbody>
</table>

Source: SRBA and SIEPA data.

The Steel Industry Value Chain

93. **Serbia, which exports practically all of its steel, accounted for 0.09 percent of global crude steel production in 2010.** Steel was the top export in 2010; bringing in slightly over US$1.3 billion, it represented over 13 percent of total exports (Figure 2.23). However, the products of the steel industry in Serbia tend to be low-value-added, with little avenue for differentiation, which means that Serbia’s steel exports are highly sensitive to global output trends.

94. **Almost all Serbian steel exports go to European countries,** mainly Italy, Germany, Austria, and Western Balkan countries, reflecting the USSS regional focus (Figure 2.24). Serbia benefits from Germany’s position as the top global importer. It has also benefitted from high steel prices, driven by explosive growth in demand from China, India, and Brazil.
95. **Some SMEs manufacture high-value-added steel products in small quantities.** A few firms produce intermediate steel products used as inputs to white goods and appliances, and several others manufacture such finished steel goods as rods, angles, plates, cast items, tubes, pipes and hollow profiles, household articles, and radiators. In 2010, however, finished steel goods made up just $254 million of exports, a relatively small fraction of the $1.3 billion in total steel exports.

96. **Serbia manufactures mainly primary and intermediate steel products** (Figure 2.25). Serbia manufactures both of the major primary steel products, flat steel and long steel, which are made directly from iron ore. Semi-finished products are produced from recycled scrap metal; the resultant steel billets, ingots, and bloom are used as inputs in finished steel goods. Serbia has several small foundries with smelters for this process, supplied by scrap sourced both domestically and abroad.
97. The structural problem is that Serbia’s steel exports are low-value-added products.

Figure 2.26 shows how value is added at each stage of metal production up to manufactured products. A review of Serbia’s top steel export products (Table 2.20) shows the predominance of hot and cold rolled coils, with relatively few pipes. Serbia does not export structured steel and yellow metals, which is where the bulk of value is added. Because Serbia has no iron ore, most raw materials are imported and then processed for export still in a relatively simple form.

Figure 2.26: Percentage of Value Added at Each Stage of Steel Manufacturing
Table 2.20: Serbia’s Top 5 Steel Exports by Degree of Finishing

<table>
<thead>
<tr>
<th>Products</th>
<th>2010 Exports (USD '000)</th>
<th>World Export Share (percent)</th>
<th>World Export Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat-rolled products of iron/non-al/s</td>
<td>607,781</td>
<td>1.1</td>
<td>21</td>
</tr>
<tr>
<td>Flat-rolled prod of iron or non-al/</td>
<td>181,406</td>
<td>0.4</td>
<td>28</td>
</tr>
<tr>
<td>plated or coated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrous waste</td>
<td>141,652</td>
<td>0.3</td>
<td>41</td>
</tr>
<tr>
<td>and scrap; remelting scrap</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ingots or iron or steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat-rolled prod of iron/non-alloy</td>
<td>82,820</td>
<td>0.4</td>
<td>28</td>
</tr>
<tr>
<td>steel, not clad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-finished products of iron or</td>
<td>10,696</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>non-alloy steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: International Trade Center calculations based on COMTRADE statistics

Finished Products

<table>
<thead>
<tr>
<th>Products</th>
<th>2010 Exports (USD '000)</th>
<th>World Export Share (percent)</th>
<th>World Export Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structures (rods, angle, plates) of iron &amp; steel nes</td>
<td>60,981</td>
<td>0.2</td>
<td>50</td>
</tr>
<tr>
<td>Iron &amp; steel stoves, ranges, non-electronic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>domestic app.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cast articles of iron or steel nes</td>
<td>39,882</td>
<td>0.5</td>
<td>29</td>
</tr>
<tr>
<td>Articles of iron or steel nes</td>
<td>26,607</td>
<td>0.5</td>
<td>32</td>
</tr>
<tr>
<td>Tubes, pipes and hollow profiles of iron or steel,</td>
<td>23,201</td>
<td>0.1</td>
<td>59</td>
</tr>
<tr>
<td>nes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: International Trade Center calculations based on COMTRADE statistics

98. Serbia imports some of the same products it exports, which might suggest that market distortions may be affecting seller and buyer preferences (Table 2.21). For example, hot rolled coils, hot rolled plates and sheets, cold rolled coils, and sheets and tin plates comprise 15 percent of steel imports, even though they are produced domestically. Interviews with companies revealed that government incentives to encourage exports have been a disincentive to selling the products domestically. For example, imported raw materials that are used to produce goods that are then exported are exempt from the VAT; exporters who sell in the domestic market would lose the VAT exemption.

Table 2.21: Sample Serbian Steel and Iron Imports and Exports in 2010 (US$ Thousands)

<table>
<thead>
<tr>
<th>Code</th>
<th>Product Label</th>
<th>Export value 2010</th>
<th>Import value 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>7208</td>
<td>Flat-rolled products of iron/non-al/s</td>
<td>607,781</td>
<td>28,064</td>
</tr>
<tr>
<td>7210</td>
<td>Flat-rolled prod of iron or non-al/s, clad, platted or coated</td>
<td>181,406</td>
<td>40,857</td>
</tr>
<tr>
<td>7207</td>
<td>Semi-finished products of iron or non-alloy steel</td>
<td>10,696</td>
<td>161,253</td>
</tr>
<tr>
<td>7213</td>
<td>Bars &amp; rods of iron or non-alloy steel</td>
<td>3,991</td>
<td>37,443</td>
</tr>
<tr>
<td>7214</td>
<td>Bars &amp; rods of iron/non-al/s</td>
<td>1,630</td>
<td>47,323</td>
</tr>
</tbody>
</table>

Source: International Trade Center calculations based on COMTRADE statistics

Actors in the Steel Value Chain

99. In 2010, bringing in €783 million USSS represented nearly 50 percent of all metal industry revenues; it also produced about 95 percent of all steel products in Serbia. USSS produces 2 million tons of raw steel annually, about 6 percent of its worldwide production. Its plant on the Danube in Smederevo has both blast furnaces and facilities for
cold and hot pressed steel. USSS has its own electric power station and medical facilities and is close to a gas supplier and the railroad. USSS also owns a limestone mine in Kaona and a tin-coating facility in Šabac.

100. As part of the Sartid purchase USSS committed to invest $157 million in mill upgrades and economic development. In 2005 USSS upgraded one of the blast furnaces, returning it to working order for the first time in 18 years, and invested another $40 million in modernizing the second blast furnace. Since the acquisition it has also upgraded the cold reduction sheet mill.

101. USSS was able to bring operational efficiency up to about 70 percent of capacity just a year after acquisition, bringing it close to the global industry average of 72–82 percent over the past two years. The USSS entry has also had positive spillover effects in the Serbian metal industry with introduction of best practices at the mill and generation of support services from local companies. The company’s ability to improve productivity has been somewhat constrained by its commitment to retain workers, although it streamlined the workforce from 9,000 in 2003 to 5,600 in 2010. Notably, during the recent economic crisis USSS did not significantly decrease the number of workers, though it did cut production (comparison with US Steel plant in Slovakia is provided in Box 2.2).

102. Other producers of semi-finished steel products in Serbia are much smaller and produce niche products with higher value-added:

- The Italian-owned Sirmium Steel smelter produces steel billets from recycled scrap. It has a reported annual turnover of €15 million and exports about 65 percent of its production.
- Metalfer, the only producer of long steel in Serbia, was established in 2002 in Sremska Mitrovica near Novi Sad as a greenfield investment. The parent company is the UK-based Mfe Consulting & Commodities Ltd. Metalfer is a rolling mill that produces steel-reinforced bars (rebar) for the construction industry. It sells 85 percent of its production domestically and exports the rest regionally. Metalfer’s revenues in 2010 were about €9.5 million; the company employed about 200 workers.
- Jeep Commerce, Utva Silosi, and Mark Metal produce intermediate steel products for integration into other products.

103. Hundreds of companies produce higher-value-added finished steel products. This group of companies comprises mainly SMEs and it has shown increasing capacity to innovate. Two significant examples of these companies, one large and one small, are Metalac and Mitrašinović:

- Metalac in Gornji Milanovac was founded in 1959 and was one of the first companies to be privatized, in the late 1990s. With 1,700 employees in 2010, it is the largest company producing finished steel products in Serbia. Metalac produces cookware, boilers, sinks, and packaging that are sold to retail chains, wholesale traders, and specialized shops. The company purchases 60 percent of its raw materials domestically, some from USSS, and imports the rest. It exports about 30 percent of its products.

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18 World Steel Association.
• Mitrašinović, a small Serbian-owned company in Smederevo, makes specialized steel construction and asphalt machines for a variety of industries. In 2010 it had income of €1.5 million and employed 40 people. It designs tailored steel components for bridges, pipelines, and silos.

104. Metal manufacturing in Serbia is not tightly coordinated. So far industry collaboration has been limited. At the national level the Steel Industry Association has 13 members, one being USSS. It acts as the coordination unit for the industry and provides members with statistics and data on industry trends. There are also regional associations and chambers of commerce. There was evidence of collaboration between SMEs, who claimed to share equipment and R&D facilities.

Cost, Margins, and Competitiveness in the Value Chain

Unit Costs for Flat Rolled Steel

105. Using trade data and financial statement results, this section estimates costs, margins, and competitiveness in the steel industry. Because information at the product line level is confidential, so unit costs are compared using information from UN Comtrade that shows total export value and unit price with income statements filed with the Serbian Business Registers Agency (SBRA).

106. The steel industry is operating with extremely tight margins that could quickly turn into losses if demand drops, as it did in 2009. Thus for instance, our estimates suggest that USSS did not make a profit in 2009 and 2010, and the profit was slim in 2008. The loss in the past two years has to do with reduced production because of the global economic crisis. An integrated steel mill like USSS has large fixed costs, making it difficult to recoup expenses when volumes drop. The 2008 figures are close to break-even; production was an estimated 1 million metric tons of HS 7210 and 210,000 metric tons of HS 7208. In Serbia, as in other countries, margins are slim for flat rolled steel, and profitability depends on economies of scale.

107. Steel cost data for USSS and the next 10 largest companies are presented in Table 2.21. Since USSS represents 87 percent of the total for the 11 companies (the next biggest firm, Utva-Silos, had only 4.3 billion dinars in income in 2010 compared to 94 billion for USSS) there are significant insights to be gained from reviewing the USSS cost structure separately from the rest of the group.

Table 2.22: Steel Cost Analysis, 2010

<table>
<thead>
<tr>
<th>Areas of Cost Competitiveness</th>
<th>Steel Industry</th>
<th>US Steel Serbia</th>
<th>Steel Industry ex USSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total personnel costs per employee (Dinars ‘000s)</td>
<td>1,154</td>
<td>1,271</td>
<td>659</td>
</tr>
<tr>
<td>Energy and fuel as percentage of total production costs</td>
<td>27</td>
<td>30</td>
<td>2</td>
</tr>
<tr>
<td>Labor as percentage of total production costs</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Raw materials as percentage of total production costs</td>
<td>51</td>
<td>49</td>
<td>66</td>
</tr>
<tr>
<td>Core profitability - business income over business expense</td>
<td>89</td>
<td>88</td>
<td>96</td>
</tr>
<tr>
<td>Labor productivity - business income per employee (Dinars ‘000s)</td>
<td>16,119</td>
<td>17,377</td>
<td>10,803</td>
</tr>
</tbody>
</table>

Source: Serbian Business Registers Agency (SBRA), Analysis of eleven large firms
The main messages from the cost analysis are that:

- Core profitability has been marginal or negative for most Serbian steel firms for the past three years, pointing up the fragility of their competitiveness. USSS core profitability last year was –12 percent. Only two companies had positive core profitability in 2010, Minel Enim at 7 percent and Utva Silosi at 8 percent. One company, Asco Vidak, lost substantial money in 2010 and another, Sinex, was declared insolvent. For the steel industry as a whole, as represented by the 11 large companies for which information was available, net losses have far exceeded net profits for the past three years. The industry lost more than 15.6 billion dinars in each of the last two years, and in 2008 was only marginally profitable, with total net profit of just 148 million dinars. Poor profitability is more due to declining sales than to increasing costs.

- While energy costs had only a moderate impact on the competitiveness of most steel companies, they hit USSS harder. For USSS energy accounted for over 30 percent of total production costs. For the other 10 large firms it represented from less than 1 percent to not more than 8 percent. The difference may be related to the fixed costs of firing blast furnaces.

- Raw material prices are determined by global supply and demand and are passed through to buyers. For the past three years raw materials have accounted for about half of all steel production costs (51 percent in 2010). For most firms other than USSS, raw materials account for 60–80 percent of production costs.

- Although labor costs are a small fraction of total USSS production costs, they are a significant competitiveness issue for finished goods, and wage increases could dampen future investment. Labor has accounted for about 7 percent of total USSS production costs for the past three years. Most large firms have labor costs of 4–12 percent of total production costs; however, for smaller enterprises this can go up to 44 percent.

- In the steel industry annual personnel costs per employee (salaries, bonuses, allowances, etc.) average 1,154,000 dinars (US$15,800). When USSS is excluded, however, the cost drops to 659,000 dinars (US$9,024), although there is considerable variance—from 443,000 dinars (US$6,066) at Tim Trade to 1,070,000 dinars (US$14,653) at Sirmium Steel. At 1,271,000 dinars ($17,405) USSS has the highest per-employee costs.

- There is little correlation between the cost and the productivity of labor. In 2010 USSS had average per-employee personnel costs of US$17,405, but its gross income per employee was only 16,119,000 dinars (US$220,733). Meanwhile, Utva Silosi had per-employee costs of 840,000 dinars (US$11,503) but generated per-employee income of 18,587,000 (US$254,530). Three other companies – Jeep Commerce, Sirmium Steel, and Synergetic – also generated higher income per employee than USSS.

Box 2.2: Cost Competitiveness: US Steel Serbia Versus US Steel Košice (Slovakia)

An analysis of the balance sheets of US Steel Košice and US Steel in Serbia (table below) shows that the cost competitiveness of USSS could be lagging behind the rest of the group at the global level:

- USS Košice was profitable in 2009 and 2010; USS Serbia was not. A possible reason for this is that USSS has not yet hit the production volumes it needs to overcome fixed costs and reach

19 The operations of US Steel Europe (USSE) in Slovakia and Serbia reported a combined loss of US$33 million in 2010 and US$208 million in 2009. In 2008 USSE had a profit of $491 million, according to the U.S. Steel 2010 Annual Report.
profitability (the USS Košice operation is almost three times as large as the one in Serbia).

- Workers in the Slovakia plant are more productive (as measured by total revenue per employee). This may be because they are better workers, better managed, or (most likely) working with better machines and equipment.
- USS Košice’s costs per employee are significantly higher than Serbia’s. As a result of a successful FDI attraction strategy, Slovakia is beginning to experience labor shortages that are driving up wages (€803 in Slovakia versus €455 in Serbia).
- Energy costs for US Steel Kosice are similar to those of the other steel manufacturers in Serbia, which may validate the theory that US Steel Serbia’s high energy costs may be due to its having blast furnaces.

### US Steel Kosice (Slovakia) versus US Steel Serbia

<table>
<thead>
<tr>
<th>Areas of Cost Competitiveness</th>
<th>US Steel Košice</th>
<th>US Steel Serbia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2009</td>
</tr>
<tr>
<td>Total personnel costs per employee (Dinars 000s)</td>
<td>1,991</td>
<td>1,967</td>
</tr>
<tr>
<td>Energy and fuel as percentage of total production costs</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Labor as percentage of total production costs</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Raw materials as percentage of total production costs</td>
<td>70</td>
<td>58</td>
</tr>
<tr>
<td>Core profitability - business income over business expense</td>
<td>106</td>
<td>101</td>
</tr>
<tr>
<td>Labor productivity - business income per employee (Dinars 000s)</td>
<td>19,940</td>
<td>14,007</td>
</tr>
</tbody>
</table>

109. **Low productivity as a result of labor rigidities could be limiting the competitiveness of the steel industry.** In 2009 the metal and metal products manufacturing sector had the biggest decrease in productivity, a decline of 36 percent, according to the SME Report 2009\(^20\). USSS had a significant impact on this measure because it dramatically cut production without cutting employment. Labor rigidities will limit competitiveness as rivals increase productivity through technological innovations and a leaner and cheaper workforce. In addition, the profile of the workforce in the steel industry will need to be upgraded, with more education and training than ever before.

110. **Other factors affecting Serbian competitiveness are lack of R&D, cost of finance, transport infrastructure problems, and energy:**

- **Limited R&D** is mainly due to limited collaboration between metals companies and universities and little use of the established academic engineering base. The Global Competitiveness Report (GCR) ranks Serbia 71\(^{st}\) in university-industry collaboration in R&D. Recognizing this problem, the government is working with various development partners, including the World Bank (Box 2.3) to remedy it. Serbian companies will need to upgrade their products to differentiate them from other countries’ products and thus be able to charge higher prices.

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\(^20\) Ministry of Economy and Regional Development’s “Report on Small and Medium Sized Enterprises and Entrepreneurship”, 2009
Box 2.3: Support for Private R&D and Research Commercialization in Serbia

Serbia plans to enhance its competitive position in the region by promoting knowledge-based economic growth, with the ultimate goal of European Union accession. Such growth is likely to be a factor in both productivity improvements as a result of technology upgrading in the short-term and innovation generated by internationally oriented young and dynamic firms in the long term.

The current system of R&D funding does not support Serbia’s agenda. Serbian R&D is dominated by the public sector, is largely inefficient, and most importantly is not linked to industry needs, particularly those of SMEs. Serbian industry has little capacity, in terms of both human capital and financial resources, for R&D and innovation. Brain drain is a major concern for both the private sector and the scientific community.

Outputs from R&D are not commensurate with the resources invested and do not support modernization of the economy. While the number of scientific publications has increased in recent years, their quality is poor. Intellectual property is either not being created or is not protected. Just 21 patents were registered by R&D institutes (RDIs) from 2003 to 2008, with only 36 patent applications. Figures for the private sector were similar.

A significant shift from basic to applied research is needed to build up an innovative SME sector. This, along with closer connections between science and industry, will be central to raising R&D expenditures to the goal of 2 percent of GDP by 2020; the target is to leverage half of this from the private sector. According to the 2010 World Bank survey of Serbian businesses which invest at least US$1,000 in R&D annually, more than 60 percent invest more than US$5,000 annually in R&D. Another encouraging finding was that 70 percent of companies investing in R&D developed a new product. The most common method of conducting R&D was in-house (11 percent), followed by public R&D institutions (10 percent), private domestic R&D companies (8 percent), and public universities (5 percent). Connections to the public research base are weak: only 20 percent of the companies had recently used the service of science institutions (universities, science and technology parks, or incubators).

In an attempt to modernize the national innovation system, the Government of Serbia has implemented a reform program over the last two years to revamp the regulatory and institutional framework governing science, technology, and innovation. It has enacted a number of laws to promote science and innovation and formulated the Serbian Scientific and Technological Development Strategy 2009–2014.

Improving science infrastructure has been the focus of efforts thus far; stimulation of private sector-led R&D and innovation has been minimal. RDIs are the primary recipients of public financing, with private firms receiving funding only for technological development. The 471 technological development projects supported by the Ministry of Science and Technological Development, however, were carried out by RDIs and not independently by industry. In general, technology transfer and diffusion from RDIs is quite low, with only a few spin-offs and real technology-based start-ups. This suggests a need to place more emphasis on supporting the various stages of technology development and innovation within enterprises, for example, technology transfer, commercialization, diffusion, absorption, adaption, and application.

Few mechanisms to incentivize private R&D have been implemented. The Ministry of Economy and Regional Development administers the Program to Strengthen Innovation in SMEs (matching grants) to support SME investment in innovation through co-financing. However, its total budget for 2010 was just RSD 40 million (€380,000). Any legal entity is eligible for co-financing of up to 50 percent of justified expenses for innovation activity. The SME must match the grant funds, and there may not be any other public support. Grants awarded cannot exceed RSD 800,000 thousand (€8,000) for the first group of eligible activities, and RSD 1.5 million (€15,000) for the second group. In addition, under the IPA 2010 program €3 million was allocated for the Integrated Innovation
Support Program, designed to "increase the competitiveness and economic growth in Serbia, through strengthening of innovation in SMEs in accordance to National Strategy for Development of Competitive and Innovative SMEs 2008–2013." However, this program has not yet started.

In the current post-crisis environment, the government could stimulate economic recovery via policies that target firm-based R&D and innovation. Government efforts to support R&D and innovation have been too focused on public RDIs, with negligible support for private sector innovation. The World Bank is providing technical assistance to the government and now to the Serbian Innovation Fund (SIF) to fill these gaps and develop mechanisms to stimulate enterprise-based technology development and innovation.

- **Availability and cost of finance.** While credit to the private sector in Serbia is generally low (40 percent of GDP compared to the OECD average of 160 percent, Croatia’s 65 percent, and Bulgaria and Hungary’s 80 percent), large companies in the metals industry do not appear to have a problem accessing capital. Nine of the 11 top companies have long-term loans ranging from 10 percent to 48 percent of their total assets. However, SMEs may have more difficulty obtaining credit. According to the GCR, Serbia ranks 99th out of 139 in terms of affordability of financial services and 91st in terms of ease of access to loans. One apparent problem is that loans require nearly full collateralization, generally of real property. Moveable property, even commodities like metal, cannot typically be used as collateral. Companies in the industry are also wary about supply chain financing.

- **Transportation infrastructure.** Most companies use trucks as their primary means of delivery. However, USSS as a bulk product manufacturer relies on rail and is the single biggest railway shipper. Numerous international railway lines link Serbia with all parts of Europe. Internal rail services, however, are generally poor, unreliable, and unsafe. Besides needing physical upgrades, the rail system reportedly does not track the location of wagons, making it difficult for shippers to know where their merchandise and supplies are. Firms in the metal industry also report losing time transporting goods because there are too few locomotives to meet demand.

- **Energy:** At the moment, most companies interviewed reported that energy was not a constraint, there was a sufficient supply, and it was relatively cheap. Serbia is thus quite competitive in terms of energy at the moment. At €0.004/kWH in 2009 Serbia had the lowest average industry electricity price among OECD and European countries. However, this is an artificial situation: tariffs are kept below cost recovery levels, thus serving as an implicit subsidy.

**Impact of Recent Government Policies**

111. **Current government policies seem to focus on solving the problems of large companies, while the missing middle issue is virtually ignored.** The national government is preparing to establish a free trade zone in Smederevo, where USSS is located, and is creating a free trade zone around Kragujevac, where Fiat and an automotive supplier park will be sited. Also the government is preparing to make another free trade zone of Niš, which has just attracted Yura, a Tier One automotive supplier. Interviews with investors reveal that large foreign investors tend to get preferential treatment; there seems to be little support for SMEs that cater primarily to the domestic market. There are few programs that support SMEs.

112. **To promote exports, the government of Serbia is unintentionally creating problems for SMEs that serve the local market.** Uneven VAT treatment for domestic and exported
goods inhibits the ability of non-exporting SMEs to compete because it increases both the price they must pay for inputs and the time and burden of getting supplies. There is also speculation that the VAT tax exemption may be leading to black-market importing of goods with falsified export certifications.

113. While most steel firms comply with general QMS (Quality Management System) certificates, there are still policy issues in terms of broader Serbian standards for the metals industry. Serbian standards are gradually being rewritten to harmonize with EU standards. For example, the new Serbian standard that applies to rebar in the construction industry, SRP EN 10080, is aligned with its EU counterpart. The standard is expected to be formally adopted soon, and all construction companies will have to adhere to it. However, Serbian QMS standards do not always match those of countries to which Serbian firms export. This becomes highly problematic when companies export to multiple countries. There are concerns that border testing of metals is inadequate.

2.3.6. The Automotive Industry

114. Serbia’s automotive manufacturing history dates back more than 80 years, but after 1990 it practically collapsed, leading to a compression of the industrial base and eroding technical capabilities. The Zastava plant, which began operations shortly after World War II during the socialist regime, was vertically integrated. Although most of its component manufacturers were located in Kragujevac, some were spread around the country in an apparent effort at regional diversification. At its zenith in the 1980s, Zastava was producing nearly 250,000 vehicles a year. However, production was halted by the conflict and the accompanying sanctions. While production has since resumed, technology in most of the plants has not advanced significantly since 1990.

115. To reactivate the Zastava plant and reenergize the industry, the government has attracted Fiat to invest in a major OEM (original equipment manufacturer) production facility. Fiat is upgrading the Zastava factory and retraining the workers. Similar efforts by the Slovakian government have yielded significant economic rewards (Box 2.4).

116. The government strategy takes into account fundamental shifts in automotive production philosophy since the early 1990s. There has been increased consolidation of OEM suppliers, with the top 10 OEMs producing 68 percent of all cars in 2007 (OECD 2009: 103). There has also been a strategic shift in that technology and innovation have been pushed down to Tier 1 suppliers\(^{21}\) of complex segments for the OEMs. Although there are six OEMs in Serbia, Fiat is the only one that is economically viable; the others are extremely small and unproductive. In 2009 Fiat had $107 million in revenues, the next largest, Ikarbus, had $4 million, and the rest all had less than €2 million each. Some, like Zastava Special Vehicles, are not currently producing at all. Five of the six are partially owned by the state, including Fiat at 33.3 percent.

117. Though Fiat is bringing in its own Tier 1 suppliers, their entry represents the biggest opportunity for building backward linkages to domestic suppliers. To harness these opportunities, there is a need for an active automobile cluster. Getting Fiat to invest in Serbia is a major accomplishment, and some Tier 1 suppliers will enter Serbia trusting that

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\(^{21}\) Tier 1 suppliers are those producing fully integrated systems or modules for OEMs. More detailed discussion follows in the next section of the chapter.
through regular market forces the rest of the supply chain will fall into place. But Fiat can source its supplies on a purely commercial level without any requirement for a local supply chain. A more concerted effort might be required to help create local backward linkages.

Box 2.4: A Success Story: Automotive FDI and The Slovakian Economy

Slovakia has the highest per capita car production in the world. Production almost doubled after PSA Peugeot and Kia joined VW in Slovakia. Slovakia’s automotive experience illustrates how FDI can transform a national economy. Growth in the automotive sector driven by the proactive investment-seeking government has helped increase growth in output, exports, and employment. As a result, Slovak companies have begun supplying companies in neighboring countries. The industry employs more than 10 percent of the manufacturing labor force and generates over 7 percent of value added.

**Volkswagen:** VW entered the Slovakian market in 1991 by acquiring a small production plant from BAZ in Bratislava. It was followed by a number of suppliers, which boosted the capital’s regional economy. An important draw was that even by Eastern European standards Slovakia’s labor was cheap. Slovak tax rates were similar to those in the neighboring countries (19 percent corporate tax), but taxation in Slovakia was perceived as simpler and more transparent. The government in 1998 gave VW €31.2 million in tax allowances as part of its new investment scheme and heavily subsidized the industrial park in Lozorno where most of the large foreign suppliers set up production. Factory management invested heavily in training to improve the quality of the workforce as a means of convincing VW headquarters to locate more complex and sophisticated production in Bratislava. The company seems to be pleased with its Slovak operations and plans to double its investment to €1 billion over the next five years, increasing production and introducing new technologies.

**PSA Peugeot Citroën:** PSA Peugeot Citroen began operations in Zatec, Slovakia, in 2006. Competing with Poland for PSA’s next regional investment, the Slovak Investment and Trade Development Agency offered the firm a €160 million financial incentive. Making the Zatec location even more attractive were its proximity to the Czech Republic joint production location, adequate infrastructure, and the fact that the sites were well prepared.

**KIA:** Seeking to establish a manufacturing plant in the region Eastern Europe, Kia first considered locations in the Czech Republic and Hungary. However, Slovak officials visiting South Korea reportedly made a very attractive subsidy offer, and even the local Slovak authorities got involved: the mayor of the town proposed for the plant’s location offered English language education for employees’ children, a hospital, support from a local university specializing in transport, construction of a railway terminal, completion of a highway, and reconstruction of the local airport. The incentives totaled more than €170 million, not including construction of housing for Korean management near the plant and in nearby Bratislava, which alone cost more than €40 million. Kia began operations in Slovakia in 2006. The support scheme was criticized because Kia had no legal obligation to invest a minimum amount in the project; it was not required to employ a minimum number of people; and it was not required to refund any local or state assistance it received if it did not comply with the investment plan.

**Conclusion:** No single factor was responsible for the substantial growth of the automotive sector in Slovakia. Rather, it was a combination of factors: proactive involvement of local as well as national governments in attracting investors; financial incentives; emergence of local suppliers; Slovakia’s geographical position; successful neighbors that offered both supplies of materials and consumer markets; and low-cost skilled labor available at the time of the initial investment. There is, however, a common cautionary theme in these stories that is also present in other neighboring countries: as the number of investors has increased, the countries have all begun to face shortages of qualified labor. Slovakia will have to be more innovative if it is to remain competitive since it will not be able to rely on cheap labor.

**Zastava’s operations in Serbia left a heritage of nearly 140 suppliers.** As Zastava has been transformed with arrival of Fiat, the whole sector started transforming as well. Those suppliers that survived were able to do so because they sold to other companies, exported, or diversified into other product lines, such as white goods. The industry in Serbia currently has an annual turnover of over €500 million, much lower than in the 1980s. Top ten automotive companies and their ownership structure, revenues and employment are presented in Table 2.23.

<table>
<thead>
<tr>
<th>Name</th>
<th>Ownership</th>
<th>Sector</th>
<th>2010 Revenues (€ millions)</th>
<th># of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIAT Automobiles Serbia</td>
<td>66.6 percent private 33.5 percent state</td>
<td>Original Equipment Manufacturer (OEM)</td>
<td>129</td>
<td>937</td>
</tr>
<tr>
<td>Fabrika Akumulatora Sombor</td>
<td>Private</td>
<td>Tier 1 Supplier – Batteries</td>
<td>84</td>
<td>657</td>
</tr>
<tr>
<td>Le Belier Livnica Kikinda</td>
<td>Private</td>
<td>Tier 1 – Breaking systems</td>
<td>24</td>
<td>403</td>
</tr>
<tr>
<td>Rumaguma – Mitas</td>
<td>Private</td>
<td>Tier 2 supplier – tires for construction machinery, trucks, lorries</td>
<td>21</td>
<td>478</td>
</tr>
<tr>
<td>FAP Priboj</td>
<td>87 percent State, 13 percent Private</td>
<td>OEM – Trucks, buses</td>
<td>14.5</td>
<td>1,169</td>
</tr>
<tr>
<td>Yura</td>
<td>Private</td>
<td>Tier 2 supplier – wiring harness</td>
<td>11.4</td>
<td>1,205</td>
</tr>
<tr>
<td>FKL Temerin</td>
<td>State</td>
<td>Tier 2 supplier – Rolling bearings</td>
<td>16</td>
<td>503</td>
</tr>
<tr>
<td>Zastava Tapacimica</td>
<td>Private</td>
<td>Tier 2 – Seats</td>
<td>7.9</td>
<td>357</td>
</tr>
<tr>
<td>FAD</td>
<td>Private</td>
<td>Tier 2 – Suspension parts</td>
<td>7.2</td>
<td>287</td>
</tr>
<tr>
<td>Leoni Wiring Systems Southeast</td>
<td>Private</td>
<td>Tier 2 – Wiring systems</td>
<td>6.5</td>
<td>845</td>
</tr>
</tbody>
</table>

**Actors in the Automotive Value Chain**

**Fiat’s decision to locate a new assembly plant in Serbia will transform the country’s automotive industry landscape.** Fiat is contributing over €700 million, with the rest coming from the Government of Serbia, which is a 33.3 percent shareholder. Favorable factors Fiat cited in making the investment were the brownfield investment, which would allow them to be operational quickly; the area dedicated to a supplier park; and the availability of skilled labor (although it is also providing significant training and plans to set up its own training school). Fiat will also receive the incentives available for all large
manufacturing investments, such as tax holidays and import customs exemption. Serbia has created a free trade zone around the Fiat factory to reduce customs red tape, and the government’s own investment helped reduce Fiat’s cost and potential financial risks. Fiat also cited Serbia’s strategic location on Corridor 10, the upgrading of which was apparently an important factor.

120. **It is estimated that Fiat will transform Serbia’s export basket; it will be exporting up to €1.5 billion worth of cars annually.** Beginning in April 2012 Fiat is scheduled to start producing 200,000 cars annually, which will sell for an average of €9,000. Since 2008, Fiat had been supplying cars from Serbia primarily for the domestic market (80 percent) and North Africa (20 percent). However, production of the two new lines will be dedicated to supplying Europe.

121. **Fiat’s growth will most likely lead to major new automotive investments and expansion.** The expected economic impact includes about 12,500 new jobs (at Fiat and suppliers) and the opportunity for links with Serbian Tier 2 companies. Because the government did not set a local content requirement, Fiat has no contractual obligations to source any components locally, so it is critically important that local suppliers meet Fiat standards and be cost-competitive.

**Tier 1 Suppliers**

122. **Serbia has no Tier 1 firms of its own to supply Fiat, but an estimated 15 new Tier 1 firms will be needed to supply Fiat.** Tier 1 suppliers produce fully integrated systems or modules for OEMs, and much of automotive innovation and technology originates at the Tier 1 level—OEMs now concern themselves more with brand management and marketing. The Serbian government has helped set up a supplier park next to the Fiat plant where up to seven of the Tier 1 suppliers will be conveniently located. Other Tier 1s may make brownfield investments. Johnson Controls, Promo Magnet, Sigit, and HTL will be among the first Tier 1 suppliers to move in. All Tier 1 firms will be able to benefit from incentive packages Serbia offers for new investments, job creation, and exports.

123. **Other automotive Tier 1 firms are beginning to recognize the positive environment in Serbia.** Yura Corporation, a South Korean company, opened a brownfield operation in Niš, in 2009. It produces electric wires, cables, and electrical distribution units and harnesses for OEMs. The firm, which is investing €30 million and will employ 3,000 workers, chose Serbia because of its proximity to two OEMs for which they produce, the government’s attractive incentives, and Serbia’s skilled workforce. Currently Yura exports 100 percent of its products to Hyundai and Kia in Slovakia and the Czech Republic. The city of Niš gave Yura land, and the Serbian government gave it job creation incentives estimated to equal €4.5 million.

**Tier 2 Suppliers**

124. **The automotive component manufacturers operating in Serbia now are mainly Tier 2 suppliers—suppliers of Tier 1 suppliers.** Most of the 100-plus firms largely produce aftermarket products.  

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22 Aftermarket parts are parts made to fit the general specifications of an existing product but not produced by the OEM. They are used to replace parts after the vehicle has been sold. Two common aftermarkets parts are brake pads and rotors.
New domestic SMEs and foreign investors that have entered Serbia in the past decade and are managing successful businesses for both domestic and export markets. This trend started even before the Fiat acquisition. The companies produce modern parts for a variety of OEMs and aftermarkets. For example:

- GOMMA Line is a privately owned local company established in 2007 with headquarters in Kragujevac. It produces molded rubber-based profiles, air hoses, and brake hoses. It employs 60, has annual revenues of €2.5 million, and exports 95 percent of its production to OEMs in Russia, Belarus, and Ukraine. It also produces automotive aftermarket parts and parts for the construction industry.
- Started in 1981, KilerAuto is 100 percent Serbian-owned. It produces exhaust pipes and mufflers tailored to specific vehicles for over 24 different OEMs. It employs 66 and has revenues of over €1 million.
- Promotor-Irva produces car jacks for OEMs, including Peugeot, GM, and (previously) Zastava. It exports over 95 percent of its production. Promotor-Irva has R&D facilities and can tailor its jacks to an OEM’s requests. Management estimates that the company produces about 1 percent of the world supply. An offshoot from another car components company, it was founded in 2006. Annual revenues are over 2 million and it employs 54 people.

Privatized companies: Several companies were successfully privatized out of the old Zastava production lines. While some have outdated technology and are in various stages of certification, others have found niche markets. For instance, Zastava Tapacirnica produces textiles for seat cushions for a variety of OEMs across the EU, to which 100 percent of its production is exported. The company also imports 100 percent of its raw materials. The firm produces 3 million finished products a year and could be well-positioned to supply Fiat. The company began producing upholstery for Zastava in 1956 and was privatized in 2004. Now owned by a Slovenian company, it employs 350 people and has annual revenues of €7 million.

Companies still with the Privatization Agency. Companies yet to be privatized are in a state of virtual stasis until that process is complete. Though some have stopped or nearly stopped production, others have found niche markets.

Tier 3 Suppliers

125. Tier 3 companies manufacture metal, rubber, and plastic components used to create auto parts. Areas for synergies in the automotive value chain would be linking Tier 3 suppliers of basic materials such as flat rolled steel to Tier 2 suppliers that produce individual parts. However, Serbia currently has no Tier 3 suppliers. Even USSS is reportedly not currently producing the galvanized steel needed for the automotive industry; there were are plans for it to begin doing so to augment the galvanized steel production of US Steel Slovakia, but the plans were put on hold after the crisis.

126. The Automotive Cluster of Serbia (AC Serbia) network consists of companies and institutions that produce automotive parts and components. Founded in 2005, AC Serbia

The opposite of aftermarket parts are manufacturer parts (also known as dealer or stock parts). Aftermarket parts are generally cheaper than the parts produced by the car manufacturer.
today has 43 members, of which 38 are production companies and 5 R&D institutions. It provides training, management skills, and advice on QMS. It also facilitates, both domestically and internationally, information-sharing between network management and members, partner networks, customers, state organizations, financial organizations, business, and R&D entities.

Cost, Margins, and Competitiveness in the Value Chain

127. **Financial analysis of Serbia’s automotive industry** is based on nine companies with **combined earnings of 25.6 billion dinars (US$ $354 million) in 2010.** As with USSS, Fiat is analyzed separately from the rest of the group. This analysis is tentative, because once the Fiat investment becomes operational, industry results will be transformed (Table 2.24).

Table 2.24: Automotive Cost Analysis (2010)

<table>
<thead>
<tr>
<th>Areas of Cost Competitiveness</th>
<th>Industry</th>
<th>Fiat</th>
<th>Industry ex-Fiat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total personnel costs per employee (Dinars ‘000s)</td>
<td>640</td>
<td>666</td>
<td>629</td>
</tr>
<tr>
<td>Energy and fuel as a percentage of total production costs</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Labor as a percentage of total production costs</td>
<td>8</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Raw materials as a percentage of total production costs</td>
<td>66</td>
<td>76</td>
<td>54</td>
</tr>
<tr>
<td>Core profitability - business income over business expense</td>
<td>101</td>
<td>97</td>
<td>107</td>
</tr>
<tr>
<td>Labor productivity - business income per employee (Dinars ‘000s)</td>
<td>7,584</td>
<td>14,215</td>
<td>5,042</td>
</tr>
</tbody>
</table>

Source: Serbian Business Registers Agency (SBRA).

128. **The main messages of the analysis:**

- **The industry is poised for a major expansion of production and exports but is highly concentrated because of the sheer size of Fiat**, which currently accounts for 52 percent of combined earnings. The second largest, Fabrika Akumulatora Sombor (FAS), accounts for another 35 percent. None of the other seven firms accounts for more than 3 percent.

- **Core profitability (business income over expense) in the automotive industry is only slightly positive, meaning that much needs to be done to boost productivity, competitiveness, and profits** (core profitability was 103 percent in 2009 and 101 percent in 2010). Last year Fiat’s core profitability was negative (97 percent), but the company nonetheless managed to turn a net profit. FAS had better core performance at 108 percent. From 2008 through 2010 the automotive industry as represented by the nine companies for which information was available generated net profit annually, though total net earnings were substantially higher in 2010 – just over 1 billion dinars, compared to 138 million in 2009. This is due mostly to profit growth at Fiat and FAS. Sales of the nine companies rose by nearly 200 percent in 2008–2010, but raw materials costs rose by 280 percent. Total personnel costs increased by only 34 percent, fuel and energy expenditures by 116 percent.
Energy prices have a moderate impact on competitiveness. Overall, energy and fuel costs accounted for just 3 percent of total automotive production costs in 2010, down from 8 percent in 2009 and 4 percent in 2008. The range across companies is 1 to 8 percent. With inevitable increases in energy prices toward cost recovery, boosting productivity becomes imperative to expand profitability and growth.

Raw materials are the major cost driver. Raw materials accounted for 66 percent of total production costs among the nine large automotive firms in 2010, up from about 58 percent in 2008. The proportion ranges from 11 percent (at 21 Oktobar, which manufactures high-value specialty parts) to 76 percent at Fiat.

Wages are a significant cost, especially for SMEs. Labor accounts for about 8 percent of total production costs, down from 21 percent in 2008. The change was likely brought about because Fiat started operating in 2008 (although producing far less than is expected in the future). The range is from 5 percent (Fiat) to 54 percent (21 Oktobar). Across the industry personnel costs per employee (salaries, bonuses, allowances, etc.) averaged 640,000 dinars ($8,845).

Labor costs and labor productivity seem to be related: 21 Oktobar, with the lowest per-employee costs, also had the lowest income per employee at 447,000 dinars (US$ 6,178). FAS, on the other hand, generated 13,550,000 dinars per employee. Fiat generated even more (14,215,000 dinars), while holding per-employee personnel costs to 660,000 dinars (US$ 9,122).

Constraints to Competitiveness

Currently Serbian Tier 2 firms do not meet the requirements of Tier 1 firms and OEMs. The hope is that the majority of Serbian component manufacturers can become Tier 2 suppliers. Fiat’s purchasing department has surveyed the component manufacturers to determine which meet their supplier requirements; the companies are awaiting the results. However, it appears that Fiat has decided to source primarily from internationally recognized Tier 1 suppliers, with several moving to Serbia explicitly to supply Fiat.

To benefit from the Fiat investment, local suppliers need better-quality systems, technology, and R&D. Linkages must be developed between Tier 1 and Tier 2 firms. History and factory proximity to the new Fiat plant make for some natural synergies. However, many of the firms need help before synergy can become reality. For the few successful Tier 2 firms in Serbia, Fiat and the new Tier 1 firms will be additional clients. These firms already have quality management and R&D systems in place. They can access finance, and most are currently exporting. However, other firms with potential to be suppliers will need considerable investment to meet the quality standards that would enable them to supply an international Tier 1 or OEM. The technology of Serbian automotive component manufactures is for the most part outdated because car manufacturing in Serbia essentially stopped in 1992. Firms do not have adequate R&D facilities to keep up with changing demands. Most firms would likely need support in at least one, if not all three, of the areas required by manufacturers.

Low investment impedes the industry. There is comparatively little investment in automotive SMEs (Table 2.25). This may be a chicken-and-egg problem: Companies have little incentive to invest in new technology until it becomes clear that an OEM like Fiat is interested in buying from them, but to be attractive as suppliers to international car manufacturers, they need first to invest in certifications and technology upgrades.
Table 2.25: Investment of the Non-Financial Sector in European Countries

<table>
<thead>
<tr>
<th></th>
<th>Investments per Employee</th>
<th>Investments per Company</th>
<th>Investments and GVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SMEs</td>
<td>Total</td>
<td>SMEs</td>
</tr>
<tr>
<td>EU – 27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>7.4</td>
<td>8.5</td>
<td>31.7</td>
</tr>
<tr>
<td>2008</td>
<td>7.7</td>
<td>8.8</td>
<td>33.4</td>
</tr>
<tr>
<td>Bulgaria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>4.2</td>
<td>4.7</td>
<td>23.0</td>
</tr>
<tr>
<td>2008</td>
<td>4.4</td>
<td>4.8</td>
<td>24.2</td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>5.6</td>
<td>6.6</td>
<td>17.5</td>
</tr>
<tr>
<td>2008</td>
<td>4.4</td>
<td>5.4</td>
<td>14.6</td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>8.3</td>
<td>10.0</td>
<td>35.0</td>
</tr>
<tr>
<td>2008</td>
<td>9.4</td>
<td>10.8</td>
<td>39.3</td>
</tr>
<tr>
<td>Romania</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>6.5</td>
<td>9.2</td>
<td>39.2</td>
</tr>
<tr>
<td>2008</td>
<td>9.9</td>
<td>12.9</td>
<td>59.2</td>
</tr>
<tr>
<td>Serbia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>4.1</td>
<td>4.5</td>
<td>12.2</td>
</tr>
<tr>
<td>2008</td>
<td>3.0</td>
<td>3.9</td>
<td>9.2</td>
</tr>
</tbody>
</table>


Impact of Recent Government Policies

132. **The Government of Serbia’s automotive strategy centers on attracting large-scale FDI, which has proved to be successful.** Now, a targeted strategy tailored to integrating Serbian component manufacturers into the global automotive value chain could help the rest of the industry to become more competitive. There are grants available for technology upgrades, but the automotive companies do not seem to have been applying for them. It is unclear whether they are not aware of the grant program or have actively decided not to take advantage of it.

133. **Free trade agreements are a source of competitiveness for the automobile industry.** These probably benefit the automotive sector even more than the metals industry. This is particularly true with regard to Russia, which has a large consumer market for automobiles.

134. **Automotive firms, like metals firms, cited customs as one of their top three constraints.** According to the World Bank *Doing Business Report* (2011), it can take 12 days to get an export across the border. This is a constraint to any SME but an enormous constraint to the automotive sector, which relies on a just-in-time business model that requires supplies to be delivered daily. One of the firms interviewed keeps warehouses near its clients in Russia so that it can send over larger shipments. However, other firms rely on smaller, more frequent deliveries—like fast-moving consumer goods companies, which can fill orders within Serbia in less than 24 hours. Customs delays make it much harder for these companies to compete internationally. Automotive component suppliers interviewed estimated that customs regulations delay their trucks by 8 to 10 hours. One company has people working full-time solely on customs issues, which can be very costly.

135. **In addition to ISO 9001, Serbian automotive suppliers are reportedly under increasing pressure to obtain the industry-specific ISO/TS 16949 certification.** According to AC Serbia, only 10 Serbian companies are certified ISO/TS 16949 producers. SIEPA reports that 75 percent of the automotive manufacturers have obtained ISO 9001.
certification, but only 7 percent have implemented the QMS in accordance with ISO/TS 16949. There are several reasons for these low numbers:

- Some companies do not yet have a client that requires automotive-specific standards, so they see no need for the certification.
- ISO/TS 16949 is more difficult to obtain in Serbia—apparently only one company (OQS) employs a Serbian citizen who is certified to issue ISO/TS 16949. In contrast, there are eight bodies approved by the Accreditation Body of Serbia to accredit for ISO 9001 and 11 others have the authority to do so using foreign experts.
- There is a cost to obtaining ISO/TS 16949. Most companies hire consulting firms to help them attain certification, and the price of assessment for the ISO 9001 certification varies from €1,500 to €3,000, depending on the certification firm and the size of the company. The lack of local TS 16949-certified assessors increases the cost, since EU experts have to be engaged. The cost for the ISO/TS 16949 starts at €4,500.
- Implementing the ISO/TS 16949 involves costly specialized training and laboratories.

### 2.3.7. Synergies Between the Metals and Automotive Sectors

136. **Automotive components are in many ways an extension of the metals chain, and there is great potential for backward linkages.** According to the World Steel Association, steel comprises 55 percent of the value of an average automobile. Therefore, primary areas for synergies in the automotive value chain would be to link Tier 3 suppliers that produce raw materials such as flat rolled sheets to Tier 2 suppliers that produce individual parts.

137. **However, creating synergies between the automotive and steel industry is not as simple as just having a base metals industry in Serbia.** The automotive industry needs a very specific type of steel. Most of the metal currently produced in Serbia is not processed to those requirements. Local experts estimate that the automotive industry should be able to source about 15 percent of its supplies within Serbia based on products currently produced and as much as 30 percent with better coordination and targeted intervention.

138. **In the long term, Serbia cannot remain competitive in either metals or automobiles unless it acquires competitive advantages anchored in quality and improved technology.** Serbia’s costs are not competitive with those of Asian competitors because of production scale. The importance of innovation to Serbia cannot be overemphasized. With an established metals and automotive industry and a high-quality educational system, the country has a unique opportunity to leverage its industrial and academic base and begin to focus on producing next-generation products. The government can facilitate this development by providing the right incentives to both industry and academia to invest in R&D.

139. **The metals and automotive industries are both very important to Serbia’s economy, but in different ways.** Figure 2.27 shows where USSS and Fiat are positioned on their own value chains: the dominant steel producer, USSS, is near the bottom of the global and national value chain in that it takes raw materials and produces semi-finished and finished goods used for further manufacturing. Fiat is at the top because it produces high-value-added finished goods, mostly for export. Thus the two firms have different implications for the Serbian economy, and the government will need to move carefully if it is to reap the full benefits of FDI.
140. **The presence of US Steel offers potential for forward business linkages, particularly with SMEs that produce higher-value-added steel products, on the other hand the presence of Fiat has the potential for backward linkages with local automotive suppliers.** Backward linkages account for twice the value-added of the automotive industry (OECD 2009). Policy interventions in the metals industry should therefore be focused primarily on providing incentives and removing obstacles that might hinder US Steel from upgrading its products or selling inputs to domestic producers of higher-value-added metal products.

2.3.8. **Policy Recommendations**

141. **Policy recommendations provided in this chapter include both cross-cutting measures to benefit the manufacturing sector as a whole, and metals and automotive industry-specific actions.** Given that most of the issues raised in this chapter deal directly with the private sector, the scope for government intervention is relatively limited. Still, there are four possible measures that the Serbian government can consider implementing.

142. **Public policies could aim to create more coherent and well-connected clusters to maximize economic spillovers.** Linkages within clusters are possible in practically all manufacturing sectors, and not only these two presented in this chapter. For two sectors that were analyzed recommendations are to create forward linkages in the metals industry and to promote backward linkages in the automotive industry. In the metals industry, forward linkages will need to be encouraged by removing any disincentives to trade between leading producers like USSS and high-value-added domestic manufacturers. In the automotive industry, one of the options is that the government drafts a three-year or longer action plan to bring Tier 2 suppliers into the automotive value chain. The plan should ideally be drafted with inputs from leading firms, component manufacturers, associations, municipalities, and other stakeholders.

143. **Investments promotion activities should be aimed at high-value-added FDI.** Because higher-value-added investments such as automotive OEMs have a better chance of leading an upgrade of local capabilities than attracting low-value-added FDI, the government is advised to target investors that will complement existing industry.
144. **Stimulate skills upgrade and innovation.** The private sector and universities are advised to work together to adapt educational programs to meet the current needs of manufacturers. A coordinated public-private dialogue might be effective, including increased participation of the private sector in the work of various national education councils. Further, efforts should be made to build more cooperative relationships between universities in Serbia and universities in Europe that are doing exploratory research. Serbia’s universities and technical training centers are a good resource for both automotive and metals manufacturing, but (as is the case in many places) vocational programs are not fully integrated with employer needs in designing training programs and skill sets, which are discussed in the third part of the report.

145. **Streamline and align quality standards with EU standards**. The importance of integrating standards with export growth cannot be overstated. Once standards are harmonized and industry standards are mandated, mechanisms can be applied to confirm that firms and products are adhering to the standards. In the **metals industry**, Serbia is advised to introduce Eurocodes which are technical standards applied in the EU. Institute for Metal Construction within the University of Belgrade Civil Engineering Faculty is already working on this initiative. In the **automotive industry**, Serbian manufacturers need ISO 9001 and TS16949 certification to be credible suppliers to international Tier 1 firms and OEMs. The government currently offers grants to reduce the cost of certification, but this initiative needs to be promoted further. Additional mechanisms are needed to ensure that firms adopt the necessary QMS, including public education announcements, how-to guides, and workshops and seminars.

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23 See the Skills chapter in the third part of this report.

24 See the Business Environment chapter for more details on the national quality infrastructure.
Annex 2.5: A New Role for Industrial Policy? Insights from Recent Research

Industrial policy is often viewed with considerable skepticism, but recent research reassesses the view that it is always counterproductive. Lin and Monga (2010) point out that although industrial policy has often proved very costly and inefficient, there is also solid historical evidence that all countries that have successfully transformed to modern advanced economies had governments that took an active role in the process of structural transformation.

“New industrial policy” argues for “smart” interventions that address coordination problems and other barriers that discourage private investment in new industries and technologies. Lin and Monga (2010) distinguish between two types of industrial policies: those that “facilitate structural change” by overcoming information, coordination, and externality issues, and those intended to “protect selected firms and industries” that defy the comparative advantage determined by the existing endowment structure. They argue that governments need to adopt the former type—where interventions aim to provide information, compensate for externalities, and coordinate improvements in the “hard” and “soft” infrastructure—because the latter, which amounts to “picking winners” (or “protecting losers”), almost always produces costly and unsuccessful outcomes.

Governments might consider bearing some of the initial financial or other risks and more systematically target public infrastructure. By doing so they help private investors overcome the high costs of being first movers and innovators in a sector (Birdsall and Fukuyama, 2011). But there are risks. Without competent technocratic bureaucrats to implement industrial policies, countries face the risk of activist policies continuing to run long after their economic rationale has been fulfilled, thereby creating costs and promoting inefficiencies.

Horizontal support and sectoral aid for upstream R&D development are by themselves not sufficient to foster transformation of the European economy (Aghion, Boulanger, and Cohen 2011). Sectoral policies must be not only accurately targeted but also properly managed; in particular, Aghion, Boulanger, and Cohen argue, industrial policy and competition policy should be viewed not as opposites but as complementary, so that interventions are both competition- and innovation-friendly. They discuss five channels of sectoral intervention that seem most relevant in an EU context:

1. **Sectoral policy to influence technical change**: Because under laissez-faire conditions there is potential for firms to innovate in the wrong direction, there is a role for government intervention to redirect technological change toward desirable innovation areas. The example the authors provide is “green innovation”: Because companies often are invested in a large stock of patents in dirty technologies, they are generally more inclined to innovate further along on the same path rather than switching resources to green innovation; this can be addressed directly with clean-innovation subsidies.

2. **Sectoral policy to compensate for insufficient financial development**: Even though some sectors exhibit high growth potential and, through the diffusion of knowledge, have positive effects on the rest of the economy, credit constraints may limit capital flows to these sectors, in particular in countries where bank credit is the primary means of financing companies.
3. **Sectoral policy works better when it is decentralized:** The authors show that one way to address concerns about possible misuse of industrial policy is to decentralize it. Indeed, they offer evidence that the more decentralized state aid is, the more positive its effect on export and innovation performance.

4. **Sectoral policy works better in more competitive sectors:** Industrial and competition policies are likely to be complementary. Aghion, Boulanger, and Cohen provide empirical proof that the more competitive the recipient sector, the more positive the effects of state subsidies on TFP, TFP growth, and product innovation in that sector.

5. **Sectoral policy works better when subsidies are less concentrated:** The interaction between state aid and product competition in a sector is more positive when state aid is less concentrated. The extent to which sectoral state aid can be growth-enhancing depends significantly on how the aid is allocated and governed. In particular, aid that enhances within-sector competition by not focusing on one or a small number of firms is more likely to be growth-enhancing than more concentrated aid.
2.4. Agriculture

There is general agreement that the potential of Serbia’s agriculture for improvement is massive. Serbia has recently become a net food exporter, but its exports could be much higher. Also, conclusion is that unpredictable policies and a lack of attention to structural reforms are making it hard for farmers, processors, and traders to plan ahead. Yet there are major opportunities they could seize both within and beyond EU.

2.4.1. Introduction

146. In Serbia agriculture has great economic, social, and political significance. Primary agriculture directly generates about 10 percent of GDP and contributes indirectly by providing raw materials for the food industry. Agriculture also has a significant social role through its contribution to food security and rural employment. In almost all local, regional, and national strategies, agriculture is a basic strategic direction for development, and most Serbian citizens, whether rural and urban, see in it the greatest developmental opportunity for Serbia. However, agricultural policy is often based more on political than on economic and social considerations, leading to many inefficiencies.²⁵

147. Although Serbia's agricultural sector is a significant part of its economy and is widely considered to have great potential for growth, it is relatively small in European terms. Serbian land accounts for 1.9 percent of the entire EU, and its total production accounts for 1.1 percent of EU output. Compared to just the 12 new member states, Serbia has 7 percent of their total land resources and only 4 percent of their exports. When talking about production compared to the EU, the Serbia’s only really significant products are raspberries, plums, and soybeans; maize accounts for about 11 percent and peppers for about 7 percent of European production. Because of its relatively small size, Serbia has little opportunity to influence EU markets and instead must adapt to the prices and quality standards that it finds there.

148. Most Serbian agricultural production is characterized by relatively low yields per hectare (ha) or per head and disproportionately high inputs, particularly of animal feed. The poor technical performance is partially offset by low wages, but as the non-farm economy develops, the expectations of farmers and agricultural workers will rise, with the risk that Serbia will become a relatively high-cost, uncompetitive agricultural producer. If this outcome is to be avoided, agricultural performance must develop at least as rapidly as the rest of the economy.

149. Food processing in Serbia presents a very mixed picture, with a number of impressive modern facilities operating alongside numerous small traditional processors whose main strengths are low labor costs and the flexibility of a family-run business. Probably the greatest challenge for processors will be to meet ever-rising EU quality standards; as long as Serbia is largely protected against imports, there is little pressure to improve quality, but there will be little growth of exports until this problem is addressed.

150. Food marketing is changing, particularly with the rapid growth of supermarket chains in urban centers, but many aspects are still uncompetitive and inefficient. Improvements will be necessary here to ensure that EU accession brings about a two-way

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²⁵ For a detailed discussion of this point, see below, “Evaluation of Serbia's Agricultural Policy Response.”
flow of goods, not just the rapid penetration of Serbia’s market by international chains selling imported goods.

151. **Trade liberalization has created the conditions for Serbia to become a net food exporter.** The EU responded rapidly to the democratic changes in Serbia by unilaterally granting it "Autonomous Trade Preferences" in November 2000, that allow tariff-free exports to the EU of almost every agri-food product. However, traders soon discovered that tariffs are just one part of the story, and the last decade has been one long learning process as producers, processors, and traders struggled to meet the demanding EU market and sanitary standards and also establish their niche in a highly competitive market. The Stabilization and Association Agreement (SAA) Serbia signed with the EU in 2008 changed the trading relationship from one of unilateral concessions to a bilateral agreement, under which Serbia must progressively reduce its tariffs on imports from the EU from a starting average of 19 percent to a final average of just 1.7 percent by 2013.

Figure 2.28: Trade in Agricultural Products in Serbia, USD millions

![Trade in Agricultural Products in Serbia, USD millions](source: Serbian statistical office)

152. **Serbia further improved its trade position through bilateral negotiations with each of its neighbors, now largely embodied in the eight-country CEFTA agreement, and is currently in the final stages of accession to the World Trade Organization.** In regional and international trade it is again true that tariffs are not the only issue. It is probably fair to say that for both imports and exports, Serbia’s trade is now affected more by nontariff barriers than by tariffs themselves.

153. **Serbian traders have responded positively to the opportunities trade liberalization has brought, although obstacles remain.** From 2002 to 2008, exports grew at an average of 28 percent annually, though for 2008 to 2010 the annual growth rate dropped to 10 percent while imports grew more slowly because of many tariff and nontariff barriers. As a result, Serbia for the first time became a net food exporter in 2005 with a surplus of about US$255 million, which grew to over US$1 billion in 2010. However, this apparently impressive performance can be put in context by considering exports per hectare and by comparison with Serbia’s neighbors.
154. With an average per-ha export value of €385 in 2009, Serbia has lower exports per unit of arable farmland than any EU member state except Romania; the new member states average €800/ha. However, Serbia does rank better than most of its non-EU rivals, with only Croatia delivering better per-ha export performance. Looking at net exports puts Serbia in the top quartile for central Europe, largely because of its very low imports.

155. Considering the rate of growth in exports, Serbia’s annual increase of just under 20 percent is equal to or less than the growth achieved by the new member states. The general picture is thus clear: once a country joins the EU and experiences the almost complete absence of trade barriers in the single market, its exports and imports grow rapidly, both driving and deriving from the profound structural changes that EU accession provokes.

156. The real question for Serbian agriculture, then, is to what extent it is missing the opportunity to enhance its exports, given its farmland potential, geographic position, and the trade concessions it enjoys. Serbian policy-makers have generally sought to maximize exports while minimizing imports. At first this may seem like a formula for success, but in reality it has reduced economic growth in three ways:

- Import barriers have restricted the flow of essential raw materials to agriculture: feed, fertilizer, pesticides, genetic material, and machinery. In some cases these are directly restricted by tariffs, but more often the restrictions take the form of inappropriate and EU-incompatible legislation, excessive bureaucracy, and uncompetitive market structures. As a result, many Serbian farmers have higher input costs than foreign competitors while being denied access to the latest technologies.
- Import barriers encourage Serbian farmers to continue producing import substitutes—goods that Serbia can produce, but that can be produced more efficiently and cheaply elsewhere. Exposed to import competition, these farmers would be forced to either become more efficient or switch their resources of land, labor, and capital into those crops and products that Serbia does best.
- The realities of import barriers—legislation, bureaucracy, limited competition—do not affect imports alone but also impose a heavy cost on internal trade and production, which reduces the efficiency of the entire agricultural sector.

2.4.2. Structural Challenges to Serbia’s Agro-food Trade

157. Serbia is far from fulfilling its potential for agro-food production and trade. Some obstacles stem from policy decisions, such as tariff rates and subsidy regimes (see the next section), but far more challenging are long-term structural issues and the opportunities and challenges of the ever-changing international trading environment. This section looks first at external opportunities and threats and then at the sector’s internal strengths and weaknesses. Finally it identifies missed opportunities where change could have taken place but so far has not.

158. Serbia is on the way to EU membership, at which point its farmers will start to benefit from the Common Agricultural Policy (CAP), face the costs of complying with extensive EU regulation, and experience both the opportunities and the competition of the single market. Agriculture and farmers face the biggest difficulties on the road to EU membership but they are also the ones who will profit the most from Serbia joining. All citizens, as taxpayers and consumers, bear the costs of the CAP, but farmers enjoy the majority of its benefits.
159. **The difficulties farmers have in the pre-accession period are suggested by a drop in the number of farmers in countries preparing to join the EU:** in the five-year period leading up to EU membership, the number of farmers fell by 9 percent in Hungary, 13 percent in Slovenia, and 3.5 percent in Slovakia. Certain sectors, such as dairy and pig production, are affected more than others. On the other hand, the change in farm incomes from 2000 to 2007 shows how much farmers profited from a country’s EU membership: across all 27 EU member states farm income increased by 5.9 percent, and incomes in the new member states increased on average by 90 percent (208 percent in Latvia, 150 percent in Lithuania, 113 percent in Poland, 86 percent in the Czech Republic, and 45 percent in Hungary).

160. **The SAA signed by Serbia and the EU in 2008 will progressively expose Serbia’s market to competition from EU imports.** At the same time, the gradual harmonization of production, quality, and sanitary standards will increase opportunities for trade in both directions. Implementation of the SAA is well under way, and by 2013 the average customs duty on agro-food imports from the EU will have dropped to just 1.7 percent, with most products having no tariff protection at all. Serbia is therefore under considerable time pressure both to meet the conditions for export to the EU and to achieve full membership so that it can benefit from the CAP.

161. **The EU does provide pre-accession support for candidate countries, particularly through its IPARD program** (Instrument for Pre-Accession in Agriculture and Rural Development), but the amount of this support cannot be compared with what a country can receive when it joins the EU. For example, Croatia currently receives €24 million from the EU in pre-accession rural development support, but on accession this will jump to €310 million a year, plus €370 million for Pillar 1 agricultural support. All candidate countries therefore seek to accelerate the accession process so as to minimize the vulnerable period during which they are exposed to EU competition but do not yet benefit fully from EU support policies.

162. **In Serbia's case, the EU liberalization process will be completed in 2013 but accession will certainly take several more years.** Indeed, there is a real risk that Serbia will not fulfill the conditions for use of pre-accession funds by 2013; it would be the first country to have six years of progressive customs liberalization without managing to implement the IPARD program. The EU is unlikely to change either its trade agreement or its IPARD rules to accommodate Serbia, so Serbia must adapt to the reality of the EU by taking at least three specific actions:

- Accelerate institutional development to fulfill the criteria for use of IPARD funds as soon as possible.
- Inform the private sector about forthcoming customs changes so that operators can adapt their business strategies to the new trading environment.
- Adjust agricultural policy and support measures to help producers and processors invest and prepare for the competition that is just around the corner.

163. **Special attention would need to be paid to sectors that will suffer most from liberalization, such as pork and vegetables:**

- With pork, the experience of almost all new member states is that small-scale producers cannot compete with cheap inputs from established exporters like Holland, Belgium, and Denmark or with the new large-scale producers in Hungary. Serbia
traditionally had high tariff protection for pig meat, so liberalization will bring big changes even before accession.

- With vegetables, Serbia’s two main structural weaknesses are seasonality of production, which exposes it to imports of perishable vegetables on either side of the peak season, and a lack of modern storage facilities, which exposes it to imports of storable products throughout the year.

164. Regional and global trade liberalization—including CEFTA, bilateral agreements with Russia, Turkey and Belarus, and WTO accession—will have a major effect on Serbia’s trade until it joins the EU and adopts the Common Customs Tariff. Currently these trade agreements form a complex web, with many opportunities for products to enter Serbia by the back door through a neighboring country that has preferential access to Serbia. As an example, if Serbia imposes a 20 percent duty on a certain product but allows imports from Macedonia at just 1 percent, and Macedonia applies a duty of 10 percent, the effective tariff protection for Serbia becomes 11 percent, not 20 percent. This means that as other candidate and potential candidate countries liberalize their EU trade, they become an additional source of competition within Serbia. Thus even without the SAA, Serbian producers would have found themselves increasingly exposed to indirect competition from the EU.

165. Producers in Serbia will have to adjust to changing consumer behavior within EU countries, whose residents are increasingly ecology-conscious, concerned about food safety, and focused on local products. These trends are causing a growing divide between those who buy the most expensive products and those who buy the cheapest, forcing producers and processors to compete either on price or on quality. Price competitiveness is seen as the domain of big producers, who are being given progressively less customs protection and direct support. On the other hand, enhancing the impression of quality through geographic, ecological, or other marks of origin is increasingly popular with both policy-makers and consumers.

166. These trends represent both a challenge and an opportunity for Serbia, which has many possibilities for enhancing the value of its products through appropriate labeling. Among these is linking geographic or ecological branding with nature, folklore, and traditions, but for this to happen, policy makers will have to provide producers with mechanisms to certify their products as Organic, IPM, GI, PDO, Global Gap, etc. Doing this effectively requires not just new laws but also functioning institutions and good dissemination of information to producers and processors.

Internal Strengths and Weaknesses: Structural Development of the Sector

167. Serbian agriculture set out on the road to reform in 2000, encouraged by a decision of the first democratic government that the economy should function on market principles based on private capital, and that the country should be integrated into the EU and thus its agriculture into the CAP. Although many compromises with the original decision have been made, several market chains have been established; the markets for inputs, machinery and equipment, land, and credit are all being built; and structures have begun to change.

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26 In this example, only goods of Macedonian origin would be entitled to enter Serbia at the preferential 1 percent rate, but Macedonia’s lower tariff protection would reduce its market prices and hence the price of its exports to Serbia. It is also not uncommon for a small step of additional processing to allow goods to take on a new nationality.
168. The markets for inputs, machinery, and equipment have evolved in response to clear demand after a decade of almost zero investment in the agricultural sector. Demand was low throughout the 1990s due to economic crisis in the country, high inflation, limited export opportunities, and the generally low profitability of agriculture. Policy focused on food security and the large number of farmers who produce for their own needs and for local sale. Also, few farmers were in a position to invest, since the banks did not offer agricultural credit and the state did not subsidize investments.

169. After 2000, with macroeconomic and political stabilization demand for investment in agriculture surged, leading to rapid establishment of input-supply companies with offices throughout the country. However, there remains a need for refinement of this market by, e.g. removal of customs duties on inputs and direct action to increase competition. Grants and subsidies for agricultural inputs, such as the current fertilizer program, will need to be delivered in ways that promote rather than hinder competition. The policy goal needs to be to provide every producer with choice in the purchase of seed, feed, fertilizer, pesticides, and machinery, and to allow all companies to operate equally in the market.

170. The government has moved actively to develop a market in agricultural credit, and has set up credit lines disbursed by several competing banks. This has led to the growth of rural bank branches and an increase in bank understanding of rural finance, so that farmers now comprise a significant proportion of bank loan portfolios. With this new access to credit, farmers are increasingly rejecting the traditional barter deals, whose hidden interest rates often make them far more expensive than bank loans.

171. However, many farmers still use barter, family borrowing, or other alternative sources of financing, or simply do not invest in agriculture at all. The investment needs are huge, first to make up for Serbia’s “lost decade” and then to prepare for joining the EU; they are far higher than most farmers can achieve out of retained earnings and production subsidies. There is thus a pressing need to bring substantial new funds into the agricultural sector and to continue to build up both sides of the credit market so that the process is as efficient and effective as possible.

172. Over the last 10 years the land market in Serbia has developed more than in the previous 50 years, but development has too often been accompanied by compromise. The economic goal for a land market is to ensure that land is managed by those who are most capable of using it efficiently, i.e., the individuals and companies who can earn the most by cultivating it. Land is always an emotional issue, and any national land policy tends to be a compromise between economic goals, social goals, and vested interests, but there are some countries where this market is dynamic and competitive and others where it is static.

173. Serbia has a reasonably well-developed lease market but a rather poorly developed sales market for land. Land owners tend to favor the low transaction costs of rental and shun the permanency of sale, preferring to hold onto their land as insurance in case they lose their jobs or the economy again collapses, and very low land taxation rates give no incentive to sell. Potential land users often prefer the short-term commitment of leasing rather than making a large long-term investment in a climate of uncertainty, and the credit market has not yet been extended to mortgage financing for land purchase.

174. The key policy step in the land market was the Law on Agricultural Land, which put on the rental market significant state land resources that previously were generally underused and for which rent was not paid. However, implementation of this law has run into obstacles, such as unfinished restitution and lack of capacity to manage the tendering and
rental process, not to mention political resistance and local vested interests. This is why, although significant steps have been taken, there are still severe challenges to be dealt with in building this market.

175. **With the land market beginning to function, it has now become possible for farms to develop in ways that were not possible during the socialist era; the more efficient and ambitious farmers can now expand through land purchase and rental.** One consequence is the gradual but noticeable emergence of a new class of private commercial farms, many of them fully up to the best European standards, taking full advantage of modern technology and funding possibilities and expanding whenever opportunities arise. On the other hand, most production sectors are still dominated by large numbers of small farms producing in traditional ways and marketing either through informal channels or supplying processors from a weak bargaining position. Even formal market and processing structures are heavily dependent on a large number of very small suppliers; as an example, almost 60 percent of milk deliveries to dairies come from farms with five or fewer cows.

176. **Such a structure is not unusual in transition economies, but the economic options for small farmers are very limited.** Some small farms do manage to expand, but a farmer with limited education, little access to capital, and no connections must struggle to rise above semi-subsistence level.

Opportunities Missed and Weaknesses Ignored

177. **Agriculture in Serbia is characterized by a very large number of primary producers all competing with each other, and a generally undeveloped food processing sector with little local competition.** There has been very little FDI in food processing, with the notable exception of the privatized sugar refineries, and there has often been resistance to the idea of selling a Serbian business to a foreign company. Most food processors are still family SMEs, often developing enthusiastically within their capabilities but generally focused on providing traditional products to the domestic market.

178. **Consequently, food processing has developed more slowly in Serbia than in central Europe, and Serbia has so far achieved little penetration of European supermarkets—in stark contrast to Poland and Hungary, where over 70 percent of agricultural processing capacity has passed to foreign companies, which place their products in supermarkets throughout the world.**

179. In Serbia, most investments in the food industry were made during privatization in the nineties or right after the democratic changes, and the process of privatization was structured so that most sales were to domestic investors. Also, many manufacturers chose to control their own production rather than contracting with farmers for raw materials. Several of the biggest retailers also chose this approach and established large cattle, pig, and fruit farms to supply their stores. This is especially common in the meat sector, where prices fluctuate markedly and quality standards matter hugely. Thus, the biggest trading companies in Serbia also have the biggest farms for producing meat. This means they secure access to raw materials at relatively constant prices, but it results in farmers being excluded from the retail chains and seeing their market opportunities diminish rather than expand.

180. Apart from these integrated production-and-trade companies, a number of other companies also chose to establish large farms rather than buy from farmers. This is creating a system of vertical integration similar to that in former Yugoslavia, with the
difference that the owner is a private company rather than the state and there is now no organized system of cooperatives to purchase from smaller producers. A major weakness of the former Yugoslav system was that prices were not determined transparently, and small producers had little choice or bargaining power; the risk is that today’s developments will lead to a similar situation.

181. If Serbia wants to increase the value of its agro-food production and exports, it will need to better organize the marketing chain and attract investments in storage and food processing in ways that foster competitive price formation and offer small producers a choice of market outlets. To achieve this it will be necessary to eliminate the many barriers to investment that affect the business climate for every sector (property rights, administrative procedures, tax environment, equal rights issues, the education system, legal security, etc.), as well as those directly connected to the food-producing sector, such as price stabilization, market openness, respect for contracts even of low value, reducing the grey market, even-handed implementation of food safety, and predictability of support measures.

182. Informal markets play a major role in Serbia, with a high proportion of most products consumed or processed on the farm or sold direct to neighbors or through farmers markets. Products that reach consumers through these short informal routes substitute for imports and make a highly significant contribution to the balance of payments, household income and the food security of some of the poorest members of society. One of the challenges for Serbia is how to preserve the strengths of this traditional system while ensuring food safety and building up the processing and marketing chains that will be required for long-term competitiveness within the EU.

183. Informal marketing channels may be a vital safety valve for small-scale producers who depend on sales of fruit, vegetables, and dairy products for much of their household income. Typically producers using these market routes are older, and as they gradually retire from agricultural production the informal market will tend to shrink. But an increase in enthusiasm for local and “ecological” products could promote a resurgence of interest in farmers markets.

184. Small processors like dairies often perform an important local service as the only buyers from farmers and sole suppliers of fresh products to shops in remote areas. The rapid imposition of EU standards could force such processors out of business, with detrimental knock-on effects, and so would be politically unacceptable and impossible to enforce.

185. Meanwhile, larger producers and processors have to begin now to prepare for EU standards and competition, so they require EU-compatible regulations phased in appropriately and then enforced equitably. Progressive and effective restructuring of the marketing chains will require a careful and well-monitored approach to the introduction and enforcement of legislation and food standards, one that sets out clearly which obligations apply to which sizes and types of operators at each phase of the process. The judicious use of IPARD funds and national measures to support upgrading can also help to make the transition less painful and politically more realistic.

186. The potential for on-farm improvement is massive: recent research suggests that milk yields could be doubled, cereal yields increased by 50 percent, and gross margins for the arable sector doubled. Fulfilling this potential will require changes in the behavior of Serbia’s hundreds of thousands of farmers, and extension is central to promoting such change. Serbia’s extension service is only now emerging from 20 years of neglect and
uncertainty and still requires major reform, as well as considerably more funding, if it is to help farmers fulfill their undeniable potential.

187. After several years of uncertainty, the state has recently taken over the Agricultural Stations that comprise Serbia’s extension service, and World Bank funding has been used to start upgrading their capacities. However, the service remains highly politicized and more focused on institutional survival than on catalyzing change in farmers’ behavior, and it is clear that much more reform is required. The efforts of state advisors are also split between purely advisory work and serving as the Ministry’s field force for various administrative functions, such as assessing the genetic quality of livestock submitted for subsidy payments.

188. Another major risk is that across the region the pressure for extension services to help implement EU measures, such as IPARD grants or cross-compliance checks for subsidy payment, will almost entirely squeeze out their core advisory work. The European Commission, with its memory of food mountains and burgeoning budget costs for storage and disposal, has little interest in helping farmers increase production, but the reality is that most former Yugoslav states have a lot of catching up to do before they can compete equally with their EU neighbors, and there is still a great need for traditional agricultural extension. Since the EU is unlikely to fund or even encourage such initiatives, the Serbian government must be determined to meet the needs of its own farmers and rural population.

189. A number of other extension service providers are now operating alongside the state system, including the Rural Network and several private companies. Such diversity and competition is good for the whole system, but there is a pronounced tendency for private advisors to concentrate on larger farmers and on specific topics, such as pest control and the preparation of business plans and credit applications. Thus there is a need for public as well as private advisory work, delivered through competitive and efficient, demand-driven extension services. The challenge for government is how to manage a pluralistic system; its current proposals for licensing advisors are far more likely to stifle competition and innovation than improve quality.

2.4.3. Evaluation of Serbia’s Agricultural Policy Response

190. This section looks at how the Ministry of Agriculture and other government institutions have responded to the structural needs and changing environment of agro-food sector, and asks whether current policies are the best means to achieve society’s goals for agriculture.

Trade Policy

191. At 33 percent the average tariff for agricultural products entering Serbia is fairly high. This distorts domestic production in two ways: (1) Agricultural exports are indirectly taxed as protection of exports increases, since farmers have more incentive to produce import substitutes than exportable goods. (2) Theory shows that higher average tariffs counteract currency devaluation; without tariffs, the currency would devalue, which would encourage exports. Both effects cause more production of import substitutes than does free trade, so resources are shifted away from the production of exportable products. Therefore, the agricultural trade surplus would be higher if the average tariffs were lower. Moreover, society would be better off if Serbia could take better advantage of the international division of labor.
The great variation in rates of protection, which are highest for meat and meat products, stems from a combination of the following current measures:

- Ad valorem duties of 1–30 percent
- Special charges (“specific duties”), currently specified in dinars
- Seasonal duties of an additional 20 percent ad valorem, applied between specified dates
- Export subsidies
- No quantitative restrictions (other than an export quota for hides)

Effective protection has been reduced in recent years by a large number of trade agreements. The CEFTA (Central Europe Free Trade Area) agreement allows for almost free trade for most products among its Balkan and East European members. The SAA with the EU is increasing in importance: Serbian exporters already have duty-free access to the EU market for unlimited quantities of all agricultural products except veal, wine, and sugar, for which tariff rate quotas apply; Serbian tariffs on EU imports are being phased down from an average of 19 percent to just 1.7 percent by 2013, though a considerable number of products will have markedly higher protection, while others will drop to zero duty. The effect of the agreements is mirrored in the concentration of trade flows: CEFTA countries and the EU are Serbia’s main trading partners.

Tariff policy has a number of practical implications for customs control. Whenever an ad valorem duty is applied, the importer is tempted to reduce the invoice value (examination of some actual trades found examples where the declared CIF import price was lower than the FOB export price, rather than vice versa, as would normally be expected). When tariff rates differ for visually similar products, there is an additional temptation to misdeclare the goods (for example, there is zero duty on durum wheat imported from the EU but soft wheat has a duty that is gradually decreasing from 30 percent to 15 percent, making it tempting to declare soft wheat as durum). The large variance in tariffs also implies relative protection of some domestic products and taxation of others, with occasionally serious negative effects. For example, pasta can be made either from durum wheat or from soft wheat and eggs; the lower duty on durum provides an artificial stimulus for the former pasta product.

Export Subsidies

Serbia supports the export of specific agricultural products by subsidizing the traders who carry out the export, using a mechanism carried over from the time of socialism. If there is a surplus on the domestic market, the fund that investigates the market situation for the product in question provides pricing information on domestic and foreign markets and suggests the size of the subsidy per unit. The Ministry of Agriculture then checks how much of the export subsidy it can actually finance and establishes the subsidy.

Both the export subsidy itself and the procedure for setting it create problems:

1. The level—even the existence—of export subsidies varies from year to year, depending on market conditions and government budget. The uncertainty makes it hard for exporters to establish viable long-term trading relationships based on regular delivery and consistent product quality.
2. Export subsidies encourage businesses to produce goods even if production costs are higher than the price in export markets, because the export subsidy covers the
shortfall. Thus Serbia as a whole loses money by producing quantities of products that can only be exported if subsidized. It would be better off if they were simply not produced.

3. It is not really possible to set export subsidies for specified qualities of a product, so the amount has to be the same for a range of similar yet heterogeneous products. Consequently, traders that manage to find a niche market for high-quality products are less supported than those that export low-quality products.

4. The complex and opaque mechanism for allocating export subsidies can result in all the funds going to a small number of traders, who may be able to pocket them rather than passing a share back to suppliers through higher purchase prices.

Trade Distortion

197. **Agricultural trade policy is not efficient.** Worldwide experience proves that trade is an engine of growth. If domestic producers and consumers are confronted with undistorted import and export prices, they are likely to act in a way that is domestically most acceptable. However, because the combination of import tariffs and export subsidies distorts many price signals within the Serbian agricultural sector, it distorts the patterns of both production and consumption, lowering GDP.

198. **Import tariffs may seem to benefit the country because they protect some producers and generate customs revenue, but the true cost is paid by domestic consumers, and the structural distortions reduce the economic value of total production.** For example, protection of less-competitive vegetables and fruits ends up as implicit taxation of raspberries and plums and so lowers production and exports of products in which Serbia is genuinely competitive.

199. **The rationale for the diversity of product tariff equivalents and export subsidies is not clear.** The schedule seems to have evolved over time in response to short-term problems and lobby interests. Import protection for some products (e.g., maize) is totally redundant, because Serbia is a regular exporter of these products. For other products, the high tariff rate is redundant because imports from countries that have preferential access to the Serbian markets determine the domestic market price.

200. **Serbia has taken major steps to change its foreign trade regime.** One milestone is the commitment to the WTO to reduce tariff rates and abolish export subsidies and specific import duties, though the agreement is not yet in place. Both the CEFTA agreement and the SAA with the EU are more important because they lead to significant reductions in tariff levels generally. However, a uniform tariff rate would elicit the most benefit from these trading agreements, which should be borne in mind when any agreement comes up for renegotiation.

201. **It is a major weakness of both the CEFTA agreement and the SAAs that they do not make it a specific condition to phase out all export subsidies.** It is absurd that two countries bound by a trade agreement will each pay their traders subsidies to export to the other. This issue deserves more attention throughout the region.
Nontariff Barriers

202. Nontariff barriers to trade are of great importance for Serbia; for most trade in the region and with the EU, they are now more significant than actual duties and subsidies. Nontariff barriers affect both exports and imports, and there are many of them.

203. First, barriers are imposed by an importing country’s quality, safety, or market criteria for a specific product. Of particular importance are the veterinary and sanitary standards applied to trade in most meat and dairy products and the phytosanitary standards affecting trade in some vegetables (particularly potatoes). The EU heavily emphasizes controls in production and processing in the country of origin; Serbia has traditionally focused on laboratory tests of consignments arriving at the border. The resultant costs and delays reduce trade in both directions, and the economic loss for Serbia seems likely to be high, though it has never been quantified. Nevertheless, reducing these barriers is very important in order to fully exploit the benefits of trade; this will require joint action by government and the private sector. On the day that Serbia accedes to the EU, it will have to drop all its national import controls and other barriers, and its exporters will have to comply with EU regulations.

204. Second, the transaction costs of international trade are too high, for several reasons. One main determinant seems to be direct and indirect government controls. A special case is bottlenecks in testing imported goods, such as seeds. The present procedure not only has financial costs for the imported, it also creates uncertainty and reduces the speed of trade flows. The speed of trade flows is of major importance in international trade. A comparison with Slovenia (on costs) and Austria (on costs, but particularly speed) reveals that Serbia has much to do to expedite trade flows and diminish trading costs (Table 2.26).

Table 2.26: Trading across border

<table>
<thead>
<tr>
<th></th>
<th>Serbia</th>
<th>Slovenia</th>
<th>Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documents to export (number)</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Time to export (days)</td>
<td>12</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Documents preparation</td>
<td>2</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Customs clearance and technical control</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ports and terminal handling</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Inland transportation and handling</td>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Costs to export (US$ per container)</td>
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<td>710</td>
<td>1180</td>
</tr>
<tr>
<td>Documents to export (number)</td>
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<td>5</td>
</tr>
<tr>
<td>Time to export (days)</td>
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<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Documents preparation</td>
<td>6</td>
<td>11</td>
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<td>Customs clearance and technical control</td>
<td>2</td>
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<td>Ports and terminal handling</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Inland transportation and handling</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Costs to export (US$ per container)</td>
<td>1559</td>
<td>765</td>
<td>1195</td>
</tr>
</tbody>
</table>

205. In terms of the time needed for imports and exports, Serbia is slower than Austria but faster than Slovenia; however, its costs are double Slovenia’s and about 25 percent higher than Austria’s. When costs in low-wage Serbia are higher than in high-wage Austria, there is clear potential for significant reductions in importing and exporting costs, which would benefit to many parts of the Serbian economy.

206. The whole logistical chain, not just border procedures\(^{27}\), affects the speed of trade flows. This can be very important for perishable products such as raspberries, often held up as a Serbian export success story. But while Serbia occupies third place in the world in terms of the volume of its raspberry exports, its share of trade value is much lower, because its exports consist almost entirely of low-value frozen berries.

**Domestic Agricultural Measures**

207. Serbia’s process for making agricultural policy is not fully consistent with a rational policy process in a modern market economy, in terms of both formulating and adopting policies. In adopting policies, the ministry is the main player and the parliament is only involved in the sense that it approves the overall budget and passes the primary laws that govern the agricultural sector. The Ministry of Agriculture has considerable discretion about how the budget is used and may even terminate some policy measures and introduce new ones with parliament having only a marginal role, if any.

208. In terms of policy formulation, new or amended policy measures are not based on ex-ante assessment of new measures or a rigorous assessment of previous policies. There is no mechanism for evaluating official or public policy, and there is no open policy debate except when a new law is brought before parliament. As a result, policy decisions are not taken on the basis of evidence and analysis. In other countries, like in Germany, for example, a 1969 law (Haushaltsgrundsätzegesetz) requires a cost-benefit analysis for all policy measures that have significant financial implications; hence, it is rare that measures are introduced for which the budget item is far too small, as occasionally happens in Serbia.

209. The present policy-making process leads to unstable agrarian policy and thus creates uncertainty. Political instability leads to frequent changes in most ministries. Moreover, because their constituency can be more clearly identified than for most other ministries, many Ministers of Agriculture interpret their job as being to represent the interests of farmers, rather than the interests of the country where farming is concerned. When it comes to questions of pricing and subsidies the difference can be very important.

210. Understandably, incoming ministers introduce changes in the allocation of expenditures, but without a reliable policy process these can result in large and unpredictable swings in allocations. The minister now in office is the seventh since 2000 (a new minister about every 20 months). As a consequence, there is continuous uncertainty for farmers, food processors, and input suppliers. This uncertainty is a substantial obstacle to investment, so that even policies that help make agriculture more profitable may not stimulate the expected additional investment because farmers are not certain whether a policy will remain in place for the life of the investment.

**Area Payments**

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\(^{27}\) See the last chapter of this report for more detailed analysis of logistics related issues that Serbian business face.
The agricultural budget is dominated by area payments, which accounted for over 80 percent of the 2010 budget (see figure below). Area payments scheme is one of the means of financial support to individual farmers with arable land between 0.5 and 100 ha. It is aimed to subside spending on fertilizers (up to RSD 6,000 per ha); seed (up to RSD 4,000 per ha) and diesel fuel (up to RSD 4,000 per ha). As it is paid against input receipts only it is actually an input subsidy. Despite their economic impact, the rationale for them is not clear, their implementation unpredictable, and the number of beneficiaries very limited. Like most Serbian agricultural policies, the area payment scheme is hard to predict and liable to be changed at any time. The area payment, introduced in 2007, was set to change again in 2011, but as farmers planted their spring crops nobody was sure how much support they would receive for them, or for crops planted the previous autumn. Because the scheme has always been limited by the availability of budget funds, the eligibility criteria have been progressively narrowed to try to fit within the budget. Obviously, a farmer is not likely to make long-term investment decisions that are in any way dependent on future area payments.

No official statement lays out the rationale for area payments, though it appears that the measure was originally considered as a type of decoupled income support, in line with EU direct payments. However, EU direct payments have a very different history and came into being for a specific reason: They were introduced in 1993 to compensate for reduced price support when the McSharry Reform sought to move EU market prices closer to world levels. EU direct payments are also linked to environmental effects and to observance of other EU regulations through a principle known as cross compliance. In contrast, there was no decline in agricultural price support in Serbia that led to the introduction of area payments, and the main EU rationale for direct payments does not apply.

Figure 2.29: Structure of Serbian Agrarian Budget by Type of Measures (planned)

Source: Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, consultants calculations

A second reason sometimes put forward is that because Serbia will need to implement the single payment system after accession to the EU, it is important to begin putting it into practice now. While Serbia will indeed need to put in place whatever CAP support systems apply on accession, its priority for now is to establish an accredited paying agency, for which the trial run in every accession country is the IPARD program, not a national system of area payments. On accession to the EU, Serbian agriculture will benefit from substantial EU support but it will also have to implement the “one size fits all” CAP and
will lose the flexibility to target funds to its own priorities. By spending the majority of its agricultural budget on area payments now, Serbia is wasting a unique opportunity to invest in vital restructuring of its agricultural sector.

214. **Since the budget has never been sufficient to pay all those who cultivate arable land, the eligibility criteria have been steadily narrowed.** As of late 2011, the following rules apply:

1. Beneficiaries must pay into the pension fund, but subsistence and semi-subsistence farmers tend not to pay because the benefit is less than the cost. Hence, this large group of farmers (about 80 percent) are excluded as beneficiaries.
2. Farmers have to be registered. In Serbia there are about 778,000 farms, but only 450,000 are registered. Once again, it is smaller farmers who tend to be excluded by this rule.
3. Payments are only made on arable land up to 100 ha; area above this gets no support.
4. Legal entities other than individuals (who cultivate one-fifth of all arable land) are excluded.

215. **As a result, in 2009 just 74,901 farmers were granted area payments: one-sixth of all registered farmers and just one-tenth of the total identified by statistics.** This figure can even be considered on the high side: a significant number of farmers in Serbia are known to possess several farms and register each separately to avoid the 100-ha limit\(^{28}\), which again reduces the number of users and increases the average subsidy per beneficiary.

216. **The level of support is high, both by Serbian standards and in comparison with other countries.** A farmer needs just 28 ha to receive an area payment equivalent to the average Serbian salary, without counting profit from farming activities, and the beneficiaries of support tend not to be the poorest members of the rural population. As a European comparison, the average Serbian area payment of 160,000 dinars (about €1,600) looks very high compared with averages for all CAP support measures of €245 in Romania, €1,968 in Slovenia, and €1,065 in Poland.\(^{29}\)

217. **The procedure for claiming area payments further reduces positive effects.** Payment is connected to submission of receipts for the purchase of seed and fertiliser, and it is specified how much of these the farmer should be purchasing. This seems to reveal the operating model of the decision makers: farmers who receive payment do not know how best to use it and so the government must force them to spend the money in a specific way. However, according to unofficial information, some farmers respond to the restriction by selling on their right to subsidy, though at a heavy discount.

218. **Area payments distort the domestic production pattern and reduce the welfare of society.** One explicit objective of the Serbian government is to improve the competitiveness of the agricultural sector and the economy as a whole. Area payments are in direct conflict with this objective for two main reasons:

- The de facto targeting of support to larger farmers tends to exclude many producers of fruit, vegetables, and grazing livestock—all products in which Serbia has competitive

\(^{28}\) The fact that some beneficiaries have registered more than once is supported by the distribution of payments in relation to farm size. The number of beneficiaries declines with the number of farm sizes up to 80 ha and increases significantly for 80 to 100 ha. This clearly shows that beneficiaries have split up farms over 100 ha.

\(^{29}\) Farmsubsidy.org.
potential. It may even withdraw scarce capital from these potential growth areas and re-direct it to lower-value arable production.

- Area payments are constant regardless of yield or product quality, so the farmer’s income becomes less related to technical performance and awareness of market demand, which reduces incentive to farm better. This form of subsidy supports the status quo at a time when Serbia urgently needs to encourage change.

Subsidy for Milk

219. The subsidy for milk producers may have been well-intentioned, but its effects are questionable. The idea was to support dairy farmers by setting a higher price, thus encouraging farmers to sell their milk to dairies rather than at farmers markets and encouraging herd size expansion (Cardno 2010). The measure has been in force for many years, and originally all producers of milk were entitled to a certain amount of money per liter of milk delivered to a dairy. The original subsidy was approximately equal to the VAT charged on dairy products sold through official channels but not levied at farmers markets, though that does not appear to have been specifically taken into account when setting the subsidy rate.

220. Milk in Serbia travels from the farmer to the consumer along a number of different routes, with about 65 percent delivered to dairies and 35 percent marketed through informal channels. The formal dairy market can currently be divided into:

- Dairies that operate at or close to EU standards, including testing raw milk and full Hazard Analysis & Critical Control Points (HACCP) control of the manufacturing process. Whilst most medium and large dairies now have HACCP certification, only a few test all their raw milk for hygiene; currently less than 40 percent of the total milk supply to dairies is tested.
- Dairies that fall far short of EU standards, particularly in relation to raw milk quality.

221. The main informal channels are:

- Direct consumption of liquid milk by the farm household and relatives (7 percent). This will probably remain beyond official control.
- Direct sale of milk to neighbors, in local villages, or at farmers markets (6 percent), though this is actually illegal. Its health risks are similar to those of direct consumption by the farm family, but it is generally agreed that consumers who purchase a product should have reasonable guarantees of its safety while those who consume a product that they produced themselves accepts the risks involved.
- Processing on-farm into products such as cheese and cream (in Serbian – *kajmak*), which are then used in almost equal thirds for household consumption, direct sale, and sale through farmers markets. Farmers markets are regulated by local authorities and subject to sanitary control, though less than in formal dairies. By processing milk and then selling the products, a farmer can roughly double the income from a given quantity of milk, which can make a significant difference to the poorest families.

222. The milk subsidy could have been used to encourage processing and marketing of milk through hygienic channels by favoring deliveries to dairies over informal marketing, and favoring dairies that implement EU standards over those that do not. However, it has largely failed to achieve these goals because of:
• Frequent changes in budget and in implementation of the policy
• Addition of a new policy objective—encouraging farmers to register their holdings and open bank accounts—without thinking through how this would affect operation of the policy
• Failure to link subsidy payments to milk quality.

223. **Policy instruments need time to achieve the desired effects, and the milk subsidy is no exception.** Frequent changes to policy create uncertainty that affects the reaction of farmers. The history of the milk subsidy is typical of Serbian agricultural policy: shortly after having introduced the measure, in 2006 it was found that the budget was not available to continue unless the system was changed. The number of farmers who were entitled to receive the subsidy was then reduced: First, only registered farmers were qualified, then only those who delivered at least 2,500 liters per quarter, and later only those who delivered at least 4,000 liters. Legal entities were excluded, and finally individual producers could only be subsidized up to a maximum of 3 million liters. The total amount of subsidy paid has been reduced from year to year. In 2004 it was 3.3 billion dinars (€33 million) and 26 percent of total subsidies; in 2009 it had fallen to 700 million dinars (€7 million) and 4 percent of total subsidies.

224. **On-farm processing is the province of the small-scale producer.** Large dairy farmers have little alternative but to sell their milk to a dairy; if the subsidy is to encourage deliveries to dairies, it must target or at least include small producers. The stipulation that farmers must register with the Ministry to receive milk or other subsidies immediately cut out many of the smallest dairy farmers, and the introduction of minimum quantities worsened this effect. The approach could conceivably have had some rationale if the policy targeted herd enlargement, but it was clearly counter-productive in terms of diverting milk from informal to formal channels.

225. **The subsidy has always been paid on all milk delivered to dairies by qualifying farmers, regardless of whether it meets EU or national quality standards.** In part this is because the ministry has still not succeeded in establishing national capacity for testing raw milk, despite offers of international support to both design and help fund such a system. Thus if a dairy invests in its own milk-testing laboratory and rejects substandard milk, the farmer can simply deliver it to a competing dairy where it will not only be accepted but also qualify for the milk subsidy.

226. **While the milk subsidy is generally viewed as a form of support to farmers, the reality is more complex.** The supply of milk is moderately elastic, but the demand is rather inelastic, so a substantial proportion of the total subsidy will be passed on to consumers in the form of lower milk prices. Although reducing the cost of such a staple food item might fit with Serbia’s social policy goals, that is not the primary goal of the milk subsidy. In addition, the lowering of milk prices affects all dairy farmers, including those who are not subsidized, so they are actually slightly worse off than if there were no milk subsidy at all.

227. **The effect of the present milk subsidy system is highly questionable.** It attempts to pursue too many goals—encouraging farmers to register with the Ministry, deliver their milk to dairies, and expand production—and does not achieve any of them. It favors larger farms and penalizes the poorest. It has been the experience of most new member states that bringing their dairy industries up to EU standards was among the most difficult and expensive challenges of the accession process; a well-targeted milk subsidy could make a real contribution, but the current subsidy does not.
Subsidy for Quality Breeding Animals

228. Development of the livestock sector is also supported through measures to encourage the genetic improvement of livestock through per-head payments when breeding animals of specified genetic quality are brought into the flock or herd. The farm must be under the control of an approved livestock selection service, which is responsible for assessing the quality of the new animal, according to the Law on Livestock. The incentive for high-quality cows added to herds of at least five cows (four in less favored areas) up to a maximum of 100 cows is 25,000 dinars (€250) per heifer, paid in two equal installments. The 2010 agricultural budget allocated 700 million dinars (€7 million) for this program. To qualify, the farm must participate in a livestock recording and selection program run by a local organization under the regional supervision of the state extension service and the overall control of the Livestock Institute.

229. This subsidy appears to have a positive impact by encouraging adoption of new technology, though there are ways in which it might be improved:

- The scheme sends the message that the most important issue for livestock farms is the genetic quality of their stock. Research shows that this is generally not the most important issue. Livestock performance on the majority of farms in Serbia is limited by feeding rather than genetics. While genetic improvement should always be pursued, a change of emphasis toward better feeding would bring much faster productivity gains.

- The link to minimum herd and flock sizes is designed to encourage expansion and help address the serious structural problem of Serbia’s many small herds. However, there is no requirement that the new animal be a net addition to the herd; it may simply replace an older animal that was culled. A specific measure to encourage herd enlargement could take account of final herd size, not just how many new animals are introduced.

- The mechanism for implementing this measure would also merit review. It currently requires a farm visit from the local livestock association to inspect the animal and check its documentation. Some farmers have claimed that the costs of this service, plus their compulsory participation in the recording service, take back a significant proportion of the total subsidy. The mechanism has been in use for many years, but now that Serbia has a functioning cattle identification and registration scheme, it might be possible to move to a documentary check based on the certificate of insemination without a farm visit. Ideally, though, review would look at the entire system of livestock recording and selection to ensure that it makes use of the latest genetic knowledge and offers good value to both farmers and taxpayers.

Credit Subsidies and Investment Grants

230. The Serbian government used to heavily intervene in the rural finance market (Zivkov 2010), but the budget allocation for this has plunged in recent years, from 27 percent of the total agricultural budget in 2005 to just 1.5 percent in 2010. The rural finance market is still underdeveloped though credit is essential for restructuring the agricultural and food sector and increasing its productivity. It therefore seems an obvious target for government support, but any government that chooses to intervene in the credit market must tread very carefully to avoid doing more harm than good.
231. The starting point in 2004 was that most farmers did not use bank credit, and so either did not invest or obtained their financing through barter deals that often concealed very high rates of interest. Many factors contributed to this situation:

- Most farmers did not have bank accounts, and many were distrustful of banks (or anything that seemed to bring them closer to authorities) and the tax system.
- Farmers had almost no experience in preparing business plans, very few kept accounts on which to base such plans, and there were very few private or public services that could help farmers make business plans and apply for credit.
- The poorly developed market in agricultural land, together with many unresolved issues of land ownership and registration, meant that farmland was generally not accepted as collateral; when a farmer did succeed in obtaining bank credit it usually had to be backed by a mortgage on an urban property owned by him or put up by family or friends.
- Interest rates were very high, at least in nominal dinar terms.
- Most banks had few rural branches and little or no experience in assessing farm investment proposals.
- With few farmers having any formal credit history, there was little information to help banks assess whether a farmer was likely to repay.
- The total supply of credit was very limited. Credit is always a scarce resource, and in Serbia banks saw little reason to enter the new and uncertain market of agricultural finance when they could easily lend all their available funds to better-known borrowers.

232. The government sought to address these problems through an agricultural credit program that had four main elements:

- Allocation of a quantity of new money specifically for agricultural credit, thereby increasing the supply
- Subsidizing the interest rate on both this money and the matching funds of participating banks, to lower the cost to farmers
- Providing guarantees for 80 percent of the credit, to make agricultural lending less risky and more attractive to banks
- Distributing the funds through a number of commercial banks, to stimulate competition in rural finance.

233. In parallel, the farm registration policy required farmers who wanted to receive direct state subsidies to register with the Ministry and open a bank account. In general the goals of the program could be described as putting more farmers in touch with banks, and more bankers in touch with farming.

234. The risks of any government intervention in the credit market are that

- The subsidized interest rate will encourage farmers to make high-risk or low-return investments they would not make with their own money.
- The credit guarantee will encourage banks to take a less rigorous approach to assessing credit applications and encourage farmers to default, since both know that the government will bear most of the cost of default.
235. The basic statistics for the government-backed credit program look encouraging. Several banks are now very active in agricultural lending and have developed products, systems, experience and a solid client base. Significant amounts of money have been loaned, and by far most of it was repaid on time. However, given the cumulative size of this policy and the over-riding importance of the credit market, it would be good to conduct a thorough review of the policy, adapt it as necessary, and send clear signals to both farmers and banks about what they can expect over the coming years. The largest share of agricultural investment is for orchards, greenhouses, machinery, and buildings, which all have a long lifespan, so it is even more important than usual that policy in this area should be consistent and long-term.

236. Worldwide experience shows that subsidized credit and credit guarantee schemes very often have negative side effects, which is why the Serbian scheme should be carefully and regularly reviewed. However, there may be a case for subsidizing public or “club” investment goods that are too expensive or risky for any one individual or company to make but that on average are profitable for society as a whole. Such investments might be wholesale markets, village collection centers, storage facilities, or machinery pools, all of which help to address identified structural weaknesses and market failures. The forthcoming IPARD program is particularly appropriate for supporting such investments.

237. The IPARD mechanism is totally integrated with bank financing, since selected applicants must obtain 100 percent funding from a commercial bank, make the agreed investment, and finally apply for the grant element (typically 50 percent), to be paid directly to the bank to reduce the loan. Thus successful implementation of the IPARD program will depend as much on the banking system as on the Ministry and its paying agency; this is another reason for review and overhaul of the agricultural credit system.

The Directorate for Commodity Reserves

238. The Directorate for Commodity Reserves (DCR) pursues two rather different objectives: maintain strategic stocks in case of war, natural disaster, or other disruption to supply; and stabilize domestic prices by intervening in commodity markets. This was clearly a useful role during the era of conflict and sanctions, when it built up stocks in periods of high supply and low prices and released them to the market when supply was short and prices high. More than a decade later, the DCR continues to play that role, despite the total change in Serbia’s political and trading relationship with the rest of the world.

239. The goal of stabilizing domestic prices is not possible in an open economy, since whenever an intervention body starts buying to raise prices, imports increase and push prices down again; and when it starts to release stocks to bring prices down, exports increase and prices go up again. The EU has managed to control market prices only by combining domestic market intervention with trade measures; since it begun to reduce import duties and use export refunds (in part due to WTO commitments), the role of market intervention in the EU has dramatically declined until it now exists simply as an emergency mechanism for certain critical products. Similarly, in Serbia the DCR is unable to influence market prices significantly as long as the country respects its numerous commitments to open trade; to manipulate domestic prices the government has to resort to ad hoc measures such as the export bans on wheat in 2008 and spring 2011. Such unpredictable interventions have very negative effects on strategic business planning and international trading relationships; they may even increase rather than decrease price volatility (Figure 2.30). In practice, when governments intervene and start limiting issuance of import or export licenses, usually a
small number of well-connected trading companies capture most of the benefits and the intended beneficiaries, whether farmers or consumers, do not gain much.

Figure 2.30: Price of Pork in EU, Serbia and Croatia, 2005-March 2011, in EUR

Source: STIPS, TISUP

240. **Keeping stocks for food security reasons also has to be reconsidered.** Domestic food security based on food reserves was a reasonable strategy in times of socialism and when the country was less integrated in the world economy. At present, when Serbia has many trade agreements and is well on the way to becoming an EU member, the risk that it will suddenly find itself unable to import vital food stocks is considerably lower. On the other hand, there may be new risk factors, such as extreme weather events or terrorist actions, that should be taken into account when determining the level, nature, and location of emergency stocks.

241. **Despite the major changes to its environment, Serbia still seems to base its food security on the same pattern as in the socialist era.** Apart from the budgetary burden, the DCR’s unpredictable and nontransparent operations create instability and uncertainty for the domestic economy. Food security is a legitimate concern for every government, but it should be subject to the same rules of good policy making as any other area. It is therefore time to review the DCR’s food-security role in light of Serbia’s new economic, political, and market position.

**Policy Decisions Necessary**

242. The preceding sections looked at each individual element of Serbia’s current agricultural support policy and considered how effectively it contributes to the goals defined for the sector. This section looks at agricultural policy as a whole and identifies strategic decisions that must be addressed.
How Big Should the Agriculture Budget Be?

243. The size of a country’s agricultural budget should be aligned with what its people expect from agriculture and with the speed at which it wants the sector to develop, within the ever-present constraint of the total amount of public money available (Table 2.27). Much of Europe and the rest of the world is currently grappling with a public expenditure crisis of unprecedented proportions, and Serbia cannot avoid feeling the effects; now may therefore not be the best time to speak of increasing the agricultural budget. But for the longer run Serbia will have to decide whether it is prepared to invest enough in this sector that it can fulfill its undoubted potential.

Table 2.27: Serbian Agriculture Budget

<table>
<thead>
<tr>
<th>Year</th>
<th>Total budget of the central government (RSD millions)</th>
<th>Agricultural budget (RSD millions)</th>
<th>Percentage of total</th>
<th>Own revenues (RSD million)</th>
<th>Percentage of total</th>
<th>Total budget available (RSD million)</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>362,045</td>
<td>18,060</td>
<td>5.0%</td>
<td>2,085</td>
<td>0.6%</td>
<td>20,145</td>
<td>5.6%</td>
</tr>
<tr>
<td>2005</td>
<td>400,768</td>
<td>16,270</td>
<td>4.1%</td>
<td>2,714</td>
<td>0.7%</td>
<td>18,984</td>
<td>4.7%</td>
</tr>
<tr>
<td>2006</td>
<td>505,821</td>
<td>23,593</td>
<td>4.7%</td>
<td>3,950</td>
<td>0.8%</td>
<td>27,544</td>
<td>5.4%</td>
</tr>
<tr>
<td>2007</td>
<td>595,518</td>
<td>21,410</td>
<td>3.6%</td>
<td>4,686</td>
<td>0.8%</td>
<td>26,096</td>
<td>4.4%</td>
</tr>
<tr>
<td>2008</td>
<td>695,959</td>
<td>27,634</td>
<td>4.0%</td>
<td>5,261</td>
<td>0.8%</td>
<td>32,895</td>
<td>4.7%</td>
</tr>
<tr>
<td>2009</td>
<td>719,854</td>
<td>15,964</td>
<td>2.2%</td>
<td>10,726</td>
<td>1.5%</td>
<td>26,690</td>
<td>3.7%</td>
</tr>
<tr>
<td>2010</td>
<td>797,498</td>
<td>19,908</td>
<td>2.5%</td>
<td>5,714</td>
<td>0.7%</td>
<td>25,622</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance of the Republic of Serbia

244. The primary goal for Serbia is that its agriculture should be a productive, competitive part of the economy, contributing to national wealth. Thus public support for the development of agriculture should be seen as a national investment that will ultimately bring a positive return: in other words, the net benefit to farmers, consumers, and others should be more than the total cost of the support and its administration. Although this goal may be logical, in reality few support policies around the world have managed to achieve it. Most agricultural support measures make the countries that implement them poorer rather than richer. Simply transferring money from one part of society (taxpayers) to another part (farmers) does not itself bring any net benefit but actually loses the country money because of all the costs of application, administration, compliance, and control. To achieve a net benefit, the support measures must lead to structural changes that improve market efficiency and increase competitiveness, so that the agricultural sector is more profitable than it was before the measures.

245. Serbia is a relatively poor country that must currently bear the full cost of all its agricultural support measures, so it must take particular care to ensure that its policies really do achieve their goals in a cost-effective way. The dominant measure in Serbia’s current agricultural policy, the system of area payments, is neither effective nor efficient. It generates wastage and distortions the country simply cannot afford.

246. While increasing competitiveness is the primary goal of agricultural policy, like other countries Serbia also has noneconomic objectives for agriculture, such as protecting the natural environment, ensuring that what its consumers eat is safe and healthy, and supporting the incomes of vulnerable sectors of the population, such as the
elderly and small farmers (see next section). When a society decides to invest in such areas, it expects a return in social or environmental rather than monetary form. But society and its taxpayers are still entitled to expect good value for money, whether they are making an economic investment or purchasing a social or environmental service. Thus the need for policies to be well-designed and efficiently implemented applies equally to all aspects of agricultural policy.

247. **Serbia will have to take hard decisions about how much it wishes to invest in agriculture and food processing, compared to other industries, or other sectors.** Politicians are elected to make just these kinds of difficult decisions, and the answers they come up with will change over time as the wealth of the nation and its priorities evolve. However, the opening sentence of this chapter stated that “Agriculture in Serbia has great economic, social, and political significance” and then went on to note the high expectations that Serbian society has for its agricultural sector. Given both the current and the expected future importance of agriculture, it is questionable whether an allocation of just 2.5 percent of the state budget is sufficient for the sector to fulfill the expectations.

**How Should the Money Be Spent?**

248. **Serbia should more efficiently allocate its agriculture budget because current allocations are not achieving its strategic goals.** The budget is very selective, it has unequal geographical and sectoral distribution and a large number of ad hoc measures, there is insufficient monitoring of policy effects, structural measures of support are underdeveloped, and the economic and social impact is generally low. Such a budget does little to improve competitiveness, which has been defined as the first strategic goal for Serbian agriculture.

249. **The biggest part of the agriculture budget is absorbed by one measure: payments on the basis of possession of agricultural land, connected with submission of receipts for production inputs.** As demonstrated, this measure is very discriminatory. It excludes over 80 percent of farmers and delivers 72 percent of its funding to a region that accounts for only 34 percent of total land area. By providing support only for arable cash and forage crops, it provides only indirect support to the livestock sector and none at all to the grass-based livestock systems that dominate in Serbia’s hilly and mountainous areas.

250. **A major challenge for agricultural policy drafters is how to use available funds as effectively as possible.** In many respects Serbia is today where Europe was in the 1960s through 1980s, still struggling to modernize an economy devastated by conflict and sanctions less than two decades ago. In most parts of the EU, particularly the older member states, agriculture now makes a relatively small contribution to the rural economy and employment, but in Serbia’s rural areas it is still a key activity. Serbia is therefore trying, in just a few years, to move from a situation very different from that of Western Europe to full EU membership and adoption of the CAP. A basic question is what kind of support policy Serbia should adopt at this time: Should it implement today’s CAP or that of the 1970’s? or should it aim to implement an as-yet-unknown future CAP that will apply when Serbia enters the EU?

251. **When the CAP was drawn up in the 1950s, the then-EEC planned that half the money should go to “guarantee” measures (market support) and half to “guidance” measures (investment, income support, and rural development).** This balance of

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30 Defined by the Agriculture Strategy, Law on Agriculture and National Agriculture Development Program. Apart from the first strategic goal of improving competitiveness, there are another six, three social, one environmental, and two political.
objectives was reflected in the very title—the European Agricultural Guidance and Guarantee Fund—that financed the CAP, and “guidance” was actually placed before “guarantee.” However, the political realities were such that from the outset, market support took a much larger share of the pie, leaving rural development with about 6 percent of the total budget. There was frequent talk of redressing this balance, but it was not until the Agenda 2000 reform that the share of guidance funds really began to grow and guidance became known as Pillar 2 of the CAP, theoretically equal in importance to the Pillar 1 market measures.

252. **As the EU is struggling to reallocate budget funds from market support to structural measures, can Serbia take a shortcut by making structural support the cornerstone of agricultural policy?** It can. In fact, if it wants to accomplish relatively quickly the radical restructuring that Serbian agriculture needs, it has to. To this end, support should be based on the following principles:

- Cancel subsidies that make little or no contribution to achieving sector goals.
- Give priority to measures that increase competitiveness, through investments in both tangible assets such as buildings, equipment, machinery and livestock and in the less tangible but even more important assets of knowledge and information.
- Address social goals separately from economic measures.

253. **Specific goals of such a policy would include:**

- Supporting rural development and investments
- Improving farm structures
- Building the land and credit markets
- Building supporting institutions
- Providing basic social protection through income-support measures for the most vulnerable producers.

Addressing the Social Needs of Agriculture

254. **Serbian agriculture is still dominated by small and very small farms: 258,000 dairy farms have 1-5 cows and 604,000 crop farms have less than 5 hectares of arable land.** Many are even smaller, with just one or two cows or hectares. Most are already struggling with rising living costs, and as Serbia becomes increasingly exposed to international competition, very small farms may find it impossible to generate a decent income. Expansion is a way forwards for some, but it is not an option for most. Continual movement out of agriculture into non-farming business or employment is the reality for most of rural Europe, but Serbia’s rural economy is hardly thriving and it is not easy for those who have has farmed all their life to suddenly switch to a completely different sphere, particularly if they are near or even beyond pensionable age. Moreover, most farmers do not pay the mandatory agricultural old-age pension and social insurance and without a pension, in their final years these farmers may become increasingly dependent on family, friends, relatives, and neighbors for their very survival.

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31 There are no accurate data about how many farmers pay for mandatory old-age pension insurance, but various sources estimate that it is less than one-third.
2.4.4. Policy Recommendations

255. Many changes will be necessary in order to improve export performance of this sector. Most will have to be carried out by private farmers and businesses themselves, but there also are essential actions that government must take at each step of the chain to achieve its goal of a thriving, profitable, export-oriented food industry. This section sets out ten crucial steps the Serbian government can consider implementing.

256. The roles of government and the private sector need to be clearly demarcated. The state needs to resist pressure to move back into direct production or processing while ensuring that it masters the vital functions that only government can perform. Clarity and consistency would reduce uncertainty and encourage both domestic and foreign investment.

257. The agricultural budget needs to priorities and increased. The present agricultural budget is small by international standards and its share of the total budget has been declining. The Ministry of Agriculture, Trade, Forestry and Water Management is now confronted with the necessity of preparing the agricultural and food sector for EU integration and WTO accession. It will almost certainly require a larger budget since, as every acceding country has found, it will have to increase both the number and the quality of its policy-making, implementation, and enforcement staff.

258. But more urgent and more important than increasing the budget is reallocating existing resources. The vast majority of the budget is now spent on a single measure, area payments, that benefits very few farmers and contributes little if anything to either priority goal. The other pressing candidate for review is the milk subsidy system.

259. Area payments should be drastically scaled down to a minor element in the agriculture budget. When it accedes to the EU, Serbia must demonstrate capacity to implement its Single Payment Scheme, but this does not require it to devote the bulk of its agricultural budget to this one measure pre-accession. A more effective strategy would be to establish and achieve accreditation for the Paying Agency and run a small area-based support scheme to pilot the necessary mechanisms. The goal should be to disburse a small amount of money in a fully EU-compliant manner, including on-the-spot checks, cross-compliance measures, and an efficient, auditable, paying procedure. This would provide a solid basis for national application of whatever version of the Single Payment Scheme is in operation when Serbia enters the EU.

260. Revise the milk subsidy scheme. This should start by defining clear and measurable objectives for it that are aimed directly at preparing the dairy sector for EU accession. A critical action for Serbia is to build national capacity to test all raw milk to EU standards. Whilst the state must ensure that this is done accurately and fairly, it does not necessarily have to carry out all the testing itself; throughout Europe most milk is tested by dairy laboratories. The issue in Serbia is making sure that the system is fair, accurate, and perceived as such by all parties.

261. Improving the present extension services system is another urgent measure. This effort needs better management and support for advisors, coupled with clear measurable goals for changes in farming technology. The government needs to act decisively to keep the extension service focused on its core mission.

262. The government needs to review the rural credit policy. The state can have a useful role in rural finance markets but must be very careful to avoid negative effects. Credit
subsidies and guarantees are only justified from an economic standpoint if they reinforce the commercial credit market and if the social return on the investment is higher than the private return. The Serbian agricultural credit program is a relatively large and powerful instrument. It should be reviewed carefully, and if necessary revised, to ensure that it really does achieve the desired effects.

263. Explore options to strengthen supply chains. In the supply chain, market failure is common but the linkage effects of investments are strong: investments in storage, packaging, processing, and transport can stimulate exports and transmit benefits all the way down the chain to the small-scale farmer. Because massive investment is needed to bring supply chains up to international standards, government needs to create adequate environment to allow for such investments, provide support when absolutely necessary and explore the options to utilize EU-funded IPARD resources.

264. Serbia needs to resist any temptation to apply ad hoc trade bans, licensing systems, or nontariff barriers as quick solutions to short-term problems. Disruptive and costly export subsidies should be abolished—as Serbia in any case must do when it joins the WTO. Importing and exporting from Serbia are time-consuming and expensive. Simplifying and cheapening these processes should be a government priority, and the way to begin it is clear is to adopt the EU standard procedures for food trade.

265. The Directorate for Commodity Reserves requires a thorough review and a new mandate. Most importantly, it should be formally released from its market stabilization role. Government needs to try to reduce price volatility by enhancing trade and better integrating Serbia with regional markets, and to support the development of commercial risk-management systems, such as forward and futures trading. A policy on food security should be drafted that is based on assessment of current environmental and geopolitical risks and using best practices for policy formulation. Once government sets the policy, the DCR can be tasked to implement it.
3. MAJOR IMPEDIMENTS TO EXPORT-LED GROWTH

Most business and investment climate surveys and sector assessments converge on the same short list of key constraints: business environment, skills, land, energy, and transport and trade. Moreover, these constraints appear to block the development of competitive exports, not just products destined for the domestic market. As a result, despite major opportunities for export-led growth, Serbia faces significant hurdles in realizing its full export potential. Indeed, without removing these impediments, no export oriented strategy will be successful. Hence the policy should target the elimination of these bottlenecks along with development of a longer term strategy to prevent their recurrence. This part of the report, therefore, analyzes these policy areas in considerable detail and, within each, identifies specific policy interventions needed to unlock Serbia’s considerable export potential.

3.1. Creating a Business Environment that is a Catalyst of Export-Led Growth

In recent years, Serbia’s government has implemented numerous reforms to streamline the procedures for starting and closing businesses, open up access to credit, strengthen competition policy, and improve contract enforcement. For example, today starting a business takes 13 days and costs 7.9 percent of income per capita, compared to 56 days and 15 percent in 2005. The Business Environment and Enterprise Performance Survey (BEEPS) surveys show that managers recognize the improvements with regard to the courts, tax administration, business licensing and permits, and labor and trade regulations. Yet neighboring countries have improved their investment climates even more. Doing Business 2011 ranked Serbia 89th out of 183 economies in terms of ease of doing business.

One particularly problematic area was the onerous process of securing construction permits, where Serbia ranks in the bottom 10 countries. Logistics, infrastructure, and skills are all identified as serious constraints on investment. And according to the BEEPS enterprise surveys, managers are concerned by problems with corruption, electricity, tax rates, and access to finance. A policy priority, then, would be reforms to reduce the regulatory and administrative burden in areas where Serbia is most behind—construction permits, paying taxes, registering property, enforcing contracts, inspection according to EU standards, and improving national quality standards.

3.1.1. Introduction

If it is to become a catalyst for export-led growth, Serbia’s business environment will need to improve significantly. The unfriendly business environment as measured by global rankings (e.g., Serbia ranks 89th out of 183 economies in terms of ease of doing business in 2011) has a negative impact on the day-to-day transactions of companies and on incentives for long-term investments. This in turn undermines their export potential. Easier entry into and exit from the market would facilitate reallocation of productive resources, stimulating the growth of more dynamic firms that can export to regional and global markets. For Serbia to become an attractive destination for FDI in tradable sectors, it will have to improve the business environment fast enough to catch up with alternative destinations.

Government reforms in the last five years have partially resolved business environment bottlenecks, but others remain and need to be tackled effectively. The next
section reviews developments in Serbia’s business environment in the last five years. Though there has been visible progress, the situation has stagnated in several areas, particularly. To improve competitiveness, it is important to accelerate the reforms and prod their implementation; and at all levels of government.

268. This chapter assesses binding constraints on business based on global rankings and an analysis of enterprise surveys. It reviews Serbia’s position in the Doing Business indicators and the EBRD Transition report and presents the results of a comprehensive analysis of World Bank enterprise surveys. The cross-cutting constraints identified have to do with administrative procedures to get construction permits, register property, and pay both national and local taxes. Other binding constraints depend on the type of company: exporters are affected by customs and trade regulations and compulsory certification; managers of nontradables firms point to the courts and electricity supply.

269. Recommendations are made to reduce the regulatory and administrative burden and reinforce the national quality infrastructure (NQI), two areas critical for exporters. The final sections drill down into two areas where a better business environment could facilitate export-led growth: (1) the problem of subnational differences in administrative procedures, which slow down investment decisions and increasing concentration of investment in certain cities and regions to the detriment of others; and (2) improvements needed in the national quality infrastructure (standards, metrology, accreditation, certification), which is critical to trade in, e.g., the automobile and food industries.

270. Besides eliminating regulatory and administrative barriers, it is important to make improving the business environment a continuing policy objective. The private sector responds far better when it is confident that the state is not likely to reverse direction or supersede regulatory decisions by changes in policies or legislation. The more uncertain the legal and administrative environment, the more likely it is that aggressive rent-seeking and short-term profit-taking will deter longer-term investment (FIAS, 2009). After major laws are passed, it is important to ensure follow-through in terms of secondary regulations or enforcement to increase the impact of reforms.

3.1.2. Recent Changes in the Business Environment

271. In the last five years government has streamlined the procedures for starting and closing businesses, improved access to credit, strengthened competition laws, and improved contract enforcement:

- **Starting a business:** A reform in 2005 created a new registry, simplified registration procedures, linked agencies through a central electronic database, and introduced a “silence is consent” rule that ensures automatic registration within five days. Today it takes 13 days and costs 7.9 percent of income per capita to start a new business, compared to 56 days and 15 percent in 2005.\(^32\)

- **Closing a business:** In 2005–2006 Serbia improved the regulation of bankruptcy by setting time limits and strengthening accountability standards for bankruptcy administrators. In January 2010 a new bankruptcy law introduced out-of-court workouts and a unified reorganization procedure. As a result, today it takes 2.7 years to close a business compared to 7.3 years in 2004, and the recovery rate in 2011 had improved from 20.5 cents per US dollar to 29.5 cents.

\(^{32}\) The data for 2005 cover Montenegro as well as Serbia.
• **Access to credit:** In 2005–06, Serbia established registries for movable assets, opened private credit bureaus in 16 regions, and introduced out-of-court enforcement. In 2009–10, it passed a law on personal data protection that allows borrowers to inspect their own data.

• **Competition policy:** In 2009, the government harmonized competition legislation in line with EU regulations and gave the Competition Commission more power, though there is still a need to build the capacity of the Competition Commission and the courts that deal with competition issues.

• **The legal system:** Among other new laws, the Law on the Judicial Academy established an academy for the vocational training and continued professional development of judges, prosecutors, and judicial staff. Serbia also passed the Law on Expert Witnesses and introduced new Rules of Procedure for courts and the internal organization of the court network. However, the legal system is not yet aligned with EU standards due to both slow and sometimes nontransparent preparation and implementation of laws and to technical and personnel shortcomings.

• **Registering property:** In 2004 Serbia unified its registration system and shortened the registration process by 40 percent. In 2009 it reduced property transfer tax from 5 percent of the property value to 2.5 percent. The total cost to register a property has fallen from 5.37 percent of the property value to 2.85 percent.

• **Contract enforcement:** Serbia has passed laws on civil procedure and enforcement of judgments that set strict time limits to resolving a dispute and filing appeals. The reform decreased the time required to enforce a contract from 1028 days in 2005 to 635 in 2011.

• **Trade liberalization:** In 2005–2006 a new customs law allowed electronic filing of customs declarations and introduced risk management software for inspections. Serbia has also signed a border cooperation agreement with Albania, Croatia and Hungary that resulted in uniform customs forms.

272. **Managers recognize how much has been changed for the better** (BEEPS surveys; 2005 and 2009) Figure 3.1 shows the change in manager perception of factors that can affect current operations of a business. 33 The blue line separates the indicators managers believe have improved over time from those they believe have worsened. Compared to 2005, the major improvements were in the courts, tax administration, and labor regulations, which were considered higher than average obstacles in 2005 and are now considered lower than average.

33 The values in the figure below show the change in the value of each constraint *relative to the average* constraint faced by the typical firm in Serbia. This follows the new methodology proposed by the EBRD Transition Report 2010, developed by Wendy Carlin.
3.1.3. How does Serbia’s business environment compare

Serbia’s ranks lower in Doing Business 2011 than other countries in the region, and lower than what one might expect from its GDP per capita ranking. (Table 3.1) It ranks 89th out of 183 economies in terms of ease of doing business in 2011. It performs better than its neighbors with respect to ease of getting credit but worse with respect to dealing with construction permits, paying taxes, registering property, and enforcing contracts.

Table 3.1: Regional Rankings in Doing Business 2011

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Serbia</th>
<th>Czech Republic</th>
<th>Hungary</th>
<th>Slovak Republic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Doing Business</td>
<td>89</td>
<td>63</td>
<td>46</td>
<td>41</td>
</tr>
<tr>
<td>Starting a Business</td>
<td>83</td>
<td>130</td>
<td>35</td>
<td>68</td>
</tr>
<tr>
<td>Dealing with Construction Permits</td>
<td>176</td>
<td>76</td>
<td>86</td>
<td>56</td>
</tr>
<tr>
<td>Registering Property</td>
<td>100</td>
<td>47</td>
<td>41</td>
<td>9</td>
</tr>
<tr>
<td>Getting Credit</td>
<td>15</td>
<td>46</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>Protecting Investors</td>
<td>74</td>
<td>93</td>
<td>120</td>
<td>109</td>
</tr>
<tr>
<td>Paying Taxes</td>
<td>138</td>
<td>128</td>
<td>109</td>
<td>122</td>
</tr>
<tr>
<td>Trading Across Borders</td>
<td>74</td>
<td>62</td>
<td>73</td>
<td>102</td>
</tr>
<tr>
<td>Enforcing Contracts</td>
<td>94</td>
<td>78</td>
<td>22</td>
<td>71</td>
</tr>
<tr>
<td>Closing a Business</td>
<td>86</td>
<td>32</td>
<td>62</td>
<td>33</td>
</tr>
<tr>
<td>GDP per capita ranking</td>
<td>82</td>
<td>38</td>
<td>45</td>
<td>41</td>
</tr>
</tbody>
</table>

Note: Doing Business 2010 ranks 183 countries.
Source: Doing Business 2011, IMF
274. **Serbia’s business environment has been improving more slowly than that of comparator countries.** (Figure 3.2) It has not been improving fast enough to catch up with neighboring countries that had a better business environment to start with; in fact, it is falling behind. The implication is that Serbia will need to accelerate its efforts to become an attractive destination for greenfield FDI.

**Figure 3.2: Cumulative Change in Doing Business Indicators, 2006–2011**

![Diagram showing DB change scores for various countries]

*Note: The chart presents the DB change score that illustrates the level of change in the regulatory environment in 174 economies for local entrepreneurs as measured by 9 Doing Business indicator sets over a period of 2006-2011. This year’s DB change score ranges from -0.1 to 0.54. Source: Staff estimates based on Doing Business 2011.*

275. **One particularly problematic area is construction permits, where Serbia ranks in the bottom 10 countries.** It requires 20 procedures and 279 days and costs 1821.4 percent of income per capita to obtain all the approvals necessary to build a simple commercial warehouse and connect it to basic utility services. The 2009 Law on Planning and Construction has been implemented too slowly. The chapter on land provides further details and recommendations.

276. **Another area flagged for attention is paying taxes, where Serbia ranks 138 out of 183 economies.** It takes 66 procedures and 279 hours to pay taxes, which stand at 34 percent. Serbia is one of the 10 countries with the highest number of procedures required to pay taxes.

277. **The Global Competitiveness Report 2010–2011 ranks Serbia 96 out of 139 countries** (Figure 3.3). Serbia is relatively high in the areas of health and primary education, market size, and higher education and training, but near the bottom with respect to institutional environment, business sophistication, and goods market efficiency. Problems with competition are also recognized in the EBRD Transition Report (2010), where, despite recent reforms, Serbia’s progress on competition policy is evaluated as 2+ on a scale of 1 to 4+34. The EC Progress Report assesses Serbia competition policy as only moderately advanced in meeting Interim Agreement requirements and recommends that it be strengthened.

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34 In transition report scores 1 represents a rigid centrally planned economy and 4+ represents an industrialized market economy
278. The *Global Competitiveness Report* also points up shortcomings in logistic services and infrastructure. Serbia is at the bottom of the list on quality of infrastructure (122 out of 139), quality of roads (123), quality of port infrastructure (129) and quality of air transportation infrastructure (124). These findings are reinforced the Logistic Performance Index, where Serbia is placed 83 out of 155 countries in performance on trade logistics.35

279. The EC Progress Report underlines a gap between demand for and supply of skilled workforce that threatens the inflow of FDI and the development of new segments of the economy. Serbia has recently adopted reforms in primary and secondary education and is starting to reform its vocational education and training system. However, it needs to improve adult and life-learning education, adopt national qualification, and adjust the education system to business needs to facilitate Serbia’s integration into the European Research Area and build national research capacity (see chapter on Skills). Although Serbia ranks fairly high in the *Global Competitiveness Report* on higher education and training, primary education, and health, it has serious disadvantages with regard to extent of staff training (130 out of 139), local availability of research and training services (100), quality of management schools (101) and overall business sophistication (125).

280. Managers are concerned about corruption, electricity, tax rates, access to finance, crime, access to land, competition from informal sector, and workforce skills (BEEPS, Figure 3.4). Serbian managers consider political instability to be a much bigger problem than managers in other ECA countries (see Annex 3.1 of this chapter for details). Almost 20 percent also said that electricity supply is an obstacle to business operations and almost 57

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35 There are significant differences between the indexes. The GCR covers only infrastructure, while LPI covers infrastructure, customs, logistics, timing, tracking, and international shipment. However, both agree that Serbia’s infrastructure needs work. Serbia scores just low 2.3 on the LPI infrastructure scale of 1 to 5.
percent complained about power outages in 2009. Furthermore, among all indicators perceptions about electricity have worsened the most over 2005–2009.

**Figure 3.4: Binding Obstacles to Investment As Perceived by Managers**

![Bar chart showing various obstacles to investment as perceived by managers]

*Note: Share of managers that name an indicator major or severe constraint are presented*  
*Source: World Bank staff estimates based on BEEPS 2009.*

281. **Besides these cross-cutting obstacles, other constraints in the investment climate are deterring exporters and specific types of firms** (Figure 3.5):

- Large firms complain more about labor regulations and electricity-related problems than do smaller firms, and less about corruption and getting business licensing and permits.
- Firms in Serbia are more concerned about corruption, custom and trade regulations, electricity supply, political instability, tax rates, and courts than firms in the regions.
- Foreign-owned companies complain less about tax rates, electricity, competition from the informal sector, and customs and trade regulations than do domestic companies.
- Manufacturing firms report major problems with the courts, electricity, tax rates and tax administration, corruption, and transport.
- Managers of established firms are less concerned about electricity and trade regulations than managers of new firms.

**Figure 3.5: Differences in Perceived Constraints**

![Bar chart showing differences in perceived constraints between non-exporters and exporters]

*Note: Share of managers that name an indicator a major or severe constraint are presented*  
*Source: World Bank staff estimates based on BEEPS 2009.*
3.1.4. Regulatory Reform and Administrative Procedures

282. The national government has simplified regulation in two phases, the first dealing with legislation and the second with procedures. A full inventory of all national laws was compiled; it identified 5,786 laws and regulations, of which 3,170 had a direct or indirect impact on the private sector have been identified. Focus groups and consultations with private sector were organized throughout this process of several years. All legal acts with an impact on businesses were reviewed which yielded recommendations for almost 63 percent (1,992) acts, including 543 proposals to eliminate/modify and 305 to improve procedures.

283. A major outcome of this work was the e-Registry. The e-Registry is a database of all legislation and regulations, compiled from three existing but incompatible databases. It is used for processing, tracking, and reviewing laws and regulations and continuous monitoring regulation. Freely accessible via the Internet, it also helps ensure transparency.

284. Regulatory reform has helped build capacity to conduct impact assessments (IAs) and resulted in creation of a permanent Better Regulation Unit within the government (Box 3.1). Establishing a filter to control the flow of new regulation is critical for sustainable reform. Using IAs and trained staff at the Better Regulation Unit, the government can improve the legislative adoption process and the quality of legislation. What is further needed is to ensure a filter for all administrative procedures that burden businesses and to ensure that the registry is continuously updated with not only laws and regulations but also procedures.

Box 3.1: Progress with the Regulatory Impact Assessment

Over the past years the Government of Serbia has taken major steps to reform regulation. For instance, its new Regulatory Reform Strategy envisages the reduction of administrative operational expenses, simplification of administrative procedures, and quality improvement of the legislative process. The goal was primarily achieved through Regulatory Impact Analysis (RIA) and Comprehensive Regulatory Reform (CRR)—sometimes called as “the regulatory guillotine.”

The government introduced the RIA requirement in the legislative process in 2004 to improve the quality of new regulations affecting business. RIA will ensure that new regulations – the legislative flow – have a clear rationale and an adequate analysis of costs and benefits. This is particularly important in terms of harmonization with EU requirements. RIA also includes consultations with stakeholders. Since 2007, 326 RIA opinions have been issued, 111 in 2009 alone, which demonstrates the intensity of regulatory activity in Serbia. Further, all RIAs were made public at www.ria.merr.gov.rs. Finally, a detailed RIA was performed for several systemic new laws, including the 2009 Law on Bankruptcy and the 2010 Law on Business Entities.

To reduce the costs of complying with existing business regulations (legislative stock), a comprehensive regulatory review was completed. Initiated in early 2009 it had four phases: inventory, analysis, recommendations, and implementation. Some 2,000 laws and regulations were identified as impacting economic activity. In the analysis phase the responsible regulatory bodies had the obligation to justify the need to retain legislation. At the same time, to solicit input from the business community, the government launched a media campaign calling for all interested parties to propose amendment or cancellation of laws and regulations. During this process, 10 working groups, each chaired by a representative of the private sector, were tasked to further analyze identified laws and regulations. This input and additional analysis was used to formulate specific recommendations.

Once regulatory review was completed, the government approved 304 of 340 recommendations for amending laws and regulations and approved elimination of 192 regulations. As of May 2011, 195 recommendations had been implemented through amendments; it
is estimated that this will save businesses about €121 million according to the standard cost model. Implementing the other 109 recommendations is expected to further reduce compliance costs and bring total estimated annual savings to about €183 million.

Examples of the cost savings (standard cost model):
- Introduction of single window approach for registering workers - €15 million.
- Simplification of procedures, such as extending deadline for businesses to deposit daily cash revenue into bank accounts from one to seven days - €39.5 million.
- Eliminating the requirement for preparing and stamping travel requests whenever a company vehicle each is used - € 21 million.
- Eliminating the requirement for posting the company name on company vehicles - € 2.6 million.

All the regulatory reforms mentioned were designed and implemented by temporary bodies - the Secretariat of the Council for Regulatory Reform and the CRR Implementation Unit - which were staffed by consultants. In order to ensure that regulatory reform is sustainable, the government has recently established the Office for Regulatory Reform and Regulatory Impact Analysis, which will be staffed by government employees. This is a first step toward institutionalizing regulatory reform and RIA.

285. However, the results of these national reforms did not have the impact the private sector expected. In 2010, as reported by the National Alliance for Local Economic Development (NALED), which monitors the process, 355 laws, regulations, amendments, and codes were enacted, and 79 procedures improved (18 partially). However, the estimated savings are considerably lower than anticipated, and the impression of the private sector is that this reform did not fully meet expectations and much more has to be done.

286. At the subnational level, Serbia initiated reforms to improve the business environment and link subnational to national reforms. National and local governments, together with donors, initiated projects to reduce the cost and time required for complying with business administrative procedures, such as licenses, permits, and approvals, to reduce the cost and risk of doing business. Among these projects were improvements in municipal investment capacities and creating local economic development offices. All administrative procedures were mapped and a comprehensive program for local simplification was implemented, with visible results. Local e-Registers with detailed inventory of all procedures were established, together with units for better regulation to move the process forward.

287. Subnational projects had tangible outcomes in localities where they were implemented. According to the Sub-National Doing Business in South East Europe 2011 report, the time it takes to start a business in all Serbian cities has fallen significantly—most notably in Zrenjanin, where the time was cut from 37 days in 2008 to 17 days in 2011. In Belgrade, registration with various agencies has been consolidated under one roof. Other Serbian cities are working on putting one-stop shops in place. Property registration reforms and digitization of cadastre maps have cut the time to register property by 30 days in Zrenjanin, 25 days in Vranje, 20 days in Belgrade, and 17 days in Užice. Zrenjanin now also has the most efficient commercial court in the region: it takes just 10 months from filing through enforcement (as fast as in the United States) because it uses information technology to help with case registration and case management. However, contract enforcement in Belgrade and Kruševac it takes more than twice as long (21 months).

288. Despite improvements, however, the construction permitting process remains prohibitively expensive and the process varies widely across cities (see also Box 3.2). According to the Sub-National Doing Business in South East Europe 2011 report, the 2009
Planning and Construction Law simplified procedures for issuance of construction permits and made them transferable between investors during construction. However, the impact of the new law varies across cities. Thus in Vranje, a building permit can now be obtained in 6 months—3 months faster than in 2008. On the other hand, in Belgrade, the same process takes almost a year—5 months longer than in 2008. Municipal processes for obtaining construction permits thus range from 18 to 21 procedures and from 168 days to 349 days.

**Box 3.2: Making Local Business Environments more Attractive**

In 2008, the magazine *FDI* named the municipality of Indjija among top localities for FDI investment. Indjija managed to climb to 18th among some 1,000 European cities and regions; it was well ahead of Budapest, Madrid, and Warsaw. This was a result of continuous efforts by the local government to improve its investment climate and ease business entry. For Indjija’s businesses to enter the competition they had to describe their economic potential, describe their activities resulting from local economic initiatives, and define their priorities. Also, they had to provide information on local investments, including the size and number in the previous two years. They also needed to identify the investments that led to creation of most new jobs. Finally, they were asked to present details of their promotional strategies, as well as any improvements in regulations, reductions of burden, etc.

### 3.1.5. Reducing the Negative Impact of Inspections

289. **Government inspections are essential component to modern regulation state but can entail heavy costs for the business sector.** The central purpose of inspection is to ensure compliance with laws and other governmental requirements in order to protect consumers. However, besides the direct compliance costs borne by citizens and firms, inspections impose other burdens and challenges for businesses. Poor-quality inspections have severe indirect consequences for society and for law-abiding businesses. Activities that are illegal or part of the informal economy, and that thus avoid formal enforcement, create comparative advantages for firms that are not complying with regulations or are beyond the scope of inspections.

290. **The percentage of firms that had to spend time dealing with inspections, agencies, and public officials rose in Serbia in 2009 compared to 2005 (BEEPS),** a negative trend that means managers must devote more of their time to deal with inspections or obtain licenses. On average, 14 percent of senior company managers spend more than 25 percent of their time on these matters—higher than the SEE or ECA average by at least 2 percentage points. Moreover, 76 percent of companies report that their managers spend up to 25 percent of their time on this—significantly higher than in the SEE (6 percent) or the ECA (10 percent). This negative trend points out to a problem that is not being dealt with.

291. **A burdensome inspection system like Serbia’s is often the result of poor coordination and lack of standardization.** The unparalleled growth of laws and regulations in developed, emerging, and developing countries has usually been accompanied by development of inspection systems. Frequent and isolated legislative changes, coupled with uncertain regulatory policies, can create overlapping and unclear inspections mandates. At the same time, fragmented interventions—the result of bad planning, inadequate implementation capacity and inter-ministerial coordination, and poor dialogue with the business community—are often a reaction to poor coordination among inspections, a failure to standardize inspection procedures, and a general lack of planning.
292. **Reforming an inspection system is rarely easy.** A high-quality inspection system demands many skills, particularly political and managerial, and requires considering spending, at least in the short term. Table 3.2 shows different national inspection models. These models can be combined to provide the best possible solution for any particular country. Inspection reform connects many processes and institutions. Well-orchestrated reform can considerably reduce the burden on businesses, enable greater exports, create jobs, and provide “rule of law” benefits for society.
<table>
<thead>
<tr>
<th>Model/approaches</th>
<th>Basic description</th>
<th>Institutional changes needed to implement the reform</th>
<th>Increased efficiency and effectiveness of inspections</th>
<th>Who has effective control over inspections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reforming selected inspections (usually few) or sectors</td>
<td>This ““bottom up” approach is based on legal and regulatory reforms of selected inspections; possibly changing organizational settings, but more likely introducing risk-assessment and standards</td>
<td>Possibly some</td>
<td>Potentially significant for selected inspections if properly supported</td>
<td>Different ministries and agencies supervising the inspection bodies</td>
</tr>
<tr>
<td>2. Common legal framework for inspections, or inspection procedures having an impact on all inspections</td>
<td>Enacting a single horizontal/procedural framework “Law on inspection” governing all inspection procedures throughout the country; this can be done by selecting one of two options: 1) no reference to the institutional organization, sanctions, competencies, mandate of inspections, etc. 2) contains elements of the above, depending on the scope of the reform</td>
<td>Negligible if under option 1; notable if option 2</td>
<td>Significant if properly enforced across inspection bodies</td>
<td>Different ministries and agencies supervising the inspection bodies</td>
</tr>
<tr>
<td>3. Coordinating body at central level to overview key inspection activities</td>
<td>Establishment of a coordinating body (in most cases voluntary) of chief inspectors and other officials to control inspections and, in particular, overlapping visits and contradiction and discrepancies of procedures ; the framework for establishment of this body often doesn’t contain penalties and strict enforcement mechanisms; no legal framework to change the institutional setting, sanctions, competencies, operations, mandate of inspections etc.</td>
<td>Some</td>
<td>Potentially significant if properly supported</td>
<td>Different ministries and agencies supervising the inspection bodies</td>
</tr>
<tr>
<td>4. Merging and consolidating related inspections</td>
<td>Inspections are merged or combined under a single authority within a ministry (inspectorate) or a specialized agency (general inspectorate). This can be done by sectors to: a) respond to a country’s EU priorities, b) emphasize important sectors for the country, c) curb informality and fight corruption etc.</td>
<td>Moderate</td>
<td>Potential impact, particularly for small public administrations</td>
<td>Different ministries and agencies supervising the inspection bodies</td>
</tr>
</tbody>
</table>
5. Centralized supervision/control model

Establishment of a centralized inspection supervisory body, such as a General Inspectorate, outside ministries; reform of operational policies of inspections, mandate, institutional organization, competencies, coordination etc; this model can contain all or most of the inspections or can be set up as a centralized supervision of inspections

Significant

Yes, though there a possible limits to the economies of scale and scope that can be achieved

General Inspectorate or Inspector General’s office, and Government Cabinet


### 3.1.6. Serbia’s National Quality Infrastructure as a Catalyst for Trade

293. **Upgrading the national quality infrastructure (NQI) can help Serbia to become more export-oriented.** An effective NQI (comprised of metrology, standards, certification, and accreditation)\(^{37}\) is a necessary platform for enterprise development and export promotion. Countries require measurement, testing, and certification capabilities compatible with their industrial needs, legal necessities, and trade interests. Numerous products, from electric light bulbs to high pressure vessels, from machine tools to sophisticated medical equipment, need to be harmonized with EU products to enhance the competitiveness of Serbia’s export products. There is also a need to ensure safety, whether these are agricultural or consumer goods. This section provides recommendations for improving the NQI at the institutional level; the chapter on export-oriented industries applies the NQI to two specific industries, automobiles and steel metal processing; and the chapter on agriculture reviews how of NQI applies in this vital export sector.

294. **The assessment of Serbia’s NQI in the National Program for Integration with the European Union and the 2010 Progress Report recognizes major progress in recent years.** The EC’s 2010 Progress Report notes that “Serbia is moderately advanced on free movement of goods in meeting the requirements of the Stabilization and Association Agreements (SAA) in this area.” The country is already well integrated with of international measurement comparisons (metrology) and is making progress in harmonizing of standards. Legislation has been adopted to align with the New Approach Directives on safety of machinery, electromagnetic compatibility, and low-voltage equipment. But harmonization is incomplete in the area of metrology, and the Serbian accreditation system is isolated because it is not recognized abroad. Table 3.3 shows how Serbia compares with other countries in terms of international recognition of its NQI.

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\(^{36}\) This section updates results reported by Nogueira Frota (2008).

\(^{37}\) See Box 3.3 for components of the NQI.
Table 3.3: Membership in Regional and International Organizations

<table>
<thead>
<tr>
<th></th>
<th>Standards</th>
<th>Accreditation</th>
<th>Metrology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISO</td>
<td>CEN &amp; CENELEC</td>
<td>IAF-MLA</td>
</tr>
<tr>
<td>Serbia</td>
<td>yes</td>
<td>affiliate</td>
<td>no</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Croatia</td>
<td>yes</td>
<td>affiliate</td>
<td>no</td>
</tr>
<tr>
<td>Romania</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Turkey</td>
<td>yes</td>
<td>affiliate</td>
<td>yes</td>
</tr>
<tr>
<td>UK</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

Developing a Modern Standards Body

295. **One major improvement has been in the law governing voluntary standardization, which is now fully operational.** The new legislation facilitates the compliance of the new Institute for Standardization of Serbia (ISS) with EU institutions. The Law on Standardization could also be adapted to the new Serbian reality to fulfill the accession requirements. The change of ISS status from independent nonprofit organization to public institution occurred in January 2010.

296. **Going forward, it will be essential to harmonize standards to facilitate Serbia’s trade integration.** The country lags behind other EU candidates like Croatia and Turkey in standards harmonization. In 2007, Serbia published only 458 new standards, and of the 8,000 old Yugoslav standards, only 128 were repealed. During the 2009–10 reporting period the ISS increased the number of European standards (ENs) to 8,986. At this rate, the 2012 target will not be reached, so the harmonization process needs to be speeded up. Also, as Serbia rapidly adopts new standards, ISS will have to provide training and advisory services to its own staff as well as Serbian firms wishing to comply. This is a short-term priority to take advantage of the legal changes. One issue that needs to be addressed is that European standards are being adopted in English, an additional cost to Serbian firms forced to meet export technical requirements.

**Figure 3.6: The Reliance of Serbia on Domestic Standards**

![Graph showing reliance of Serbia on domestic standards](image)


297. **Adherence to EU directives for technical regulations and adoption of international voluntary standards cannot be underestimated.** The WTO Technical Barriers to Trade agreement requires that technical regulations be based on international standards. This principle calls for international standards to be referenced or used in full or in part when technical regulations are drafted. ISS is responsible for publishing national standards. Despite the fact that the ISS seems to be reflecting international best practices, special attention could be given to eliminating unnecessary pre-2009 mandates stemming and aligning Serbian regulatory procedures with WTO and EU requirements.
Box 3.3: NQI Components

Testing laboratories and inspection bodies: Testing and inspection help show that a product or process satisfies technical requirements by determining its features and performance. A firm can contract with independent testing laboratories or inspection bodies to prove that a product or process conforms to certain characteristics. In some cases testing and inspection are required for firms to implement a quality control system, such as ISO 9001.

Certification bodies: Third-party certification is the assurance by an independent body that a product, service, system, process, or material conforms to standards or specifications. Manufacturers and service providers can have their products or management systems certified to certain standards to distinguish themselves from less reputable suppliers. Some government regulators require certification by third-party organizations, and such certification is increasingly required in trade contracts. Certification bodies are usually commercial for-profit or non-profit entities, but in undeveloped markets they are sometimes public organizations.

Calibration laboratories: Calibration involves determining the relationship between an instrument’s input and the magnitude or response of its output. Calibration laboratories can be internal, serving only the needs of the firm, or commercial. In commercial cases, calibration serves industrial producers, testing laboratories, inspection bodies, research laboratories, universities, and other final users. Many conformity assessment bodies require that equipment and measurement reference systems be calibrated to accepted metrological references before they issue product or system certificates.

National standards bodies: Standards provide the basis for evaluating conformity assessment and define the requirements for such assessments. National standards bodies bring together public and private stakeholders to draft official national standards. Standards are usually adopted through consensus and published to make them available to industry, public institutions, and consumers.

National accreditation bodies: Accreditation is the procedure by which an authoritative body gives formal recognition that an organization or person is competent to perform specific tasks. Conformity assessment bodies – such as certification and inspection bodies and testing and calibration laboratories – can seek accreditation voluntarily as proof of competence in a given area. The accreditation body evaluates the personnel and supporting management system of candidates for accreditation and when relevant can request practical tests for laboratories. Most countries have a single national body responsible for all areas of accreditation.

National metrology institute: A national metrology institute establishes the national measurement system used to maintain, develop, and diffuse measurement standards for basic units and to diffuse metrological expertise to the economy. These institutes operate in the primary calibration market: they disseminate measurement standards by providing calibration services to independent laboratories and other organizations responsible for regulations and standards. When their industrial measurements are traceable to the national metrology institute through an unbroken chain, firms are able to guarantee the accuracy and precision of their calibration instruments, process control instruments, and quality control instruments. Countries often have a single national metrology institute, but when there are several, each is responsible for distinct measurement areas.

Source: Racine (2011).

Improving Metrology Services to Reduce Export Costs

298. Serbia inherited a sound scientific metrology infrastructure but there is now a need to upgrade it to deliver EU-compatible services. From a European perspective, ideally, the objective should be to meet national measurement demands (the New Approach) and regulatory requirements (the Global Approach). But lack of substantial investments in metrology infrastructure and limited staff prevent Directorate for Measures and Precious Metals (DMPM) from performing its mission. The national metrology institution will require...
upgrade investments to enable technological change in manufacturing processes. The institutional framework for metrology is unclear and the Law on Metrology incomplete (not yet harmonized with the accession).

299. **To build up confidence that measurement can be traced, the government is advised to ultimately seek accreditation for metrology laboratories.** The Law on Metrology does not require that national metrology laboratories be accredited. Accreditation will reduce costs for exporters, as otherwise they must duplicate tests in different markets.

![Figure 3.7: Internationally Calibration and Measurement Capabilities](source: Racine, 2011)

**Improving the Accreditation System to Reduce Export Costs**

300. **The national accreditation system that is taking shape in Serbia is expected soon to meet European and international accreditation standards.** The Serbian Accreditation Body (ATS) was established as an independent organization and it accredits to international standards but it is not yet a member of any mutual recognition agreements. Acceptance into the European Co-operation for Accreditation Multilateral Agreement (EA-MLA) could be a worthwhile priority but may require ATS to make substantial efforts. The parallel structure of quality assurance by conformity assessment bodies involving the Ministry for Internal Economic Relations gives rise to inefficiencies and ambiguities in the system. However, a Law on Accreditation, fully aligned with the new legislative framework (765/2008), has been adopted.

301. **The number of accredited laboratories is insufficient for the country’s needs.** ATS as an accreditation body claims it partially meets the requirements of ISO/IEC 17011\(^\text{38}\) and enforces ISO/IEC 17025 on applicants of accreditation. Satisfying accreditation requirements is not trivial. The ability to express uncertainty in measurement, access to measurement

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\(^{38}\) ISO/IEC 17011 is a relatively new (2004) international standard for harmonizing requirements worldwide for organizations that assess the competence of "conformity assessment" bodies. It provides a global benchmark for "accreditation bodies" to ensure that they operate in a consistent, comparable and reliable manner worldwide, thereby giving purchasers and regulators confidence and facilitating cross-border trade.
traceability, and lack of proficiency in testing have been reported as the most critical obstacles to be overcome by applicants for accreditation. Furthermore, as identified in the enterprise chapter, in addition to ISO 9001, Serbian automotive suppliers are under increasing pressure to obtain the industry-specific standard ISO/TS 16949. So far only 7 percent have implemented the QMS in accordance with TS 16949, primarily because few companies are certified to issue ISO/TS 16949. The cost of certification also acts as a deterrent.

Harmonizing Mandatory Standards to Facilitate Exports to new Markets

302. **In the area of conformity assessment, Serbia is progressively eliminating most of the 8,000 old mandatory standards still in use, adopting EU directives, and harmonizing standards.** New legislation will harmonize conformity assessment procedures with European and international best practices. It is important to give priority to building the capacity of conformity assessment bodies as they strive to adapt themselves to the new reality.

303. **The Serbian system of technical regulation is complex and needs to be evaluated in terms of specific sector needs.** Discussions with managers of NQI organizations and entrepreneurs who are directly affected by technical regulations raised several issues that Serbian authorities need to address relating, for instance, to the institutional set-up of regulators, the need for new surveillance structures, the definitions of technical regulation activities, and the scope of regulatory functions assigned to specific agencies and ministries. The chapter on agriculture discusses these issues in regard to food safety systems and dimensions of legal metrology.

Shifting from a Government-centric NQI Toward Market Surveillance

304. **Today, commodities and goods are continuously traded sold worldwide: market surveillance is the mechanism that protects the interest of society and prevents unfair competition**\(^\text{39}\). For countries intending to accede to the EU, surveillance authorities monitor activities to ensure that products comply with New Approach directives when placed on the market or put into service, and that action will be taken to establish conformity. The objective of monitoring products on the market is to verify that they comply with current directives both when placed on the market and, if relevant, when put into service. The EC declaration of conformity and the technical documentation give the surveillance authority necessary information about the product. Market surveillance should ideally ensure: (a) an equally high level of protection for all citizens; (b) the counterbalance of controls done before a product is placed on the market; (c) the avoidance of unfair competition to stakeholders both inside and outside the EU; and (d) trust and transparency between Member States.

305. **It is advisable to continue the transition from the compulsory to the voluntary approach.** For example, in the field of metrology, this may be accomplished by delegating to the private sector some prerogatives of legal metrology that are exempt of regulation. For instance, calibration (a typical industrial metrology activity) might replace verification, which in OECD countries is not subject to technical regulation. Market surveillance activities related to measuring instruments are stated in the Law on Metrology.

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\(^{39}\) Market surveillance, uniform high-level enforcement of internal market legislation, refers to the work of national public authorities related to products already on the market. For others, Otherwise, certifying bodies apply conformity assessment procedures. Products subject to market surveillance should either be directly purchased in the market, formally requested (samples) from the manufacturer or importer, or obtained from authorities at border control (Customs).
3.2.1. Policy Recommendations

306. Policy recommendations in this chapter are grouped in three broad categories – those related to business environment in general; those related to the work of inspections, and finally, those that deal with national quality infrastructure.

307. **Improving the Business Environment requires various measures both at national and subnational level of governments.** At the national level government needs to start with further strengthen the Better Regulation Unit. This should also provide a better mechanism for consultation with the private sector when proposing draft legislation that affects businesses. In addition, it should consider incorporating a full inventory of all national procedures that affect businesses into the national E-Register and create a mechanism to accurately update it. To the extent possible, government could continue supporting simplification of subnational regulation and try to link it with the national Better Regulation Unit to ensure coordination. It will be important to share best practices across cities and move good subnational practices upwards to the national level.

308. **Reform inspections in line with the EU requirements primarily though their better integration and by creation of the centralized General Inspectorate.** The overall approach could be to: (1) consolidate over 30 inspections (excluding fiscal) to 12-15 inspectorates within Ministries (as in the case of the Netherlands, or the U.K); (2) prepare a horizontal procedural law on inspections that will govern all matters related to inspections (a standard feature in all inspection reforms), and (3) create a small centralized General Inspectorate (GI) at Cabinet level to govern work of inspections in Serbia and perform strong internal control of inspections.

309. **National Quality Infrastructure needs to be improved.** Policy recommendations related to the NQI include different measures related to standards; metrology, accreditation and market surveillance. Related to standards, it is important to ensure that the ISS budget is adequate to ensure its full participation in regional and international standardization activities. Related to metrology, the government can explore the options to strengthen the Directorate of Measures and Precious Metals and allow it more flexibility to respond to the needs of the private sector. It may be worth reviewing the suitability of alternate metrology models. In order to improve the accreditation system, the authorities could: (i) pursue regional and international agreements for the mutual recognition of the established national accreditation bodies and (ii) promote awareness of the services of a national accreditation body in the regulatory domain and in the market place. Related to market surveillance, an adequate market surveillance structure could be established in full compliance with EC legislation and effective coordination among the market surveillance authorities implemented.
Annex 3.1: Overview of Econometric Analysis Methodology

Two methodologies were used in assessing managers’ perceptions of investment climate constraints, change in it over time, and how the investment climate compares with those of other countries:

- The standard regression analysis that the World Bank used in Serbia ICA 2004 and ICA 2008 was implemented to identify firm-specific constraints on the investment climate. Specifically, the following regression is estimated using BEEPS 2008 data for Serbia:

  Perception about IC\(_i\) = \(\beta_1 + \beta_2\) Size + \(\beta_3\) Location + \(\beta_4\) Ownership + \(\beta_5\) Exporter + \(\beta_6\) Sector + \(\epsilon_i\)

  The dependent variables are dummy variables specifying whether the manager considers the investment climate a major or a severe constraint. The independent variables are firm size, age, and a set of dummies indicating the location of the firm (whether the company is located in Belgrade); ownership (whether the company is foreign-owned); exporter status; and sector of operations (manufacturing, retail, and other services).

- The new methodology proposed by the EBRD Transition Report, developed by Wendy Carlin, was used for international comparison of managers’ perceptions of investment climate constraints and for the comparison over time of the change in investment climate among Serbian managers. This methodology offers several advantages for this kind of analysis: it makes it possible to correct for differences in perceptions across countries and removes company-specific characteristics that affect a firm’s perception of the business environment. It also makes it possible to correct for differences in survey structure, such as in the scales used to assess business environment constraints. The following regression is estimated:

  \[\Delta C_{ij} = a_{jk} + XB_i + e_{ij}\]  

  where:

  - \(\Delta C_{ij}\) is the normalized deviation of obstacle \(i\) from the mean obstacle for firm \(j\)
  - \(a_{jk}\) is the dummy variable that indicates the country-year specific survey
  - \(B_i\) is the vector of firm level characteristics. The vector is defined in such a way that all individual characteristics equal zero when the representative firm appears. The representative enterprise has 30 employees, is privately owned with no state-owned predecessor, has less than 10 per cent foreign ownership, exports less than 10 per cent of its sales, has no change in employment in the previous three years and operates in manufacturing.

  The results of this regression show the value of each constraint relative to the average constraint faced by the typical firm in each country. Positive values thus represent a higher-than-average constraint, whereas negative values represent a lower-than-average constraint relative to the average business constraint that firms face in their operations.

  This methodology is also used to rank the managers’ perception of investment climate in Serbia. The results are highly correlated with the shares of managers that reported that an indicator is a major or severe constraint for running a business.
Figure A1: Higher-than-average constraints perceived by managers’ in comparator countries:

| Source: BEEPS 2009 |


<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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<td>0.230***</td>
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<td>(0.11)</td>
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<td>(0.10)</td>
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Note: *** - significant at 1 percent level, ** - significant at 5 percent level, * - significant at 10 percent level; values in parentheses are standard errors;

Source: BEEPS 2009
3.3. Skills

The skills mismatch is a problem in Serbia: skills acquired by the educational system are often not the ones most demanded by the economy, resulting in both high unemployment, especially among youth, and shortages of specific skills. And the rapidly aging population is making the problem worse because the system is losing skills faster than it is building them. Serbia’s educational system has some strengths, including high functional literacy at the secondary school level, but there are problems of quality at all levels. As a result, the skills constraint will take a comprehensive reform at all levels of the system to align it with the demands of the modern economy and make it capable of producing skills to help it compete in the European market.

3.3.1. Introduction

311. This chapter will address how skills facilitate employment, increase productivity, and thus improve a country’s competitiveness. There is no doubt that skills contribute to economic growth. A strong skills base directly increases the productivity of individuals and firms; indirectly it represents greater stronger capacity for adopting new technologies, and ways of working and stimulating innovation (OECD, 2010, 2011). Therefore three broad areas are discussed: (i) labor market challenges and skills needs in the Serbian economy, (ii) the need for better education and training system performance, and (iii) the policy reform agenda for lifelong learning (LLL).

312. Competence and the availability of the right skills are already an issue for Serbia. The results of the 2009 enterprise survey on emerging occupations in Serbia show that only one third of Serbian firms (32 percent) consider the workforce fully competent. In recruiting Serbian firms are demanding skills like flexibility and adaptability, problem-solving and decision-making skills, ability to manage information and ICT-related skills, ability to work in teams, and communication and organization skills (ILO 2009).

313. Moreover, as a result of the demographic decline, the size of the labor force in Serbia will continue to shrink. By 2025 Serbia will have about half a million fewer people than today.40 Many young people are already willing to leave the country: 53 percent of those aged 15–19, 63 percent of those 20–24, and 47 percent of those 25–2941. It is, therefore, important to urgently raise the skills level and making the most effective use of workers will be an imperative for Serbia’s economic recovery and future development.

314. The Government of Serbia will need to approach strategically the challenge of both mobilizing current skills and developing new skills in support of post-crisis economic growth. Skills are built over the lifetime of an individual, and learning does not end with schooling. Continuous learning during the working life of an individual helps advance skills, and public support for active labor market policies – in partnership with public and private enterprise – is needed to address changing labor market demand. By synchronizing education and labor market policies in the short to long run, Serbia can best use its scarce resources to address the challenge of changing skills needs.

40 Republic of Serbia Statistical Office.
41 CeSID, 2009
3.3.2. Labor Market Challenges and Skills Needs

315. The labor market in Serbia is changing dramatically. While the country has undertaken substantial economic reforms toward market liberalization and its economic growth has been considerably, growth in the economy has not been accompanied by growth in employment. By 2010, only 47.1 percent of the working age population (15–64) was working, 11.7 percent were unemployed (equivalent to a 19.9 percent unemployment rate), and 41.1 percent were inactive. Employment rates are particularly low among those with secondary education or less, among women, among youth and older cohorts, and among Roma.

316. To successfully leverage European integration for employment growth, Serbia will need to take larger strides to increase the level, quality, and labor market relevance of its future and current workforce. Although improving, education levels are still lower than in other European countries, as are scores on international standardized tests such as Program for International Student Assessment (PISA) and school curricula do not sufficiently emphasize competencies that prepare young people for an internationally integrated and competitive labor market. However, a number of recent initiatives are directed at these problems, such as extending preschool, introducing standardized primary and secondary final exams, creation of new vocational education and training (VET) profiles with support of the EU programs, development of a National Qualifications Framework, and creation in 2010 of the Council for VET and Adult Education. Such initiatives need to be reinforced. In doing so, Serbia can take advantage of experiences from regional initiatives, such as the European Qualifications Framework and the establishment of sector councils in the U.K.

Employment Profile

317. There is considerable scope to promote economic growth and social inclusion through greater labor market participation. Employment rates in Serbia (Figure 3.8) are considerably lower than those of most of its neighbors and of all the new EU member states, and well below the Europe 2020 target of 75 percent. With only 59 percent of men in the 15–64 age group, the gap between the EU 2020 target and the actual rate for men in Serbia is 16 percentage points. Among women the gap is even larger: only 43 percent of women aged 15–64 work, 32 percentage points below the EU2020 target.

Figure 3.8: Employment in Serbia, Neighboring Countries, and EU27 by Gender

Source: Eurostat 2010 and 2010 Serbia Labor Force Survey (Author’s calculations)

Employment levels are especially low among young and older age cohorts. Figure 3.9 shows that male employment is relatively low among people in their twenties (between 30 and 56 percentage points); then rises sharply for people in their thirties, peaking at 76 to 79 percentage points for the 35–49 age cohort; then drops substantially for people in their fifties and early sixties. The same trends, though at much lower averages, is also seen among women, with employment rates the highest—62 to 64 percentage points—among 35–49 year olds.

**Figure 3.9: Work Activity by Gender and Age**

Source: 2010 Serbia Labor Force Survey (Author’s calculations).

The large gap in employment rates for both men and women between Serbia and EU member states is concentrated among those in their twenties and fifties, though for women the gap is also huge for those in their early 60s (Figure 3.10). In their 20s the gap for both sexes is as much as 30 percentage points. For those 35–49), the gap narrows to 4–8 percentage points for both men and women. Note as well the much sharper drop in employment for Serbian women in their 50s and early 60s than their EU counterparts. Altogether, across 20–64 year olds, the employment gap between Serbia and the EU27 is equivalent to approximately 233,000 jobs among Serbian men and 279,000 among Serbian women, a total of 511,000 new jobs. To close this gap, 57,000 new jobs would have to be created every year until 2020. To achieve the EU2020 target of 75 percent employment by 2020, Serbia would need to create 779,000 new jobs, or approximately 87,000 new jobs a year.

43 This calculation assumes an average annual cohort of about 90,000 people, a total of about 4 million people, aged 20–64. A 75 percent employment rate would therefore be equivalent to about 3 million jobs. Currently, about 2.25 million people that age have jobs.
Employment rates are much lower among those with secondary education or less, but regional differences are relatively small. Figure 3.11 shows that employment rates among men are remarkably stable for those with primary, lower secondary, and upper secondary education—about 58 percent work. However, for men with tertiary education, the employment rate is 10 percentage points higher. The pattern among women shows a more consistent increase in employment at each level, although the jump between upper secondary and higher education is by far the largest: employment rates rise from 43 percent to 71 percent, as high as for men. Finally, differences in employment by region are more modest, varying among men between 56 percent in Vojvodina to 62 percent in Belgrade, and among women between 40 percent in Vojvodina to 48 percent in Belgrade.

The most important reason offered for inactivity among youth aged 20–29 is education or training; among 50–64-year-olds it is early retirement (Figure 3.12). Even among 25–29-year-olds not participating, 61 percent of men and 46 percent of women report that they are still in education or training. The fact that enrolment in tertiary education is much higher than actual completion suggests that some stay in school while actively searching for work. Having ‘lost hope finding a job’ is the most important reason for under 10 percent of men in their twenties, and less than 5 percent of women in their twenties. On the other hand, 25 percent of women aged 25–29 who are not participating ascribe this to the need to provide child or adult care and another 16 percent reports other personal or family reasons. The high inactivity among the oldest cohorts is driven first by retirement, although
27 percent of inactive men aged 50–54 and 22 percent of inactive women report having lost hope of finding a job. Illness/disability is also an important reason for leaving the labor force.

Figure 3.12: Reasons for Labor Force Inactivity, by Gender and Age

Firm Perspectives on Employee Skills

322. The EU calls on countries to support the development of eight competences for the labor force, (Box 3.4) but Serbian firms see a disconnect between the type and skills level of students graduating from Serbian schools and labor market needs in certain occupations. For example, in a 2009 ILO survey, manufacturing firms were least likely to report that “all skills are adequate” with regards to skilled trades and process machinery employees, with technical and soft skills deemed to be most lacking. Only 36.5 percent of growing manufacturing companies considered the skills of their skilled trades workforce to be “adequate” and 49.3 percent found the machinery processing workforce to be “adequate.” However, there does not seem to be full overlap between the EU competences and those measured in the Serbian survey.

Box 3.4: The Eight EU Competences for Lifelong Learning

“As globalisation continues to confront the European Union with new challenges, each citizen will need a wide range of key competences to adapt flexibly to a rapidly changing and highly interconnected world.”

The European framework identifies eight key competences in addition to “traditional” subjects. They are (1) communication in the mother tongue, (2) communication in foreign languages, (3) mathematical competences and basic competences in science and technology, and (4) digital competence, which also include other transferable skills, (5) learning to learn, (6) social and civic competences, (7) sense of initiative and entrepreneurship, and (8) cultural awareness and expression. Cross-cutting themes applied throughout are critical thinking, creativity, initiative, problem-solving, risk assessment, decision-taking, and constructive management of feelings.

The EU calls on its member states to support the development of these competences among young and older people.


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44 This section relies on data from a survey of employers carried out in June-July 2009 by the Republic Statistical Office of Serbia (RSO), and funded by the International Labor Organization (ILO). Of 2,500 questionnaires sent out, the response rate was 2,431. The analysis focuses on the manufacturing industry because of its natural link with international trade and its large employment. In October 2010 the manufacturing sector counted nearly 280,000 male workers, 21 percent of total male employment, and 127,000 female workers (13 percent) (LFS, 2010). The ILO survey covered 108 manufacturing firms with self-reported growth in the previous 12 months, and 419 firms which did not experience growth.
323. **Technology and teamwork skills were most valued by employers covered by this survey.** Figure 3.13 breaks down specific competences for these two areas that firms considered weak. It shows “use of materials, technology, tools and equipment” to be the biggest constraint; for the skilled trades (40 percent) and the process and machinery workforce (55 percent) in firms experiencing growth. The next most common competences lacking were flexibility and team work.

**Figure 3.13: Skills Shortages in Selected Manufacturing Occupations**

Source: ILO Employer Survey Serbia, 2009. Author’s calculations. Data weighted by firm size. Sample of firms that expects to grow in next 12 months.

**Figure 3.14: Importance of Specific Skills to Firms Expecting Growth**

Source: ILO Employer Survey Serbia, 2009. Author’s calculations. Data weighted by firm size. The questions allowed responses from 1 to 5, with 5 being the highest importance.

### 3.3.3. Education and Training System Performance

**Formal Educational Attainment and Early School Leaving**

324. **Educational attainment levels in Serbia are considerably lower than in the EU27 countries.** Only about half the Serbian population (49 percent of men and 54 percent of women) completed at least upper secondary, well below the 2008 EU27 average of 71 percent for both.\(^{45}\) Serbia also has a fairly high proportion of the people with very little

\(^{45}\)“Serbia: Review of Human Resources Development”. European Training Foundation, 2010
education. Among men aged 25–64, about 21 percent have at most primary education, 30 percent lower secondary (1–3 years), 33 percent upper secondary (4–5 years), and 16 percent post-secondary education. Among women there is more variation; about 30 percent of the working age population have at most primary education, 17 percent lower secondary, 35 percent upper secondary, and 19 percent post-secondary education. (Figure 3.15)

**Figure 3.15: Educational Attainment of 25–64-year-olds, by Gender**

### Male

- **At most primary**: 21%
- **Lower secondary**: 33%
- **Upper secondary**: 30%
- **Beyond secondary**: 16%

### Female

- **At most primary**: 19%
- **Lower secondary**: 35%
- **Upper secondary**: 16%
- **Beyond secondary**: 30%

Source: October 2010 Labor Force Survey. Republic of Serbia Statistical Office. Author’s calculations

325. **Education levels of the current school-going generation will be higher, with women especially making gains.** Education completion rates between males aged 25–34 and those aged 35–49 are very similar; 52 percent of the former and 54 percent of the latter have completed at least upper secondary (Figure 3.16). Among women, however, the trend is considerably more favorable; whereas 60 percent of women 35–49 have completed upper secondary, 68 percent of women 25–34 have, and there are improvements at both the upper secondary and tertiary levels. Note also the large education gap among this younger cohort between men and women: 14 percent of men but 25 percent of women have been educated beyond the secondary level. Finally, calculations of what would happen to female employment rates if the education of the 25–34 were representative of all working-age women, the effect is a rise from 43 percent to 47 percent.

**Figure 3.16: Educational Attainment, Male and Female**

### Male educational attainment

- **25-34**: 16%
- **35-49**: 14%
- **50-64**: 14%

### Female educational attainment

- **25-34**: 13%
- **35-49**: 18%
- **50-64**: 18%

Source: October 2010 Labor Force Survey. Republic of Serbia Statistical Office. Author’s calculations
Early school leaving is declining, young women particularly tend to stay in schooling longer. However, there is still a large gap with the EU (see Box 3.5). In October 2010, 25.3 percent of youth aged 18–24 reported having only a lower secondary education and were no longer in education or training. However, this is substantially lower than in 2009 (30.3 percent) and 2008 (32.7 percent); the situation seems to be improving. Still, Serbia has a very high level of early school leavers compared to the EU average of 14.4 percent. There is also a large gender gap, with 31.8 percent of young men leaving school early compared to 18.5 percent of young women. However, recent enrolment rates are improving: between 2001 and 2008 net secondary school enrolments increased from 76 percent to 83 percent. However, regional differences in net secondary enrollments in Serbia are profound, with a net rate in Belgrade of 96.09 percent compared with 72.5 percent in Vojvodina.

Box 3.5: The EU2020 and Early School Leaving

Reducing early school leaving (ESL) to less than 10 percent by 2020 is a major target for achieving key objectives in the Europe 2020 Strategy and one of the five benchmarks of the strategic framework for European cooperation in education and training (ET 2020). Serbia can benefit here from the experiences of Austria, the Czech Republic, Finland, Lithuania, Poland, Slovakia and Slovenia, which have already achieved the 10 percent benchmark.

Source: European Commission 2010.

Early Childhood Education

Serbia is working to increase pre-school enrolment, but in duration and access it is far behind other countries in the region. Pre-school is internationally recognized as one of the most critical steps in ensuring skill development at all subsequent ages (World Bank 2010b). However, according to 2008 data (Figure 3.17), the net pre-school enrolment rate of 52 percent among 3–6-year-olds indicates that Serbia lags behind some of its neighbors and all EU new member states. For example, enrolment rates were 75 percent in Bulgaria, 76 percent in Romania, and 89 percent in Hungary. More positively, in school year 2006/07 Serbia introduced the mandatory preparatory pre-school program, a so-called zero grade. In 2009, this program was extended from 6 to 9 months and caused a significant increase in pre-school attendance for children aged 5.5 to 6.5, reaching 85 percent in Central Serbia and 96 percent in Vojvodina.

Figure 3.17: Pre-primary Education Enrolment (net rates, percent 3-6 years old, 2008)

Source: UNICEF TransMONEE Database, 2010

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46 For the EU ESL rates are defined by the proportion of the population aged 18–24 with only lower secondary education or less and no longer in education or training.
48 Source: Republic of Serbia Statistical Office.
General Secondary and TVET Education

328. Due to the demographic decline, the number of students entering secondary schools is declining (Figure 3.18). Between school years 2005/06 and 2009/10 the number of students entering secondary school fell by 5 percent, for a total of almost 4,000 students. In school year 2010/11 Serbia had 87,365 open posts for students in secondary schools, about 7,000 more than the number of children entering secondary schools (RSO)\(^ {49} \). This trend will continue, creating pressure to urgently address issues linked to the size of the school network.\(^ {50} \)

Figure 3.18: Number of Secondary School Students at the Start of the School year

![Graph showing the number of secondary school students](image)

Source: Republic of Serbia Statistical Office

329. Serbia has far more students attending vocational schools at the secondary level than other countries; more than three quarters (76 percent) of its secondary students are in vocational tracks. As shown in Figure 3.19, over the observed period Serbia was the only country in the region with a rising share of secondary technical vocation and educational training TVET students. All the other countries show an increase in the share of general secondary schools between 2001 and 2007.

Figure 3.19: Secondary School Students in TVET Schools (Percent)

![Graph showing the share of secondary school students in TVET schools](image)


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\(^ {49} \) Ministry of Education and Science data.

\(^ {50} \) Extensive discussion on the inefficiencies in primary education can be found in the Public Expenditure Review for Serbia of the World Bank published in 2009.
Over the past 10 years, secondary school reform efforts were mostly directed at vocational schools. The practice of separating reform of TVET and general secondary schools is preventing more strategic and comprehensive reform. Strategic design and implementation of reforms at secondary level are further complicated by the fact that the legal mandate for reform is split between the National Education Council (governing pre-primary, primary, and general secondary education), and the new Council for TVET and Adult Education.

Despite commendable efforts in piloting new education profiles in TVET schools, much of the effects of reform will only be seen with a full national scale-up. Since 2001, Serbia has been piloting a number of modernized educational profiles within the 13 sectors of the economy. The country succeeded in halving the number of educational profiles by removing the offerings of the outdated profiles, and by creating 65 new profiles implemented in 184 out of the 339 vocational schools. These were developed in cooperation with employers to better reflect labor market needs (European Training Foundation 2010; Republic of Serbia 2011). Despite the long-term efforts in this area, so far only 15 students of students in one generation are benefitting.

The current system of secondary education is characterized by early tracking, which forces 15-year-olds to make decisions about their future careers very early in life. The system is also restricts horizontal mobility; no mechanisms are in place to allow movement between different education tracks or between general and vocational programs. Schooling is organized in a traditional manner, with heavy emphasis on theoretical knowledge and few opportunities for students to gain practical competences. Graduates of three-year secondary schools do not qualify for post-secondary and university education. But there are no compensatory/bridging courses and programs, so these secondary school certificates are ‘dead end’ diplomas.

There are no mechanisms for measuring secondary education outcomes. The most common approach to monitoring quality is the state-administered standardized final exam at the end of secondary education (“matura”). This is an important part of the current education reform in Serbia that was designed with the support of European funds. It will replace the current system in which in the transition from secondary schools to higher education each faculty at each university administers a separate entrance exam. So far Serbia has not had capacity for systematic tracer studies that would collect data on further education or the employment prospects of secondary school graduates.

Box 3.6: European Qualifications Framework (EQF)

In April 2008, the European Union finalized the common reference framework to help its members, education institutions, employers, and individuals compare qualifications across the EU’s diverse education and training systems. This tool is considered essential for developing a European employment market. Member states are invited to link their national qualifications systems and the European Qualifications Framework (EQF).

By making competences and qualifications more transparent, the EQF is an instrument for promoting lifelong learning. It covers all education levels and relates them to the competences and skills. By increasing the transparency of qualifications, it enables individuals to judge the relative value of their qualifications, and employers to better judge the profile, content, and relevance of the qualifications.

The EQF is expected to increase the mobility of workers and students, and allow their qualifications to be recognized outside their own country. It is also expected to facilitate the transition from work to training and vice versa on a lifelong basis.

**334. The quality of Serbian education as measured by performance on international PISA student testing is on the rise but is still below the OECD average.**\(^\text{52}\) Over the three cycles of Serbia’s participation in PISA, its 15-year-olds showed a modest level of achievements in reading, mathematical, and scientific literacy (Figure 3.20).

**Figure 3.20: PISA Results, Math, Reading, and Science Literacy, 2003, 2006, and 2009**

![Graph of PISA Results](image)

**335. Although the literacy of Serbian students is on the rise, functional illiteracy at the age of 15 is still very high** (Figure 3.21). According to PISA 2009, 33 percent of Serbian students are functionally illiterate, failing to reach the level 2 of reading proficiency. This is almost triple the OECD average of 12.6 percent—although Serbia is still doing much better than neighboring Bulgaria, Romania, Montenegro, and Albania. And fewer than 1 percent of Serbian students are reaching the highest levels of reading proficiency at PISA. Serbia did record a significant improvement in reading literacy in PISA, moving from 401 points in 2006 to 442 in 2009.\(^\text{53}\)

**Figure 3.21: Functionally Illiteracy and High Reading Achievement in Serbia, 2009**

![Graph of Functional Illiteracy and High Reading Achievement](image)

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\(^{52}\) PISA attempts to measure whether young people can use their knowledge and skills to meet real-life challenges, rather than merely the extent to which they have mastered a specific school curriculum.
336. **Serbia has made a significant step to assure quality in compulsory education but the system is yet to be fully enforced.** In line with European and global trends, at the end of school year 2010/11, the optional entrance examination to secondary schools was replaced with a mandatory exam at the end of compulsory education (8 years of schooling). The exam is possible because national standards have been adopted that define learning outcomes/learning targets for children leaving primary schools. Until this school year, the state was administering a secondary school entrance exam that was not mandatory and was not a prerequisite for the entry to the three-year secondary schools. The new exam will make it possible to monitor student achievements across Serbia and be the key input for primary school quality enhancement.

Higher Education

337. **The majority of students who complete secondary education are also enrolled in institutions of higher education** (Figure 3.22). An estimated 79 percent secondary graduates continue education in the academic year when they complete secondary schooling, a percentage that has been stable over almost a decade (Center for Education Policy 2010). Few students take a break between completing secondary and starting higher education in Serbia (see also Vukasovic 2010). However, as student cohorts shrink, so does the actual number of students. Between 2007 and 2009, the number of students at universities and post-secondary schools in Serbia fell by more than 25,000 (RSO).

**Figure 3.22: Students in Higher Education, Serbia, 2007–2009**

<table>
<thead>
<tr>
<th>Year</th>
<th>Undergrad</th>
<th>Master</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>225,626</td>
<td>10,908</td>
<td>1,064</td>
</tr>
<tr>
<td>2008</td>
<td>215,550</td>
<td>17,466</td>
<td>2,924</td>
</tr>
<tr>
<td>2009</td>
<td>198,834</td>
<td>23,838</td>
<td>4,100</td>
</tr>
</tbody>
</table>

Source: Republic Statistical Office of Serbia

338. **High gross enrolment rates in higher education contrast starkly with the much lower completion rates** among 25–34-year-olds, 14 percent for men and 25 percent for women.\(^{54}\) This suggests that many, possibly as many as half, of those enrolled do not graduate. In addition, only a quarter of students who do graduate do so according to the timeline set by their programs. In Vojvodina, nearly half of all students graduate on time. In Central Serbia fewer than 20 percent do. On average, tertiary students are in school for seven years, although most programs are at most five years. Again, students in Vojvodina study on average 5.7 years and in Central Serbia 7.5 years. Average time at colleges\(^ {55}\) (level 5B, according to the International Standard Classification of Education (ISCED)) is also very

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\(^54\) 2010 Labor Force Survey data.

\(^55\) Two-years post-secondary education programs.
high, on average 4.8 years for two-year programs (RSO). Finally, most students study at public universities (83 percent) although the number of private universities and colleges has grown in the past two decades and almost one-fifth of all Serbian students attend a private school (Figure 3.23). Almost a third of all students attend ISCED 5B programs—shorter programs that focus on practical, technical or occupational skills (Vukasovic 2009).

Figure 3.23: First-year Students in Higher Education in Serbia, School Year 2009/10

Source: Republic of Serbia Statistical Office.

Note: University students are those studying 4-5-year programs as opposed to the college students attending 2-3-year programs at various post-secondary educational institutions.

339. Serbia has been participating in the Bologna process since 2005, when a new Law on Higher Education was passed. Since then, the university programs have gradually been reformed but the process is not yet complete. Serbia’s Bologna-related efforts have received high marks, from 2.28 in 2005 to 3.8 in 2009. In 2007, all post-secondary professional schools were subject to accreditation, and in 2009 all higher-level institutions introduced the European Credit Transfer and Accumulation System (ECTS). The system is not yet implemented at all schools in post-secondary education institutions in Serbia, but it is possible to transfer credits from Serbian to foreign universities.

340. Inefficiency of spending on higher education is a major problem. This is partly a result of the long legacy of strong autonomous university faculties that leads to costly duplication in teaching (with each faculty organizing its own courses in subjects outside its specialization), administration, and services (World Bank 2004). There are few accountability mechanisms, and curricula are often outdated, with teaching methodologies and single-discipline programs that are highly theoretical and not well linked to labor market realities.

Box 3.7: "Critical Thinkers Prepared for the Complexities of a Global Society"

A recent series in The Chronicle of Higher Education in the United States “looks at several institutions that are reshaping their curricula in ways that are financially sustainable and are meant to graduate flexible, critical thinkers prepared for the complexities of a global society.” It cites findings from a survey of employers, nearly two-thirds of whom said that "best preparation for long-term professional success was a blend of broad knowledge and skills coupled with field-specific knowledge.” [1]

Three educational practices "drew particularly strong support: expecting students to complete a significant project to demonstrate in-depth knowledge of their major and acquire a range of analytical, problem-solving, and communication skills; expecting students to complete an internship or other

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56 UNESCO Institute of Statistics gives 43 percent of GER in higher education for Serbia in 2002, while RSO data for 2007/08 and 2008/09 show a stable 38 percent enrollment rates to higher level institutions.
experience that would expose them to real-world issues; and ensuring that students had the skills to conduct research on questions in their field.” [2]

A small but growing number of universities in Europe has recently established “university colleges”, modeled after the more broad-based North American bachelor curriculum. One of the first was the University College Utrecht [3] in the Netherlands. Established by Utrecht University, it offers a three-years liberal arts and sciences undergraduate education, with a curriculum in which students “major” and “minor” in fields of specialization, and which emphasizes analytical, problem-solving, and communication skills. It also emphasizes student accountability – e.g. generally there are no opportunities to repeat exams. The vast majority of students that enter graduate on time, and the majority of these continue on with more field-specific masters trainings. Several other universities in the Netherlands have since established similar university colleges.


Adult Education and Training

341. Serbia has an insufficient system for adult education and training; its function is mostly remedial, and is not well adapted to labor market needs. Adult education covers all programs designed for people 18 and older that are outside the formal education system. The Strategy of Adult Education Development (2006) identifies various forms of education for people who did not complete elementary or vocational education. However, in Serbia, the adult education provided is limited and of low quality. There is no system for accrediting providers of adult education although there is a kind of certification process. Adult education is still seen only as compensatory, providing opportunities for the illiterate to obtain primary school and TVET certificates through “second chance” programs. Roma students make up the highest proportion of attendees. 57 A system for recognizing non-formal and informal learning has not yet been established and much of the adult education still reproduces curricula taught to children in primary schools (Government 2011).

Box 3.8: The UK Experience with Sector Skills Councils

Sector Skills Councils (SSCs) are employer-driven organizations covering approximately 90 percent of the UK workforce on skills issues. They are recognized by local governments throughout the UK as independent, organizations that ensure that skills training is driven by employer needs. SSCs aim to boost the skills and productivity of their sectors workforce. They gather sectoral labor market intelligence (LMI), which provides a vital evidence base for skills development. By influencing the development of qualifications and through apprenticeships, SSCs have a major impact on delivery of training (public and private) throughout the UK.

The 23 SSCs cooperate through the UK-wide SSC Alliance. Established in 2008, the Alliance works to place the SSCs at the heart of the UK skills system. For example, it position SSCs collectively as the authoritative voice on sectoral LMI and facilitates collaborative and cross-sector activity that SSCs cannot carry out individually. All SSCs are members of the Alliance of Sector Skills Councils.

Source: www.sscalliance.org

342. The proportion of Serbian adults attending formal training courses of any type is very low. According to the October 2010 LFS, among all employed people aged 25–64, only 1.2 percent (about 26,000 people) reported having attended a “regular system” training course (primary, secondary, or tertiary) in the previous four weeks and 2.0 percent (about 42,000)

57 According to the LSMS 2007, 42 percent of Roma people aged 15–24 in 42 percent have not completed primary school, compared to 2 percent of the general population of the same age.
attended a non-regular training course\textsuperscript{58}. Among those unemployed or inactive, 4.5 percent (about 82,000) attended regular training and 0.6 percent (about 10,000) attended non-regular training. Virtually all regular system training (Figure 3.24) happens in the 25–34-year-old cohort. Employed women are somewhat more likely to attend either training type than employed men.

Figure 3.24: Regular and Non-regular Training by Employed, Gender, and Age

343. **Adult education is not offered systematically.** Formal adult education does not have a separate line in the Budget of the Republic of Serbia 2010 (European Training Foundation (ETF), 2010), and apart from training offered by the National Employment Service, most is small scale, provided by formal education institutions, government agencies, private providers, NGOs, and other organizations. For example, there are only 14 schools offering elementary education for adults with about 2,500 students a year. Similarly the five pilot regional training centers at vocational schools set up with the support of the EU CARDS program have a total capacity of less than 1,000 participants a year (ETF 2010). On a larger scale, the Serbian National Employment Service organized training for about 21,872 unemployed people in 2010, but this was still only 3.8 percent of the total number of unemployed.

**Box 3.9: Does Adult Education Improve Labor Market Outcomes?**

Theoretically, government-subsidized adult education can be justified if there are market failures that lead to inefficiently low levels of education, such as adults not having sufficient savings or access to credit to pay for training; imperfect information—adults simply do not know the returns to adult education; or there are externalities such that training benefits both employees and employers but cost-sharing is difficult.

Empirically, little is known about how of adult education affects the labor market. Comparisons of labor market outcomes between those with adult education and those without generally suffer from selection bias: people who choose to undertake adult education are different in unobservable ways from those who do not (e.g., those undertaking adult education are more motivated).

A recent Swiss study (Schwerdt et al., 2011) overcame this selection bias by randomly assigning adult education vouchers to 2,437 adults and comparing the outcomes with those for people who had the same characteristics but did not receive the voucher. Of the 2,437 voucher recipients, 449 (18.4 percent) redeemed the vouchers.

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\textsuperscript{58} Examples given by the LFS (SORS, 2010) questionnaire are: foreign language course, driving school, computer course, typing course, cosmetics course, hairdresser course, cooking course, sewing course, carpenter course, mechanics course, etc.; for job-related vocational training enter the exact name training/course.
The study found that adult education may benefit some subgroups but not others. More-educated people were more likely to use the voucher than less-educated people. The vouchers did not benefit the labor market outcomes for the more educated but did seem to benefit the outcomes for people who had vocational training backgrounds. More such experiments are needed to build the empirical evidence base.


344. A new Law on Adult Education is being drafted. The Law on the Foundations of the Education System mandates the Council for Vocational and Adult Education to create a model for recognizing previously acquired knowledge and skills (Republic of Serbia, 2011). The council, established in March 2010 and chaired by the vice-president of the Serbian Chamber of Economy, includes representatives of business and trade unions (ETF 2010). The new adult education law was drafted by a working group involving the Ministry of Education and Science, the Ministry of Economy and Regional Development, and other stakeholders (ETF 2010). To set standards for recognition of previous learning, the draft law mandates that the council establish sectoral councils with representatives from businesses, institutions, entrepreneurs and their associations, the National Employment Service, unions, and the ministry responsible. The sector councils will also determine the labor qualifications required for the specific sectors (Draft Adult Education Law 2011). The first sector council, on tourism and services, was established in May 2011.

Box 3.10: Practical Challenges
During a 2010 European Training Foundation workshop, members of the new Council for VET and Adult Education identified the following problems:

- Procedures for introducing new profiles and programs are complicated and time-consuming.
- Practical training takes place only in schools, rarely in companies, so school leavers are not prepared for jobs.
- VET and higher education curricula are so outdated and procedures so rigid that they even prohibit contact students while in companies since the time that teachers spent with students in companies is not counted as their working hours.
- Enterprise practice is not long enough (sometimes only 10 days over four years) and varies in quality (vocational school monitoring of companies).
- Few employers are motivated to cooperate with schools; smaller companies mostly do not have the time, resources, or specialized knowledge.
- There are legal barriers to cooperation, such as laws covering safety at work during student practice.
- There is a lack of sustainability; when projects finish, partnerships disappear.

Examples of school-enterprise cooperation can be found at www.vetserbia.edu.rs

Serbian National Qualifications Framework

345. Serbia still does not have a National Qualifications Framework. Different qualifications are grouped together into various “levels” and the National Qualifications Framework (NQF) sets out the level at which a qualification can be recognized in one country. This helps to see how qualifications compare and how one type can lead on to another. Only qualifications that have been accredited by the existing councils can be included in the NQF. This ensures that all qualifications within the framework are of high quality, and meet the needs of learners and employers.
Better coordination of different institutions in charge of the NQF is needed. Currently, the Council for Vocational and Adult Education and Training has been assigned the lead in developing the NQF, though an NQF for higher education has also been drafted. To prevent further fragmentation of the system for skills and LLL development, there is a need to promote the cooperation of all national education councils in the joint effort to design and implement the Serbian NQF. International experiences showing that a single framework is necessary if the NQF is to be used effectively to strategically guide national skills build-up.

### 3.3.4. Active Labor Market Policies

**Serbian spends only a fraction of what other European countries spend on active labor market policies** (Table 3.4). In 2010, Serbia spent about €242 million on unemployment benefits (€431 per unemployed person), or 0.7 percent of GDP, and €35 million on active labor market programs (ALMPs) (€62 per unemployed person), or 0.1 percent of GDP. The former is about the same as the OECD average, but the latter as a proportion of GDP is only one quarter of the OECD average of 0.4 percent. To match that average, Serbia would need to invest about €100 million a year.

**Table 3.4: Serbian Expenditures on Labor Market Policies (2010)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment benefits</td>
<td>25,522</td>
<td>242</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Active labor market policies</td>
<td>3,686</td>
<td>35</td>
<td>0.1</td>
<td>0.4</td>
</tr>
</tbody>
</table>

* Defined as “Out-of-work income maintenance and support” (OECD Stats. 2011)

At 0.1 percent of GDP, Serbian ALMP spending is also considerably below that of new EU member states (Figure 3.25), such as Slovakia and Hungary (0.2 percent), and Poland (0.5 percent), although equal to the spending of the Czech Republic. Similarly, the ratio of unemployed to National Employment Service (NES) staff is very high: in 2009, there were 367 registered unemployed persons per one NES staff member, while the average ratio in the EU was about 150:1. The ratio of front-line counselors—those working directly with the unemployed—to total NES staff is equally unfavorable, 43 percent in 2009, the second lowest in the Western Balkans and implying a caseload of 853:1 (Gligorov et al. 2011).

**Figure 3.25: Comparison of Public Spending on Active Labor Market Policies, 2008**

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349. **In 2010, 49 percent of ALMP spending went to the First Chance on-the-job up-skilling program.** First Chance offers vocational training and employment for people up to age 30 with no prior work experience who are registered with the NES and have at least finished secondary school. The program offers three months of practical training during which participants receive €95 a month. An employer then has the option to retain the person for a 12-month apprenticeship, during which the person receives a higher government stipend of about €170 monthly for secondary graduates, €190 for those with a higher-school degree, and €210 for university graduates. The employer pays the taxes on the salaries. After the 12 months, employers must retain the person for at least 12 more months. In 2010, 17,175 people participated at a cost of €992 each. Although the on-the-job training component of First Chance seeks to support development of directly relevant skills, it is not known to what extent it succeeds in up-skilling and long-term employment, and how cost-effective it is compared to other ALMP measures, such as course work training.

Table 3.5: Serbia: Public Spending on Active Labor Market Policies (2010)

<table>
<thead>
<tr>
<th>Active Labor Market Policies, 2010</th>
<th>RSD (millions)</th>
<th>Euros (millions)</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Career guidance and counseling/job search assistance</td>
<td>5</td>
<td>0.5</td>
<td>0.1</td>
</tr>
<tr>
<td>2 Additional education and training</td>
<td>2,093</td>
<td>19.8</td>
<td>56.8</td>
</tr>
<tr>
<td>o/w First Chance</td>
<td>1,800</td>
<td>17.0</td>
<td>48.8</td>
</tr>
<tr>
<td>o/w Training</td>
<td>293</td>
<td>2.8</td>
<td>8.0</td>
</tr>
<tr>
<td>3 Employment Subsidies</td>
<td>901</td>
<td>8.5</td>
<td>24.5</td>
</tr>
<tr>
<td>o/w Self-employment</td>
<td>354</td>
<td>3.3</td>
<td>9.6</td>
</tr>
<tr>
<td>o/w Subsidies for job creation</td>
<td>548</td>
<td>5.2</td>
<td>14.9</td>
</tr>
<tr>
<td>4 Public works</td>
<td>686</td>
<td>6.5</td>
<td>18.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3,686</strong></td>
<td><strong>34.9</strong></td>
<td><strong>---</strong></td>
</tr>
</tbody>
</table>


350. **The remainder of the ALMP budget went to employment subsidies (25 percent), public works (19 percent), and regular courses (8 percent).** NES supported 4,697 people with direct training at a cost of €591 per trainee. Of these, 1,857 were trained at the request of employers, and 2,840 “catalogue trainings” in one of 12 areas. Most popular were economics and law (43 percent), chemicals and non-metal (16 percent), mechanical engineering and metal processing (8 percent), agricultural, manufacturing, and food processing (8 percent), and social, humanitarian (8 percent). Of those received trainings, 52 percent were 30 to 50 years old, 44 percent were long-term unemployed, and 59 individuals were Roma. As with First Chance, the impact and cost-effectiveness of these programs is not known.

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59 [http://www.nsz.gov.rs](http://www.nsz.gov.rs)
Box 3.11: Do Active Labor Market Policies Improve Labor Market Outcomes?

A recent review\(^1\) of 97 studies conducted between 1995 and 2007 found that to improve labor market outcomes of unemployed people: (a) subsidized public employment is relatively ineffective; (b) job search assistance (which is often least expensive) is more likely to yield positive results, especially in the short run; (c) classroom and on-the-job training is unlikely to yield positive impacts in short run but is likely to yield relatively positive impacts over the medium term (two years). The study also found that ALMPs targeted at youth are less likely to yield positive impacts than untargeted programs.

To ensure continuous learning and innovation, national employment agencies are undertaking increasingly rigorous evaluations. For example, the Danish National Labor Market Board began conducting randomized evaluations of its ALMPs in 2005 and currently conducts averages about two a year. It works closely with academics and disseminates the findings among its staff.


351. The number of people reached by ALMPs is far below the number needed to reduce the gap in employment between the EU and Serbia. Closing the current gap by 2020 will require creation of 57,000 jobs annually, and reaching the EU2020 target of 75 percent employment among those 20–64 will require about 87,000 new jobs a year. However, in 2010, just 17,175 youth participated in First Chance and 4,697 people participated in direct training. Many more people were reached by career guidance/counseling through job fairs, but given the marginal spending in this category, this is unlikely to have substantially raised employment. If Serbia were spending the OECD average of 0.4 percent on ALMP training programs, it could train another 177,000 people annually in its current programs, or train another 105,000 people annually in more expensive First Chance-type programs. Generally, program effect of 10–20 percents (the percentage points by which programs raise employment for participants) are considered substantial. Therefore, if we assume a 20 percent success rate, increased spending on ALMP would generate a maximum of 21,000 to 35,400 newly employed a year.

Training By Businesses

352. The proportion of adults attending any type of formal training course is very low in Serbia; but 37 percent of employers report offering training to employees. As mentioned previously, among all employed people aged 25–64, 1.2 percent (about 26,000) reported attending a “regular system” training course (primary, secondary, or tertiary education) and 2.0 percent (about 42,000) attended a non-regular-system training course. However, more than a third of firms claimed to offer training to full-time employees (BEEPS 2008), which matches the average for Serbia’s neighbors and new EU member states (Figure 3.26). This discrepancy suggests that training is provided selectively, to a subset of employees.
The most common method to raise employee skills is further training, but very few firms turn to government to provide it. The manufacturing sector seems most active, directly providing training, relocating employees, expanding their trainee programs, and sometimes changing work practices. Recruiting services from the NES are only considered by 21 percent of the manufacturing sector, and 13.6 percent of the wholesale trade sector. For wholesale trade, recruiting is also considered for companies that do not expect to grow, suggesting a rotation of employees. Again, however, based on employee response in the October 2010 labor force survey, for most training is a rare event. The main reason for acquiring new skills in manufacturing is to enable employees to cope with new technologies (Figure 3.27) and in wholesale trade, it is to develop new products or services.

Figure 3.27: Purposes of Training
(A) Actions Taken to Acquire skills
(B) Reasons to Acquire Skills

Source: ILO Employer Survey Serbia, 2009. Author’s calculations. Data weighted by firm size. Sample of firms that expects to grow in next 12 months.
3.3.5. Policy Recommendations

354. Recommendations in this section are presented in chronological sequence starting with early childhood and followed by secondary and higher education. After that, there is a brief overview of recommendations related to adult education and active labor market programs, and the National Qualifications Framework.

355. **Serbia could provide more early childhood education (ECE), extend the time children spend in ECE, and ensure that vulnerable groups like Roma participate fully.** Handicaps acquired early in life are difficult if not impossible to remedy later; effective ECE programs emphasizing nutrition, stimulation, and basic cognitive skills can have a very high payoff in terms of primary school readiness and secondary school performance and completion, especially among the poorest and most vulnerable groups (World Bank 2010b).

356. **At the secondary level of education, Serbian government could make more efforts to discourage drop-outs and progress further with the reform of the curricula.** Measures to encourage school completion include: (a) creating compensatory/bridging courses and programs; (b) remedial education for students at risk’ and (c) improving the relevance of school to the labor market. In addition, it is important to reform curricula in order to incorporate field-specific knowledge demanded by the labor market. Curricula need to emphasize the transferable skills, such as learning to learn, social and civic competences, and entrepreneurship. In order to achieve this Serbia needs better institutional venues for collaboration between education and employers. Finally, curricular reforms could be integrated and coordinated, through partnership between the National Education Council, which leads general secondary reforms, and the new Council for TVET and Adult Education.

357. **In higher education, priority should be to ensure students’ accountability and build field-specific knowledge.** Both higher education students and providers could all be held more accountable. First, student accountability can be increased so that more students graduate on time. Second (and not unrelated) universities could improve accountability and efficiency by reducing duplication across faculties within the same university and offering students an education that moves away from often highly theoretical single-discipline programs, to a more varied bachelor’s degree curriculum that builds such competences as critical thinking, creativity, initiative, and problem-solving.

358. **Adult education and training needs to be better funded in order to gain labor market relevance.** Reaching the OECD average of 0.4 percent of GDP for ALMPs requires additional investment of €100 million a year, which would 100,000 to 180,000 more people to be trained every year. Equally important is increasing the labor market relevance of training and to target better middle-aged and older workers, not only those unemployed but also those still employed but at risk of leaving the labor market.

359. **All national education councils in Serbia could work together on a comprehensive NQF.** Currently, the Council for Vocational and Adult Education and Training has been assigned the lead in developing the NQF, though an NQF for higher education has also been drafted. To prevent further fragmentation of the system for skills and LLL development, there is a need to promote the cooperation of all national education councils in the joint effort to design and implement the Serbian NQF.

360. **Ensure regular funding for collecting data relating to the organization, administration, and results of the education system.** No complex reform of the system will be possible without a functioning information resource of administrative data. Education
statistics need to be based on international standards and measurements, to allow comparability and simplify their use in improving learning and evidence-based policy making.
3.4. The Energy Sector

Energy supply, especially electricity, is perhaps the most acute constraint on sustained expansion of Serbia’s economic activity and exports, especially once the economy moves onto a faster growth trajectory. Indeed, Serbia is facing a looming power sector crisis; already, generating capacity is not able to meet peak demand and projections of consumption and new capacity show the gap widening after 2015. Serbia is a very high energy consumer and energy intensity⁶⁰ in Serbia was and is substantially higher than in other Balkan countries and the EU. High energy intensity reflects policies that directly and indirectly led to subsidization of energy consumption through below-market prices and tolerance of non-payments.

Any viable strategy for reform of the sector must therefore include measures to rationalize demand, such as changes in tariff policy toward cost recovery—accompanied by appropriate social protection mechanisms—and restoring payments discipline. The sector also needs institutional and regulatory improvements, a reduction in commercial losses, construction of new capacity, and rehabilitating transmission and distribution. This cannot be done by the government alone. In fact, estimates of the required expansion of supply suggest that the private sector, domestic and foreign, will take up the bulk of the needed extra investments needed to transform the system and increase its capacity for efficient delivery to meet growing demand. Thus, there must be major reforms to improve the performance of the state-owned energy company and open up the system to foreign and domestic private sector participation and well-designed public-private partnerships.

3.4.1. Introduction

361. After five years of reconstruction and stabilization in the early 2000s, the power sector recovered to become one of the key sectors in Serbia’s economy. Having suffered from extensive war damage, poor management, payments indiscipline, and consequently accumulation of large quasi-fiscal deficits (about 10 percent of GDP in the early 2000s) Serbia’s energy sector was on a verge of collapse. Reconstruction efforts after 2000 restored most of the infrastructure and ambitious reforms began for reorganizing the sector. The power market, including state-owned Electricity Company (EPS), was partially restructured according to market-based principles (separation of generation, transmission, and distribution and appointment of an independent energy regulator) and management practices improved, especially elimination of the use of offsets and barter to settle energy bills. As a result, in 2009 the sector accounted for about 4.5 percent of GDP and employed about 31,200 people.

362. By 2008, however, the percentage of firms in Serbia that identifies electricity as a major constraint in doing business had increased by 120 percent comparing to the previous round of survey (BEEPS 2009). Although the indicator relatively low compared to other countries in the ECA region, it is still five times higher than the OECD average of 6.1 percent (Figure 3.28). That same year, generation capacity was not able to meet peak demand and the country had to rely on imports to satisfy domestic consumption. These alarming signs pointed to an imminent electricity crunch. Though the current economic crisis has slowed consumption, energy demand is expected to pick up as the economy recovers. This brings to

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⁶⁰ Energy intensity is a measure of the energy efficiency of a nation’s economy. It is calculated as units of energy per unit of GDP.
a head serious problems that if not addressed will impact the medium and long-term development of the power sector and the economy as a whole.

363. If an electricity crisis does materialize, Serbia’s exporting industries would be particularly hard hit since most are energy-intensive. The metals sector, including production of electrical machines, accounts for about a third of the country’s exports, all highly energy intensive. As experience in neighboring countries indicates, in electricity runs short and is unreliable, firms use more expensive imports or self-generated electricity or stop producing. Serbian industry has already had to reduce output during cold periods due to constraints in natural gas supply. To compound the problem, compared to the efficiency of commercially available technologies used elsewhere in the world, the technologies used in Serbia’s main exporting industries are very energy-intensive, suggesting considerable potential for energy savings.

364. Serbia therefore must (i) urgently address shortages of electric power; and (ii) in the short- to medium term, radically improve the energy efficiency of its economy, particularly its main exporting industries. It must also build confidence among current and potential investors in manufacturing and services that it will continue improving the legal and institutional framework and that it can make appropriate investments. It is necessary to upgrade power generation and electricity grids so they can support desired industrialization and employment policies. Industrial investors necessarily take into account the sustainability of electricity prices in making investment decisions. Moreover, short- to medium-term solutions are not sufficient to facilitate sustainable employment and the growth of industrial output as well as penetration of new markets.

Figure 3.28: Percentage of Firms that Consider Electricity a Problem in Doing Business


3.4.2. Sector Overview

365. Before the global economic and financial crisis, power consumption in Serbia had been growing by an average of 2 percent a year since 2005. Economic growth in both nontradables (services account for about 60 percent of GDP) and export-driven industries have boosted total final electricity consumption (TFEC) over those three years. Between 2005 and 2008, power consumption in the commercial and public services sectors grew at an average 4.3 percent and in industry by an average of 5.3 percent. Thus, the structure of power
consumption was shifting toward the commercial and public sectors (from about 15 percent in 2005 to 21 percent in 2008). By contrast, industrial electricity demand has remained almost unchanged (26 percent) because virtually all increases can be attributed to exporting industries taking advantage of relatively low regional electricity prices (as is explained below). By 2008, TFEC reached 27.2 TWh, of which the residential sector accounted for 52 percent, industry 26 percent, commercial and public services 21 percent, and agriculture and transport 2 percent.

366. **Electricity consumption is also partly explained by high energy intensity.** Energy intensity (EI) in Serbia was and is substantially higher than in the EU and in other Balkan countries. Serbia’s policies had directly and indirectly subsidized energy consumption through below-market prices and tolerance of no-payments, stimulating excessive and wasteful consumption by both firms and individuals. During the 2000s, energy was a key input in fast-growing industries like steel, sugar, rubber, and copper—Serbia’s main exports. Although EI has declined by about 25 percent since 2005, the economy still uses double the energy per dollar of GDP than its Western Balkans neighbors and almost 2.5 times more than Western European countries (Table 3.6). Yet per capita energy and electricity consumption are still below the OECD Europe average by about 65 percent.

367. **Domestic lignite and hydropower are the country’s main energy resources.** Total reserves of lignite are about 15.9 billion tons. It has a very low calorific value, from 6.7 to 7.4 Mj/Kg; reserves are sufficient for 55 years of productive. Almost all the lignite produced is dedicated to power generation units built near two major mines (Kolubara and Kostolac). Lignite-fired power plants generate two-thirds of Serbia’s electricity needs (about 30,000 GWh). The extensive use of lignite partly explains Serbia’s high carbon intensity (Table 1), which is almost 10 times higher than in OECD Europe. The other third is generated by hydropower plants (HPP). With its large water resources, hydro resources are poised to play an important role in meeting the energy needs of the country as well as the region. Serbia currently exploits 11,000GWh of hydropower; it has the largest HPP in Europe on the Danube River: the Iron Gates Dam (Djerdap). The facility has a capacity of 2,120 MW, shared between Serbia and Romania.

368. **Its coal and hydropower resources help make the country virtually self-sufficient in energy.** Serbia’s primary energy mix is balanced between domestic coal (50 percent), crude oil (21 percent), natural gas (12 percent), hydro and renewables (10 percent), and petroleum products (5 percent). At 38 percent Serbia’s energy import dependency is significantly lower than the OECD Europe average of 46 percent (Table 3.6). However, even that import dependency creates a significant burden on the trade balance because crude oil, petroleum products, and natural gas account for most of country’s imports. Because Serbia lacks access to open sea and the natural gas market, the prices it pays for natural gas and petroleum are higher than the Mediterranean market price.

369. **Moreover, Serbia’s power sector cannot be detached from its role in the regional energy market.** With annual consumption of 27.3 TWh, Serbia is one of the largest power markets in South East Europe and its strategic geographic position at the heart of the Balkan peninsula gives it an important role in the power trade in South East Europe. The main regional trading pattern is a flow of electricity from the EU member states to its neighbors. In 2008 about 18 TWh flowed through Serbia, equivalent to 70 percent of its own annual energy consumption. Furthermore, a significant portion of the country’s hydropower potential is

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61 This proportion may be higher: most large residential consumers re-registered as commercial consumption to avoid 3-tier tariff system for residential consumers that charged higher prices for heavier monthly consumption.
from rivers that border neighboring countries. Decisions in managing water have both domestic and regional implications for energy security, water quality, climate change mitigation and adaptation, and ecological protection. Thus, exploitation of hydropower potential is inextricably linked with regional agreements.

### Table 3.6: Western Balkans: Select Energy Indicators

<table>
<thead>
<tr>
<th></th>
<th>Serbia</th>
<th>Western Balkans</th>
<th>OECD Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total primary energy supply (Mtoe)</td>
<td>15.8</td>
<td>33.8</td>
<td>1827.0</td>
</tr>
<tr>
<td>Energy consumption (toe) per capita</td>
<td>2.1</td>
<td>1.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Electricity consumption (kWh) per capita</td>
<td>4,150</td>
<td>2,768</td>
<td></td>
</tr>
<tr>
<td>Energy intensity of GDP (toe/thousand US$)</td>
<td>0.33</td>
<td>0.17</td>
<td>0.14</td>
</tr>
<tr>
<td>Carbon intensity (kg CO2/US$)</td>
<td>3.78</td>
<td>1.57</td>
<td>0.39</td>
</tr>
<tr>
<td>Net imports as percent of TPES (Dependence)</td>
<td>38</td>
<td>**</td>
<td>46</td>
</tr>
</tbody>
</table>

Source: All data is from IEA 2007 selected energy indicators, prices are in constant dollars from 2000. * Includes: Albania, Bosnia and Herzegovina, Croatia, and Macedonia, FYR. Data for Montenegro is not available; ** Not calculated to avoid double counting due to intra-regional trade.

### The Impending Electricity Crunch

370. Before the economic downturn, electricity demand was growing steadily; although it slowed in 2009, demand is expected to pick up again with economic recovery. As of 2008, 27.26 TWh were sold to 3.4 million domestic consumers, including households (52.7 percent of total demand), industry (25.1 percent), and other medium and high-voltage consumers (22.2 percent). Between 2000 and 2008, consumption grew steadily at an average rate of 1.4 percent, though the rate was higher in the years just preceding the crisis. While the current financial and economic crisis has slowed demand growth (in 2009 demand contracted by 1.3 percent, much less than the actual decrease in industrial output, which suggests low demand elasticity), it is expected to pick up in 2011. Ministry of Mining and Energy forecasted growth of 2.25 percent in annual electricity consumption, which corresponds to average GDP growth of 4.63 percent until 2015. If GDP growth is lower, e.g., 3.0 percent, electricity growth will be 1.8 percent, and the results would be very similar.

371. On the supply side, the country is relatively well endowed with generation, transmission, and distribution infrastructure. Installed generation capacity is 7,124 MW, of which 3,936 MW (55 percent) are lignite-fired thermal power plants (TPPs); 2,835 MW (40 percent) are HPPs; and 353 MW (5 percent) are combined heat and power plants (CHPs, 353 MW). The electricity network is also considerable because of transit electricity flows for the region. In 2009, the domestic transmission system delivered 41 TWh, of which about 18 TWh came mainly from northern neighbors and were moved on to southern neighbors. In 2008, installed transformer capacity was 17 724 MVA and 9,900 Km of overhead lines (including 400 kV, 220 kV, 110 kV as well as some 35kV and 10kV networks). The distribution network is organized in five zones that cover the country. The total system comprises 142,195 Km of medium and low voltage lines (110kV, 35 kV 10 kV and 0.4 kV) and 32,292 distribution transformer substations with an installed capacity of 24,486 MVA (Figure 3.29).

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62 This Ministry has been merged with the Ministry for Infrastructure, in 2011.
However, despite major efforts in recent years to improve its capacity, the power generation infrastructure is old and unreliable. Most facilities are already operating beyond their designed life, and 53 percent of all power plants are more than 30 years old. The “newest” power plant was built more than 20 years ago and most TPPs and HPPs were built in the 1960s and 1970s. Plant operating condition plants has further deteriorated because of lack of maintenance (especially during the 1990s and the first half of 2000s), which has seriously undermined their reliability and efficiency. Presently, about 7.6 percent of installed capacity is not available due to plant de-rating. Part of this capacity can be regained through planned rehabilitation programs, but some of these have been delayed for lack of financing. Long-term, rehabilitation of thermal and hydro plants will improve both capacity and reliability, but short-term capacity may be reducing during rehabilitation. Serbia is also planning to tap into its renewable energy potential, in particular wind and hydro, although these projects may take time to materialize.

The transmission system is aging and transmission constraints make it difficult to accommodate new generation capacity (especially renewables) and increased regional trade. On average, 26 percent of transformers and 46 percent of overhead lines are in poor condition and are maintenance-heavy. The system is also in need of expansion; inadequate infrastructure may therefore limit expansion if regional power trade should increase in the next few years. For instance, Northern Serbia would need more capacity if the country is to realize its wind potential. In the west, the 220kV overhead line (OHL) to Bajina Bašta-Pljevlja, which accepts power from major HPPs and connects Serbia to Montenegro, is heavily loaded. Upgrade of the OHL line to 400kV would both facilitate system performance for reversible pumping regimes for water storage purposes and increase capacity for energy transit to Bosnia and Montenegro. Additional projects to connect with Macedonia and Romania to increase power trade are also being considered.

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64 According to the IEA (2007), the average efficiency of TPPs in Serbia is only 30 percent (LHV net); the average for developing countries is 34 percent and the EU average is 40 percent. The problem arises partly from low fuel quality but also from old technology and deterioration of plant equipment.

65 Indicates all facilities older than 30 years or revitalized 30 or more than 30 years ago.
374. **There are opportunities for immediate financial gains, however.** Pressing requirements to cover domestic peak demand, lack of demand management, and poor market design prevent better financial outcomes from hydro peak capacity. Although Serbia operates some of the most flexible strategic hydro power assets, most of this capacity is used to cover domestic peak demand during cold weather. Poor energy efficiency, extensive sensitivity of demand to weather, and lack of demand management press the operator to use high-value assets for uses with low financial returns. EPS carries significant opportunity costs that spur its investment capacity.

375. **The distribution system urgently needs to be modernized, with better metering and upgrading of MV/LV facilities to seal off high system losses, improve efficiency, and supply quality power to local industries.** In 2009, transmission and distribution system losses reached 18 percent of gross consumption—about €300 million worth of electricity losses a year. Efforts to improve the reliability and efficiency of the transmission network steadily reduced transmission losses to 3.3 percent of gross consumption in 2009, but total distribution losses are still high: 15.8 percent of gross electricity consumption in 2009. Although it is difficult to determine what proportion of technical and commercial losses is due to lack of meters in some substations, distribution losses are estimated at 8.6 percent, with commercial losses believed to be about 6.5 percent. It is also important to notice that losses vary by distribution system, from 13 percent for Elektrovojvodina to about 20 percent for Jugoistok. Old and deteriorated distribution networks, malfunctioning electricity meters, and theft explain the high losses. Most losses occur during periods of high demand and were covered by potentially high-value generating assets. Collection rates had improved to 94 percent of electricity billed, but the economic crisis reversed this positive trend, especially in industry.

376. **Serbia is thus threatened by a power sector crisis; already generating capacity cannot meet peak demand** (Table 3.6). The country relies on imports from Bulgaria, Hungary, and Romania to balance its demand and avoid load shedding. This situation is expected to continue until the first new power plant comes on line (2014 at the earliest). Even with a very conservative forecast of power demand growth, 1.2 percent a year (Figure 3.30), a gap in reserve capacity will arise in 2015.\(^6\)

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\(^6\) Reserve capacity is the extra generating capacity available either to meet unanticipated demands for power or to generate power if there is a loss of generation resulting from scheduled or unscheduled outages of regular generating capacity. For the Serbian system, it could be roughly estimated at 600 MW, or what is necessary to cover an outage of the biggest unit in the system.
The Potential Supply Response

Serbia’s high resource endowments in primary energy suggest that it will be able to ensure adequate power supplies to sustain projected growth in demand. To do so, however, the sector will need substantial investments in the short to medium term. According to EPS, EMS, and the Ministry, total investments needed amount to €16 billion to 2020, of which €4 billion are expected to be financed by the public sector and €12 billion from private investments. Table 3.7 summarizes investments the government envisions for the power subsector through 2020.

Table 3.7: Estimated Energy Investment Requirements for 2010-2020 (€ billions)

<table>
<thead>
<tr>
<th>Subsector</th>
<th>Investment</th>
<th>Public Investment</th>
<th>Private Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing TPP &amp; HPP plants</td>
<td>1.8</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>New thermal plants</td>
<td>2.7</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>Mining</td>
<td>2.2</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>New large HPPs</td>
<td>0.7</td>
<td></td>
<td>0.7</td>
</tr>
<tr>
<td>Renewables</td>
<td>7.7</td>
<td></td>
<td>7.7</td>
</tr>
<tr>
<td>Transmission</td>
<td>0.4</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>16</strong></td>
<td><strong>3.7</strong></td>
<td><strong>12.3</strong></td>
</tr>
</tbody>
</table>

Sources: EPS, Ministry of Mining and Energy and report on “Impact of the world financial crisis on the power sector of Serbia”

Note: some investments in existing TPPs have already been made in the period 2008-2010, but the majority are pending; also, investments from the report on “Impact of the world financial crisis on the power sector of Serbia” are assumed to be made in the period 2008-2015, but many are clearly not going to be completed by 2015. Where information on the split between public and private financing was not available.

Figure 3.30: Forecast for Electricity Demand and Supply in Serbia
Most TPPs and HPPs require either rehabilitation–life extension and retrofit or retirement. Serbia has decided to retire about 900 MW out of the total 3,800 MW of its thermal plants and rehabilitate the rest ones. Some TPPs have already had their lives extended, but an additional €600 million is needed to complete the program. Similarly, some hydroelectric plants have been rehabilitated; they are producing more energy and can expect a longer operating life. The next investment phase (2010–2015) will see rehabilitation of HPPs Zvornik (135 MW) and Vlasinska (129 MW) and some smaller HPPs.

The new power plants that will be needed will include thermal, hydro, and renewables. The projected thermal (with the associated lignite mines) and hydro plants, all to come on line in 2016, are expected to cost about €6.3 billion; they include (i) new lignite-fired units at Kolubara B (700 MW) and Nikola Tesla B3 (750 MW); (ii) mines associated with Kolubara and Nikola Tesla; (iii) natural gas-fired CCGT/CHP (400 MW) in Novi Sad. Strategic investors are being sought for the power plants and one of the mines; EPS plans to develop the Kolubara mine. New and expanded lignite mines at current efficiency/productivity rates are likely to raise fuel costs due to an increased lignite-to-overburden ratio and higher costs of land acquisition. Two large hydro plants are also planned to come on line between 2016 and 2020: (i) a 238 MW HPP on the Upper Drina river, which will cost €435 million; and (ii) a 680 MW pumped storage HPP at Bistrica, which will cost €918 million. Strategic advisors are being sought for these projects.

Transmission and distribution investments will need to address electricity flow from new generation capacity and high energy losses in the distribution system. Investments in electricity transmission are needed (i) to address the increased flow of electricity from renewables; (ii) to provide for interconnections that increase Serbia’s participation in the regional market; and (iii) to replace the aging 220 kV backbone of the current system with more efficient 400 kV, which is also consistent with the regional and UCTE systems. A number of transmission investments have been identified (€140 million), but complete development would require further investment currently estimated at €0.5 billion. At the same time, the distribution system is plagued by high energy losses and requires upgrading with, among other things, smart meters and modern controls. The required investment is projected at €1.2 billion. The public sector is expected to make the transmission and distribution investments.

Compounding these challenges is the need to comply with the strict EU environmental requirements, which will call for yet more funding. Serbia relies substantially on domestic low-quality lignite; changing that reliance will not be easy because of cost and reliability considerations. At the same time, its energy and climate policies will have to comply with the EU climate change and environmental protection frameworks. The country has aligned its environmental regulations for energy facilities with EU directives through the Energy Community Treaty and is now implementing them for both existing and new power plants, but complying with the regulations will be costly. EPS has started a major program to do so and expects to spend about $1 billion to rehabilitate power plants and about $780 million on environmental controls, such as replacing wet ash handling systems with dry, upgrading electrostatic precipitators to reduce particulates etc.

Alignment with European standards and fulfilling Serbia’s Energy Community obligations might carry additional costs for upgrading TPPs. According to the Energy Community Treaty, which Serbia ratified in 2006, all its lignite-fired TPPs must comply with

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68 It remains to be seen how conventional investments are to be aligned with the EU environmental acquis, the best available technology requirements envisaged by the Energy Community treaty, and growing concerns about carbon pricing and taxes.
the EU Large Combustion Plant Directive before 2018. This obligation may require increased investment over the medium term, add substantially to generation costs, decrease efficiency, and increase carbon intensity. High carbon intensity is likely to be penalized by the EU electricity market, which would push up generation costs. Alternatively, Serbia could undertake a massive re-powering program to substantially increase generation efficiency, introduce co-firing of lignite with biomass, and decrease carbon intensity, but that would mean massive off-grid time for plants that would put pressure on already inadequate reserve capacity margins.

3.5.1. The Unfinished Reform Agenda

383. The estimated need for power sector investment is beyond the reach of the public sector; bridging the gap at lower cost will require to address the unfinished reform agenda decisively. Private involvement in such a significant investment program will be inevitable, but it would need increase to jump from almost nothing today to billions of euros by 2020. And attracting these resources will require substantial domestic efforts to improve the investment environment. Failure to do so will translate into higher financial cost – particularly if in the future external flows are scarcer and there is less appetite for risk. Thus, Serbia will need to revitalize its unfinished energy reform agenda by, e.g., improving its financial and commercial viability, restructuring the sector more radically, and protecting the poor and vulnerable from tariff increases.

3.5.2. Financial and Commercial Viability

384. To make the power sector more financially viable Serbia will have to address both cost structure and tariff policy. To ensure that utilities function on a financial sustainable basis without putting a significant weight on the state’s budget (either through direct subsidies or sovereign guarantees) electricity tariff reform is crucial. Electricity prices were increased in March 2010 by about 10 percent and in April 2011 by 13.5 percent, but at current prices EPS still cannot fully cover its estimated costs. For instance, the EPS internal lignite transfer price is estimated to be about 38 percent lower than what the company charged external customers in 2009 and lower than the international price of a ton of coal equivalent.\(^{69}\) The lower transfer price is equivalent to a cross-subsidy of RSD 24.2 billion (US$ 385 million) from the company’s coal operations to its power operations. Nor is the current level of electricity tariffs adequate to allow EPS to implement its ambitious investment plans. In 2008 and 2009 EPS suffered net losses that left it with insufficient capital and liquidity to embark on investment programs. It is estimated, roughly, that prices would need to increase by about 40 percent to allow utilities to recover their operating costs and by about 80 percent to finance their investment programs. Electricity prices in Serbia for both households and industry are still among the lowest in the region (Figure 3.31).

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\(^{69}\) The estimated coal internal transfer price was of RSD 1.21 per ton coal equivalent (US$ 17/toe), while the coal price sold to other customers within Serbia was of US$28.6/toe and the average European import price was of US$ 65.03/toe.
385. **Transferring tariff-setting power from the government to the independent energy regulator (Energy Agency of Serbia, EAS) would help create a credible and predictable regulatory framework.** Because this would mitigate risks for investors, it is central to any strategy for attracting sustained private investment. Since it was established in 2005, EAS has developed significant institutional capacity and most necessary regulations for the electricity sector are in place. However, it is not yet a truly independent regulator because the government still sets tariffs. The New Energy Law\(^{70}\) envisages transferring tariff-setting competence to the EAS\(^{71}\) only in October 2012. Much value could be derived by further separating and clarifying each institution’s functions—policy making to Ministry, regulation enforcement to EAS, and operations to the company. Separation would limit conflict of interests and political interference, contributing to the sector’s commercial and financial viability.

386. **Tariff alignment needs to be coupled with measures to address inefficiencies in the power generation system.** A number of problems increase the production costs of Serbia’s electric power sector of Serbia. Most are legacies from the 1990s—overstaffing, low equipment productivity, engagement in non-core activities, under-collection of invoices, unresolved property issues, high technical losses, etc. Resolving some, if not all, of these issues would significantly lower the costs of production.

387. **There are various options for cutting electricity generation costs and increasing revenues in Serbia.** Active demand side management (DSM) could reduce peak demand and release valuable hydro accumulation assets to sell electricity in the regional. Comprehensive water management along the Danube and the channel system within Serbia might further improve the peak electricity generation potential of the massive Iron Gates hydro power

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\(^{71}\) At the same the Serbian Parliament appointed all five members of the EAS Council to the fixed term of five years. Article 41 prescribes that the first mandate of council members is different for each member, assuming that in future one new member will be appointed each year. However, because Article 198 provides that the current council will serve its full term, all members will be in office for five years.
Converting retirement-age combined heat and power plants in Novi Sad and Zrenjanin to biomass cogeneration could add competitive generation capacity to EPS and reduce the lignite exploitation ratio. It would also offer an opportunity to physically restructure mining operations and increase machinery utilization ratios and boost productivity. Lignite quality management at power plants could also facilitate power generation efficiency. There is significant potential to improve the efficiency of TPPs, add biomass co-firing, and deliver large volumes of heat to the massive Serbia district heating market. EPS owns significant timberland that could be used to smooth price spikes in the wood fuel market, making energy more affordable for residential consumers and bringing in more revenue.

**388. While collections have been improved, unpaid electricity bills still undermine the sector’s financial health.** The average collection rate rose from 60 percent in 2000 to 94 percent in 2008 and recently collections in the residential sector have moved closer to the average Central European collection rate of 98 percent (Table 3.8). But the economic and financial crisis hit industry and commercial customers hard; they have markedly reduced their payments to EPS. The payment discipline of public sector companies is also a deep concern: in 2009 the Serbian Railways Company paid only 28 percent of its power bill. As a result, a significant share of EPS’s trade receivables (mainly unpaid bills of domestic consumers) has been written off the balance sheet as unrecoverable: about RSD 14 billion (US$ 221 million) in 2009 alone. They were recorded as impaired losses in the EPS income statement.

<table>
<thead>
<tr>
<th>Year</th>
<th>Households (percent)</th>
<th>Others (percent)</th>
<th>Total (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>92.39</td>
<td>97.50</td>
<td>94.84</td>
</tr>
<tr>
<td>2008</td>
<td>95.75</td>
<td>91.93</td>
<td>93.67</td>
</tr>
<tr>
<td>2009</td>
<td>96.09</td>
<td>92.10</td>
<td>93.90</td>
</tr>
</tbody>
</table>

Source: EPS

**389. Commercial losses are also a factor in payment discipline.** Commercial losses, stemming both from the lack of metering and theft of electricity (illegal connections, meter tampering, etc.) seriously jeopardizes the financial viability of the sector. In 2009, commercial distribution losses amounted to about 6 percent of gross domestic consumption, equivalent to €100 million at the average electricity price of RSD 4.9 /KWh. The financial health of EPS depends heavily on collecting from customers and stopping electricity theft.

**390. Nonpayment issues have been addressed in a number of country-specific ways** (Box 3.12). Experience in the ECA region, however, identifies three elements that are central to tackling the problem decisively: (a) amending the laws to enable services providers to recover from clients speedily and deny services to those who do not pay their bills; (b) making theft of services a criminal offence, with deterrent punishments and speedy trials; (c)

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72 Fragmented water management in Serbia prevents water conservation in available hydro accumulation capacity, an inherent system insufficiency.

73 EPS is working to obtain an EBRD loan to arrange (among other aspects) lignite blending at mines, a first step toward comprehensive lignite quality management.

74 Various project concepts to deliver heat from Nikola Tesla TPPs to the City of Belgrade, which is a 3000MWt heat market, have been rejected on the ground that they could reduce electricity output, which is not desirable when supply is tight. However, using waste heat (without any adverse effect on electricity output but with significant positive impact on plant efficiency) has not been considered. This alone could affect about 44 percent of Serbia’s district heating market. With similar smaller-scale activities in Novi Sad and Zrenjanin, EPS could capture about 50 percent of the district heating market, get additional revenue, and relieve the country from difficult dependence on natural gas imports during the winter.
ensuring that government departments and agencies had adequate budgets to pay their service bills and also subjecting them to the discipline of disconnection for nonpayment.

**Box 3.12: Payment Discipline in the Electricity Sector**

The following are anecdotal examples of approaches utility companies in the region have taken to improve payment discipline:

**Tractabel in Kazakhstan:** In the mid-1990s, Tractabel acquired the electricity distribution assets in Almaty, Kazakhstan. In the first six months of operation the company increased collections from less than 30 percent to over 90 percent by ruthlessly cutting off supply: in fact, it cut off the Ministry of Finance in the middle of a presentation by the Minister to potential foreign investors. In the process, Tractabel reportedly became the most unpopular company in Kazakhstan. It has since had difficulties in negotiating interpretation of the contractual tariff policy and ultimately the government agreed to buy back the assets.

**AES in Georgia:** In the late 1990s, AES acquired the Telasi distribution company (covering Tbilisi) and the Gardebani power plant in Georgia. However, it had enormous difficulties with enforcing payment discipline. At one AES threatened to cut off electricity to the Presidential Palace right before a scheduled visit of senior European representatives. The Presidential Administration pleaded with AES not to cut off supply and AES accommodated the request. AES eventually sold out to RAO UES of Russia which has also struggled with payments.

**USAID in Georgia:** In contrast, USAID funded a management contract for the UDC distribution operations in Georgia. The contract was assigned to PA Consulting, which established meter connections to villages and small towns and then advised local leaders and residents that it was their collective responsibility to make the payments. If payments were made on time, UDC guaranteed 24/7 supply. The approach proved very effective and paved the way for UDC privatization to the Czech company CEZ.

**Promoting Productivity Through Market and Corporate Reform**

391. Although power sector restructuring has progressed in recent few years, much must still be done to promote a competitive market and unlock Serbia’s potential in the regional market. The electricity market has been restructured since 2005 in line with EU directives. The national electricity company remained responsible for coal mining, power generation and distribution, and heat provision while Electricity Networks of Serbia (EMS), the independent transmission operator. EPS operates five regional distribution networks that are legally and administratively separate. The market is expected to be fully open to competition by 2015. The new energy law confirms separation of electricity distribution and supply services and establishes a Public Supplier and a range of supply companies. Box 3.13 provides an overview of reform done in Turkey that might be useful for Serbia.

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75 It is not yet clear how electricity distributors can enforce collection discipline and disconnection policies when customers have access to more than supplier.
Turkey has undertaken an ambitious electricity sector program with a view to meeting growing electricity demand in an efficient and sustainable manner. By 2008 electricity supply shortages had threatened to constrain economic growth since the public sector could not afford to invest what was needed. To address this challenge, Turkey has embarked on a program of reforms—legal, institutional, and financial—which have so far achieved very positive results. These are the main components of the reform program:

**Cost-recovery pricing to achieve financial recovery**
Up to 2008 prices did not cover costs, collection was less than 100 percent, and large arrears had accumulated. In 2008 the energy regulator, EMRA, applied a pricing mechanism that provides for quarterly tariff adjustments. As a result, tariffs were brought to cost-recovery level in 2008; collections reached 100 percent in 2010; and financial recovery made it possible for companies in the sector to pay current bills and eliminate arrears to private generators by 2010. There are still cross-payables and receivables between public companies to be cleaned up for which legislation has been submitted to Parliament.

**Liberalization and expansion of the electricity market**
Electricity market liberalization was launched in 2001 and has been progressively implemented since. Consumers whose annual consumption exceeds 30 MWh are eligible to choose their own supplier; they represent over 70 percent of the electricity market. The transmission system and market operator, TEİAŞ, operates a balancing and settlement system called PMUM, which has now evolved into an electricity trading platform. About 20–25 percent of monthly electricity consumption in Turkey is transacted through the PMUM market, which has more than 400 participants. TEİAŞ is now opening a day-ahead market (DAM); pre-commercial operation and training of market participants is underway.

**Private participation to achieve sustainable and long-term energy security**
Improved financial health and market liberalization have created an investment environment capable of attracting private participation. In 2001 the government moved from guarantees to promote market-based contracts and sales to Turkey’s electricity market. This approach has been remarkably successful: private generation now provides more than 50 percent of the electricity supply and new investments are growing at a pace which indicates that the target of 10,000 MW generation capacity additions for 2008–11 will be achieved. The ownership change in distribution was even more dramatic: before 2008 the private sector played only a minor role; by 2011 100 percent was privately owned.

**Toward a cleaner energy mix and renewable energy**
The fuel mix in power generation also changed significantly: the share of natural gas increased from less than 20 percent in the mid-1990s to about 50 percent by 2007 because the private sector preferred gas over coal/lignite and the government was prepared to pay the cost premium to secure capacity and environmental benefits. Renewable energy generation, in particular hydro and wind, has also taken off; several hydro and wind projects are viable given current electricity prices in Turkey. In December 2010 the Renewable Energy Law was amended to provide prospective investors enhanced predictability about Turkey’s support framework, including technology-based support prices and firm off-take arrangements.

**Close cooperation between policy-making and regulating agencies**
Several factors and the cooperation of several agencies underpins the success of Turkey’s privatization program during a period of turmoil in local and international financial markets: (i) The administrators—the Ministry of Energy and Resources (EMRA), the Ministry of Finance, and the Privatization Authority (PA)—support each other and work effectively together on privatization. (ii)
There must be functional separation between competitive and monopoly activities if Serbia is to increase competition in domestic power and participate in the regional electricity market in line with EU directives. Necessary regulatory provisions, such as establishing transit capacity price methods and congestion management rules, are yet to be regionally coordinated. That would facilitate Serbia’s catalytic role in a competitive wholesale regional electricity market and attracting badly needed investments, particularly in generation.

Equally important is to prepare electricity utilities for the competitive pressures in both generation and retail that are emerging in the South East European power market. Thus, EPS needs to adopt a strategy and time-bound action plan to restructure for operational efficiency. Issues to be addressed include optimization of the company’s processes (through resource planning and performance management systems), and better control of all costs. For instance, it still has several thousand employees in Kosovo, which accounted in 2009 for RSD 4.3 billion—about 10 percent of total staff costs. Decisions, however, will need to be carefully designed and carried through, recognizing the social impact some restructuring measures could have.

Ensuring Social Sustainability

To support tariff reforms, adequate social safety nets are necessary to protect vulnerable consumers from price shocks and secure social and political acceptability. Comprehensive reform of the energy sector would expose it to regional and European competition. This would inevitably lead to a rapid upward adjustment of energy prices to reflect the cost of supply and, thus adversely impact poorer segments of the population. A preliminary analysis of the impact of the 10 percent increase in electricity prices in January 2010 found that the welfare loss as a share of total expenditures of raising electricity tariffs is higher for the poor (2.4 percent) than for the non-poor (0.7 percent).
395. Currently Serbia has in place a social protection scheme for a number of groups, but a more comprehensive approach is needed to minimize the impact on them of energy pricing reforms (Figure 3.32). Vulnerable groups are protected by the Law on Social Protection. Eligible households are identified by welfare centers that pass on the information to distribution companies. Households in category (i) are eligible for a discount of 35 percent for the ‘active energy’ element of price for up to 450 kWh per month; households in categories (ii) – (v) are eligible for a discount of 35 percent for the ‘active power’ element of the price for up to 350 kWh per month. The GoS has recognized the need to adopt a better targeted protection scheme and, together with the Energy Regulator, is leading a working group to design such a scheme.

Figure 3.32: Impact on Poverty of a 10 percent Increase in Electricity Tariffs

Source: World Bank staff estimates

3.5.3. The Potential Demand Response

396. The energy intensity (EI) of the system is high (1.16 toe per thousand USD\textsuperscript{76}), double the EI in some neighboring countries\textsuperscript{77} (0.5 toe per thousand USD) and five times than the average in OECD Europe (0.17 toe per thousand USD). This is partly due to the age and inefficiency of the system, but also in to the fact that the price of electricity is below full cost recovery. Evidence from OECD and ECA countries for 1998–2009 indicates that energy prices have a negative and statistically significant relation to the EIs of manufacturing exports. Low energy prices therefore lead to higher demand for electricity and therefore to pressure for investing in expensive new capacity beyond what would be necessary with cost-recovery tariffs.

397. There is scope to improve the energy efficiency (EE) of Serbia’s export industries. Low tariffs provide an implicit subsidy to exporters, some of which have by far the most EI (non-ferrous and basic metals and non-metallic minerals). Considering the EE of commercially available technologies used elsewhere, the EE of the technologies Serbia’s main exporters use indicate a huge potential for energy savings (Figure 3.33). Realizing this EE potential is vital to maintaining competitiveness: increasing energy tariffs by 40 percent could decrease exports in industries by as much as 20 percent (Box 3.14).

\textsuperscript{76} In constant 2000 dollars.
\textsuperscript{77} Includes members of the former Republic of Yugoslavia.
398. So far, efforts to scale up EE have been sparse and relatively modest. The government has made EE a priority and has set up legislative and institutional frameworks to promote it, but there are several barriers to concrete EE action. The Energy Efficiency Law approved in 2004 and the related regulations is the legal basis for measures to promote and support EE, and the Energy Efficiency Agency of the Republic of Serbia (SEEA) provides institutional support. However, keeping cost-effective investments from materializing are such barriers as (i) lack of institutional capacity to educate the public and promote EE programs; (ii) lack of adequate secondary legislation; (iii) lack of skilled consultants throughout Serbia (in the vicinity of demand); (iv) need to foster market penetration of new energy services and EE products; (v) lack of financing designed specifically for the EE programs; and (vi) lack of credible and accurate data. The new energy law defines the role of the Energy Efficiency Agency\(^{78}\) to promote EE, manage projects for rational use of energy, implement renewable energy projects, and manage EE funds. It does not constitute a comprehensive mandate to implement EE policy in terms of the taxation system, fiscal policy, standardization, housing, urban planning, social housing, spatial planning, and addressing energy poverty.

399. Serbia’s nonresidential customers have modest price elasticity of demand of about \(-0.37\) percentage points (Iimi 2010). Although export-oriented and high EI industries might respond to higher electricity prices by decreasing or stopping output (that was already happened in the region and in context of natural gas prices), small service companies and public companies are likely to have very limited response. Smaller companies serving local market can pass higher costs of production on to customers; public companies could reimburse their costs from public funds—or by nonpayment, as has already been observed. From another perspective, predicted technical inefficiency in Serbia is high at 0.48, which indicates the potential for EI improvements in relation with electricity price adjustments. Low elasticity of demand suggests that certain price adjustments are possible (taking into account

\(^{78}\) Articles179-180.
the structure of commercial and industrial demand\(^*\) as part of broad tariff and billing reforms.

400. **The time is now ripe to scale up efforts to formulate a comprehensive strategy for market-based EE actions.** German development bank – KFW and EBRD (in operation) and EIB (in preparation) are setting up credit lines to finance EE projects, but these will not scale up investment significantly. Government support needs to be concentrated on designing a strategy for creating the enabling environment including rules and standards for private capital and technical capacity to prioritize EE.

**Box 3.14: How Energy Prices in Serbia Affect Manufacturing Exports**

The production of any good requires a combination of such inputs as primary goods, manufactured goods, services, and energy. Here, energy-intensity factors are derived using input-output data for several manufacturing sectors. Energy-intensity factors can be interpreted as the cents spent in energy embodied in a dollar of final product. Due to the lack of time-varying input-output data, it is assumed that energy intensities are constant over time. Of course, the production process should adjust to higher energy prices by adopting technologies that are less energy-intensive, but constant EI is a plausible assumption in the short run. The model explaining the level of exports per country, sector, and year is:

\[
\ln X_{ijt} = \beta_0 + \beta_1 \text{price}_{it}^{\text{energy}} \cdot \text{Intens}_{ijt}^{\text{energy}} + \alpha_i + \gamma_{jt} + \delta_{ijt} + \varepsilon_{ijt},
\]

where: \(X_{ijt}\) is sector-\(j\) exports of country \(i\) in year \(t\); \(\text{price}_{it}^{\text{energy}}\) is the price of energy in country \(i\) in year \(t\); and, \(\text{Intens}_{ijt}^{\text{energy}}\) is the energy intensity used by manufacturing sector \(j\) in country \(i\).

Fixed effects specific to each country-sector, \(\alpha_i\), are used to control for time-invariant factors. Country-year effects, \(\gamma_{jt}\), control for factors specific to a country in a given year, such as inflation, exchange rate changes, political or economic shocks, and climate shocks, such as natural disasters. Sector-year effects, \(\delta_{ijt}\), control for shocks worldwide that are specific to a manufacturing sector in a given year, such as any supply or demand shock that affects world market prices. Finally, \(\varepsilon_{ijt}\) is an error with the usual characteristics.

Data are compiled from three sources: Exports figures are mirrored imports taken from UNCTAD’s COMTRADE database, which reports trade volumes up to 2009; energy prices are from the International Energy Agency from the Energy Regulators Regional Association; and input-output tables are from the Global Trade Analysis Project (GTAP7). The final sample consists of 65 countries (see Annex): 36 high-income OECD countries, 18 ECA countries, and 11 other developing countries; the period is 1998–2009. Extracting a balanced input-output table from the GTAP dataset requires several steps (see McDonald and Thierfelder 2004).

Using these estimates, results of simulations of the change in Serbia’s exports across sectors likely from changes to energy prices are presented in three scenarios: (i) a 10 percent increase in electricity prices over 2009 levels; (ii) a 30 percent increase; and (iii) a 45 percent increase. Electricity prices are in dollars, and no variation of the dollar/dinar exchange rate is assumed. The table compiles estimates how manufacturing exports might be reduced if electricity prices rose under the three scenarios, using the highest, \(\beta^{\text{high}}\), and the lowest estimated coefficients, \(\beta^{\text{low}}\). It appears that exports could decrease from 1.2 percent in scenario (i) to close to 20 percent in scenario (ii).

<table>
<thead>
<tr>
<th>Changes of Energy Prices and Serbian Manufacturing Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>percent increase in energy prices</td>
</tr>
<tr>
<td>+10</td>
</tr>
<tr>
<td>+30</td>
</tr>
<tr>
<td>+45</td>
</tr>
<tr>
<td>(\beta^{\text{low}}) = -0.120</td>
</tr>
<tr>
<td>-1.2</td>
</tr>
<tr>
<td>-3.6</td>
</tr>
<tr>
<td>-5.4</td>
</tr>
<tr>
<td>(\beta^{\text{high}}) = -0.39</td>
</tr>
<tr>
<td>-4.4</td>
</tr>
<tr>
<td>-13.2</td>
</tr>
<tr>
<td>-19.8</td>
</tr>
</tbody>
</table>

\(^*\) And incorrect classification of same large residential customers into commercial categories.
3.5.4. Policy Recommendations

401. This sector requires simultaneous efforts aimed at ensuring its financial viability, improving governance, and organizing it in line with European practices.

402. **Improve the financial viability of the power sector by increasing tariffs and cutting unjustifiable costs.** Tariffs need to be increased to full cost-recovery level and tariff setting authority transferred to the independent, credible, transparent, and properly structured energy regulator. The increase in electricity tariffs will have to be sizeable (40 percent to 80 percent) to allow utilities to recover their cash costs, cover environmental costs, and finance their investment programs. Transferring transfer tariff-setting authority from the government to the independent regulator will also help create a credible and predictable regulatory framework, thus mitigating risks for both public and private investors. There must also be broad tariff restructuring, improvement in billing practices, and accurate customer classification.

403. **Make arrangements to protect the poor from the adverse effects of price increases.** These include a massive program to improve the EE of the households exposed to the energy poverty; more reliable and cost-effective access to alternative fuels, including wood; and better supply of fuel wood and strengthening allocative efficiency of the fuel wood market while cutting fuel wood transport and transaction costs. Introduction of better quality appliances that use solid fuel could be a critical component in improving poor household EE.

404. **Enforce payment discipline to reduce commercial losses and bring the sector to commercial viability.** This calls for completing installation of meters and restructuring the distribution segment of the system to enforce payment discipline. In other ECA countries (Box 3.12) overcoming the non-payment problem had three elements: (a) amending the laws to enable the services providers to recover dues from clients speedily and deny services to those who do not pay their bills; (b) making theft of services a cognizable criminal offense, with deterrent punishments and speedy trials; and (c) ensuring that government departments and agencies had adequate budgets to pay their service bills and also subjecting them to disconnection for nonpayment.

405. **Build EE improvement into the strategy for public enterprise restructuring and reform of public and communal services.** Public companies need to become more responsive to price, costs, and market signals. They also need to avoid or reduce delays in electricity payments. Similarly, SME support programs need to address EE concerns.

406. **Improve both supply and demand for EE, particularly in key exporting industries** (see World Bank, 2010d). Government support needs a strategy for creating the enabling environment, with rules and standards for private capital and technical capacity to prioritize EE. EPS could consider comprehensive EE retrofit of power generation facilities, internal electricity consumption, lignite mines, water pumping, and substations, including energy recovery where suitable and use of renewable energy. Low cost biomass co-firing could be introduced in major lignite-fired power plants. Furthermore, comprehensive demand side management system could be directed to reducing peak demand to impact network loses.

407. **Explore the possibility of establishing a pricing authority that can regulate relative prices of district heating, electricity, natural gas, and solid fuels.** That might call for greater EAS transparency about its decision making (not just ex post reporting) through public hearings and publication of draft decisions; and also a mechanism to assess its regulatory performance from wider development perspective.
Reinvigorate the reform program for the whole energy entire sector in line with the EU Acquis Communautaire and the Energy Community Treaty. This would require accelerating the unbundling, further opening the domestic market, and adopting regulations and incentives to support creation of a regional competitive power market. Country could consider adopting a law or similar instrument to support implementation the Energy Community Treaty.
3.6. Land

Land is a key input in most production and investment processes. As a result, inefficiencies in the security of property rights, pricing, institutions, and regulations governing the transfer of land significantly affect productive investments. In Serbia, the land sector is constrained by significant policy issues: insecure property rights, poor land management, and institutional inefficiencies. Conversion of use rights and restitution issues undermine the security of property rights. Among the hindrances to efficient development of land and land-dependent economic activity and investments are (i) severe bottlenecks in the issuance of construction permits, (ii) onerous process to regularize illegal developments, and (iii) fragmentation of agricultural land and its conversion to urban uses. Government performance and revenues are undermined by such institutional inefficiencies as poor management of state assets and tax collection. The government has been moving steadily to tackle these issues but has often fallen short due to lack of capacity, resources, transparency, and good governance. Complicating matters is the fact that resolving many of the land issues requires combined efforts from all levels of government.

3.6.1. Introduction

409. Two areas in which Serbia is falling behind other countries in the region are land rights and land administration. First, enforceable property rights encourage investment, facilitate the supply of lower-cost credit, and increase public willingness to save by investing in real estate. When protection of property rights is problematic, foreign investors turn away from the country and local investors face avoidable difficulties. Second, efficient and effective land administration confers many economic benefits, such as a well-functioning real estate market, more investment by private enterprise, reduced transaction costs, and more equitable taxation. Efficient and effective administration of state-owned real estate can maximize returns for the government and facilitate allocation of surplus state property to the private sector for productive purposes, as well as enhancing trust in the government through open and transparent processes. Similarly, by EU standards agricultural land in Serbia is highly fragmented, making production more expensive and discouraging investment. Further, poor land administration means that the government foregoes large amounts of revenue.

410. These problems can be resolved by decisive government action. Drawing on experiences in other countries, the government can do a great deal to resolve these problems, which would enhance the business and investment environment and thus encourage economic growth. Because land is such an important factor in any economy, it is highly desirable that the Serbian government begins the reform process immediately. Among recent major is new legislation on restitution and public property.

411. The magnitude of the many land problems Serbia faces is significant. Business associations like the American Chamber of Commerce, for instance, cited land issues as the number one problem its members face. It cited issuance of building permits, conversion of use rights to full ownership, restitution, and corruption specifically as having a detrimental effect on economic activity and investment. Poor management of state-owned properties

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80 Land is ideal for collateral because it is both immobile and durable and also has limited divisibility.
81 It is estimated that real estate, including construction, can contribute up to 15 percent of GDP in a developed country, and that real estate represents about two-thirds of global capital stock (P. Woodal, The Economist, 29 May 2003).
82 Personal communication with AmCham management. AmCham (the American Chamber of Commerce) is an economic advocacy organization helping 160 large international, U.S., and Serbian companies that have collectively invested over €9 billion in the Serbian economy.
and agricultural land fragmentation also compress returns to the country. Forgone real estate taxes, low if any returns on state property, and the opportunity cost of reduced foreign and local business development could easily run into billions of euros over the medium term.

412. Nevertheless, there are positive aspects to the Serbian land sector that can form a foundation for resolving land-related challenges. The market for buying, selling, and leasing real estate is relatively efficient, the mortgage market is developing, government officials are generally well-educated and experienced, there have been positive legislative reforms in recent years, and the real estate cadastre is almost fully established throughout the country. Further, Serbia’s progress toward EU membership has added impetus for reform.

413. Recognizing the many positive elements, the government needs to embark on a program to address the problematic areas. These can be conveniently grouped under three headings:

- **Making property rights more secure**: Addressing problems related to urban land conversion, and implementing the restitution and compensation program;
- **Improving land administration**: Streamlining the process for issuing construction permits, regularizing of illegal buildings and settlements, and overcoming land fragmentation; and
- **Building institutions**: Developing state land management capacity and systems, building the capacity of officials, enhancing valuation skills and the valuation system, and improving transparency and good governance in the land sector.

**Roles and Responsibilities**

414. Many ministries, agencies, and other public bodies are involved in the land sector; reforms need to be tailored for the specific ministry, agency, or body to which they apply. Several ministries at the Republic level of government formulate policy and draft legislation related to land, particularly Planning and Environment, Finance, and Agriculture, Forest and Water Management (MAFWM). Many ministries, such as the Ministry of Defense, also hold significant amounts of property; the MAFWM alone manages vast areas of agricultural and forest land. The Tax Authority is responsible for valuation, although conducting valuations for other government bodies is not its primary activity. Municipalities are responsible for managing construction sites, issuing construction permits, legalization, conversion of use rights to full ownership, and managing companies that supply services necessary for construction, such as urban planning, local roads, and utilities (water, sewage, heating, etc). The Republic Geodetic Authority (RGA) created and maintains the real estate cadastre, which integrates geographic and legal data relating to properties and in which property transactions, such as sales, mortgages, and leases, are registered. Each entity has a different mandate, capacities, human resources, and finances that need to be taken into account when formulating solutions.

3.6.2. Property Rights

415. Various stakeholders expressed concern that private property rights are not secure. Unsettled restitution issues make investors, particularly foreign investors,
apprehensive about the security of property rights and thus unwilling to invest. The process of converting use rights to full ownership rights, too, has been handled in such a way that it has undermined rather than promoted the security of property rights.

Restitution

416. **The government made a major step to make property rights more secure when it enacted the Law on Restitution and Compensation in September 2011.** The law helps clarify ownership issues, which will make property investments and decisions more certain and therefore attractive to investors. The law takes a fiscally responsible approach first by preferring restitution to compensation and second by placing a ceiling on the amount of compensation that can be paid. However, there is much work to be done before the law can be implemented and substantial resources will be required if it is to be finalized in a reasonable time.

417. **Restitution is a concern because until it is settled, the security of rights to properties that could be subject to restitution is clouded.** The unclear legal status of real estate, which is largely due to the unsettled restitution issue, is causing real problems for EU investors. Justifiably, investors would not wish to invest in properties while there is the possibility that those properties might be restored to their former owners.

418. **Clear statements in the Law on Restitution and Compensation could alleviate some of the current uncertainty.** The law specifies which categories of properties can be restored to their former owners. However, to fully remove the uncertainty, the law needs to become operative promptly. Experiences in neighboring countries have shown how slow the restitution and compensation process can be, and the problems that arise from dilatory resolution of claims. If cases are not resolved, one of the objectives of a restitution law—greater security of property rights—is undermined. Delays can also have high political and social costs. It will be important therefore that the restitution agency to be established moves quickly to investigate and resolve claims.

419. **Processing of claims can be time-consuming and resource-intensive.** It will be important to make sure the restitution agency has enough resources and can begin operations in a reasonable time. Among the areas for which resources will be needed are:

- qualified and trained staff
- information on real estate and access to records
- public relations services
- technology support
- valuation services
- financial management.

420. **Given that 100,000 claims are expected, the deadlines are ambitious.** Based on experience elsewhere, it will be difficult to meet the six-month deadline for deciding a claim (Article 46 of the Law) without substantial resources.

421. **Clear bylaws, guidelines, and practices will be very important;** lack of them can endanger the goals of good laws. Clear guidelines, supported by appropriate staff training, will help to ensure that results are delivered efficiently, promptly, and consistently throughout

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85 EU, Serbia 2010 Progress Report, p. 32.
86 As the experience with the 2009 Law on Spatial Planning and Construction has shown.
the country. This is important not only in terms of good governance and transparency but for ensuring public confidence in the process.

422. **Public relations are very important.** Full communicating with claimants, the public, and investors will increase confidence in the program and its outcomes. This will be particularly important if the program is implemented more slowly than originally envisaged.

*Conversion of Use Rights to Full Ownership*

423. **Recent government action has also threatened the security of private property rights in the conversion of use rights to full ownership.** The 2009 Law on Spatial Planning and Construction specifies that people and legal entities holding use rights to properties are entitled to convert those rights to full ownership. On paper this makes property rights more robust. However, the way the process has been implemented has worked to both threaten existing use rights and frustrate the process of their conversion to full ownership. Consequently, investment in property has been delayed because investment has been made more uncertain and unattractive, and avoidable dissatisfaction and distrust in the government has arisen in the business community. Opportunities for more immediate economic growth have therefore been lost.

424. **After land under buildings was nationalized during the socialist period, owners of buildings (which usually remained private) held use rights to the land under the buildings.** Similarly, when state-owned enterprises were sold off, the buyers acquired use rights to the land. The conversion provisions of the 2009 Law on Spatial Planning and Construction are similar to those that have been used to secure property rights elsewhere in the region. The law specifies that holders of use rights are not only encouraged but required in certain circumstances to convert their rights to full ownership; for instance, to obtain a construction permit, they must show that they have ownership rights to the land. Amendments to the law that were enacted in mid-2011 now make conversion of use rights to full ownership mandatory.

425. **Problems that undermined confidence in the 2009 law, the government, and property rights arose soon after the law was enacted.** The problems arose primarily because, e.g., the government failed to issue the necessary regulations in time, failed to train staff to process applications in a timely manner, and failed to introduce quickly anticipated changes to the law.

426. **The results have been deeply unfortunate.** First, the government’s failings have created confusion as to the status of property rights, and the uncertainty has raised concern that use rights are now less secure, which has discouraged investment. Second, because applications for conversion were not processed in a reasonable time, those seeking construction permits could not provide evidence of ownership, with the result that construction was delayed (or possibly cancelled). Once again, growth opportunities were lost.

427. **Another problem is the conversion fee that applies to more valuable properties.** Criticisms of how the fee is calculated, critics say, including both the methodology and the fact that some of the payments made to acquire the property during the privatization process, are being ignored, and there is also concern about the lack of valuation capacity. While these
concerns relate to only a small number of properties, they have created a sense among the private sector that the government is anti-business.

428. **To resolve the problems surrounding conversion, the government needs to make its policy position clear and introduce a program for dealing promptly with conversion applications.** Both the public and municipal officials charged with applying the 2009 law need regulations and guidelines for all aspects of the process. There has been some good progress with the mid-2011 amendments, which clarified the methodology for valuation, and the issuance of a detailed decree on the conversion process in September 2011, which contains extensive valuation information. It is now important to ensure that the legislation is implemented promptly and effectively. To do so, the government needs to train capable municipal staff who are adequately resourced. Lack of staff and lack of training in the new process are sizeable problems; staff already have other duties and the procedures are new to them. Because the decree on the conversion process focuses tightly on property valuation, it is essential to equip staff with the necessary valuation skills or ensure that private valuation services are made available. A public awareness campaign is also necessary to educate the population about the government program.

3.6.3. **Land Management**

429. **Inefficient land use management—planning and permitting, illegal building and settlements, and land fragmentation—are reducing government revenues.** They also discourage investment. Each of these issues is covered separately in the following section.

**Issuance of Construction Permits**

430. **Serbia, like most countries of the former Yugoslavia, has had severe problems with issuing building permits and monitoring construction.** The problems are a lack of modern urban plans, overly restrictive planning and permitting laws and processes, local corruption, and lack of effective enforcement mechanisms. As a result individuals build without the required permits and investors are discouraged from coming to Serbia.

431. **A major problem for anyone who wants to construct a new building is the process for obtaining a construction permit.** Permits are regulated by the 2009 Law on Spatial Planning and Construction. That Law appears to have been reasonably drafted, but there have been serious implementation issues regarding provisions for permitting. The law was enacted in September 2009, but without many of the necessary by-laws or regulations. Further, it appears that municipal staff charged with implementing the law had no training. Consequently, the process of issuing permits was put on hold and new construction stalled. The issuance of permits did not resume until mid-2010 after by-laws were issued in April. Further, the processes for issuing permits are different, and more complex, for Belgrade than for the rest of the country, which confuses investors and there is a general lack of transparency. The difference is due to the existence of special urban planning bodies in Belgrade, which interfere at several stages in the permitting process.

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87 Land use rights have been converted to ownership without a fee in some 16,000 cases, and for a fee in about 40; 1,000 to 1,500 conversion procedures are in process.

88 The April 2010 by-laws introduced temporary or phased permits; it was thought that these could be issued quickly, and then development would go through the full permitting process to adhere to the 2009 law. Apparently, this was only partly successful. While officials in some local municipalities have started to issue permits again, the permit process is still stalled in others.
There are also cost impediments to construction, at least formally (Table 3.9). In *Doing Business 2011*, Serbia ranks much worse (176 out of 183) in dealing with construction permits than Hungary (at 86), the Czech Republic (76), and the Slovak Republic (56). While Serbia is generally average in procedures and time compared to similar economies, it is significantly worse in terms of the cost of a permit as a percent of income per capita. Costs average 13 percent of income per capita in Hungary, the Czech Republic, and the Slovak Republic, and are relatively high in Poland at 121.8 percent. Serbia is an anomaly at 1,821.4 percent of income per capita. It appears that the most expensive step is to obtain approval from the municipality for the start of construction and to pay the city building land tax, which covers a sizeable (one-off) infrastructure charge. The figure of 1,824.4 percent may be overstated, but it is still a major cost for those wishing to invest in new buildings in Serbia.

Table 3.9: Comparative Construction Costs (Doing Business 2011)

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Procedures (Number)</th>
<th>Time (Days)</th>
<th>Cost (percent, income per capita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serbia</td>
<td>176</td>
<td>20</td>
<td>279</td>
<td>1821.4</td>
</tr>
<tr>
<td>Hungary</td>
<td>86</td>
<td>31</td>
<td>189</td>
<td>9.8</td>
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<td>Czech Republic</td>
<td>76</td>
<td>36</td>
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<td>16.4</td>
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<tr>
<td>Slovak Republic</td>
<td>56</td>
<td>13</td>
<td>287</td>
<td>12.7</td>
</tr>
<tr>
<td>Poland</td>
<td>164</td>
<td>32</td>
<td>311</td>
<td>121.8</td>
</tr>
</tbody>
</table>

Source: World Bank, 2011

The government has taken steps to improve the system for issuing building permits. It enacted the 2009 law and has the program for making new urban plans, which is expected to be completed for all municipalities by year-end 2012. However, much about the process discourages innovation and development. Further, without clarity in the laws and processes, and without adequately resourced and trained staff, Serbia will continue to suffer from the informal building phenomenon it has witnessed over the last 20 years and will continue to be unattractive to investors, both local and foreign. To attract investors Serbia needs both to streamline the construction permit process by drastically reducing the number of steps and to reduce the costs.

Construction process may be presented through three mutually related phases: Preparation; actual construction works and phase of using an object. The overall process is presented in Figure 3.34, which is organized in 7 columns and three types (organized in 5 subtypes). Types correspond to sequential phases of construction, and are named:
- Phase I: Getting a location permit and a construction permit
- Phase II: construction
- Phase III: Getting a use permit and use

The Figure 3.34 below shows the complexity of process of getting a construction permit in Serbia.
Figure 3.34: Process of Getting Location, Construction and Use Permits
Illegal Buildings

435. **Illegal building and settlements are a direct result of the slow and expensive process of obtaining construction permits.** Large businesses typically use formal channels because the cost of obtaining the permit is small relative to the size of their investment. However, it is a concern for many citizens and small- and medium-sized investors.

436. **There are a number of affects to the “illegal buildings” issue,** among them:
- unauthorized construction of buildings, both single- and multi-use;
- unauthorized extensions and improvements;
- unauthorized use of rural land for construction;
- unauthorized division of land; and
- encroachment of buildings onto land used for public purposes (such as roadways).

437. **Illegal building is widespread and has many consequences.** The number of properties that fall into any of the above categories is thought to exceed one million. Illegal settlements thus represent a major percentage of the country’s building, and they negatively affect public health and safety, fire safety, water and sewerage supply, power and other utility supply, access to properties, urban planning and construction, and materials standards.

438. **Another consequence is lost income to government.** This comes in two forms: lost annual property tax payments and lost contributions from the infrastructure fee required for obtaining a construction permit. Many municipalities struggle to provide adequate services and could use the forgone income both to meet basic obligations and to provide infrastructure that would facilitate investment. Moreover, illegal buildings generally cannot be used as security for mortgages. Thus, much of the building stock of Serbia is “dead capital” in the words of Hernando de Soto, because it is not available for supporting loans for investment (deSoto 2000).

439. **The amounts of government revenue lost are significant.** In relation to annual property tax payments, assuming a conservative number of 800,000 illegal settlements and an annual property tax of €100 per property, the local municipalities may be foregoing up to 80 million euro annually in taxes. Assuming a fee of €2,000 per property for infrastructure, some €1.6 billion in infrastructure fees have been foregone over the last two decades.

440. **The “dead capital” problem is also significant more in terms of higher borrowing costs than actual losses.** Because banks will not issue mortgage loans secured by illegal buildings, borrowers must provide other forms of security and commonly pay higher interest rates. Assuming a value of €500 per square meter and a property size of 75 square meters, a typical property would be worth €37,500. If there are 800,000 illegal properties, this equates to €30 billion in dead capital. If 10 percent of owners borrowed against their properties, €3 billion of capital could be utilized. Assuming a rate of return on capital of 10 percent, an additional €0.3 billion would be added to the economy. While these calculations are only approximate, they give an indication of the magnitude of the amounts Serbia is losing.

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89 UN-HABITAT (2006) estimated the number to be 600,000 to 1,000,000. Representatives of municipalities and central government officials who were interviewed estimated it at 500,000 to 1.5 million properties. It is important to stress that these figures include both standalone buildings as well as constructions added to the existing ones.

90 Most municipalities require payment of property tax even on illegal developments, but they will charge only for the formal part of the building or for a very small area in comparison with the actual square footage amount received bears no relation to the amount that should be paid.

91 It appears that in transactions dealing with illegal properties, the parties still pay the transfer tax.

92 According to the 2007 Living Standards and Measurement Survey the average living area for households in Serbia was 74.1 m2.
441. The government has clear incentives for citizens to build formally and legalize existing buildings. Owners, too, have at least one large incentive to legalize because legalized properties can be used as collateral. There have been many attempts to address this problem over the last 15 years, most recently in the 2009 law. In addition to the steps that the government has already taken, it might be useful to consider creating a cadastre in which every building and its status (legal or illegal) are recorded, as Slovenia did in the early 2000s (see Box 9.1). One of the benefits of a building cadastre would be to assist with regularization of illegal buildings. A concerted effort is also needed to speed up the rate of dealing with applications for legalization of buildings by, e.g., streamlining the process. And to prevent more new illegal construction, the government needs to ensure that municipalities enforce the provisions of the 2009 law.

442. A building cadastre, which is a complete list and map of all buildings, including illegal settlements and state assets, has a range of uses, such as improved information for more efficient management of state land, a basis for mass valuation, and a basis for issuing permits. Creating a building cadastre could be relatively simple, using the recent ortho-photo maps and comparing the buildings they show with those appearing on the official RGA records. Where doubts arise, field investigations could be conducted. Because the data are digital, results could be disseminated quickly and easily. The World Bank has experience with such a cadastre from the successful land registration project in Slovenia, which could be reproduced in Serbia (Box 3.16).

443. A program to create a building cadastre would have the following components:

- legal and policy measures, complete with the necessary laws and regulations, for designing it;
- consultant services to carry out the work; and
- dissemination of information and training in its use, particularly for municipalities.

Land Fragmentation

444. Compared to the EU countries, Serbia’s agricultural holdings are very fragmented, and thus less efficient, although they are similar to those in neighboring countries that had been part of the former Yugoslavia. To improve production, exports, and its investment climate, Serbia could expand its current program of land consolidation.

445. Land fragmentation problems are not restricted to Serbia. Throughout the world, land fragmentation is costly. According to some estimates, the extra costs incurred annually by the Swedish government due to land fragmentation in the county of Dalarna for land registration, cadastre, and taxation are US$1.7 million; the annual costs for local municipalities and infrastructure service providers are also US$1.7 million, and the perpetual capitalized extra costs for society are US$112 million (Backman 2010). In 2001 the increased transportation costs and lack of mechanization due to fragmentation of farm holdings in Galicia were estimated to represent 55 percent of farming costs (Crecente et al.).

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93 With the mid-2011 amendments to the 2009 Law on Planning and Construction, the government adopted a program for urban land consolidation.
As a rule, land consolidation results in higher agriculture production rates due to both economies of scale and better access to infrastructure, such as roads and irrigation. The direct benefits of land consolidation (FIG Congress 2010) are about quadruple the costs and have many consequential advantages, such as improved rural conditions, increased market values for consolidated properties, improved infrastructure, more accurate property registers and cadastral maps, increased employment, and increases in tax revenues (Box 3.16).

Box 3.15: The Slovenia Building Cadastre

Slovenia did registration of buildings and parts of buildings in an effort to improve the system for apartment registration through the use of ortho-photo maps and improved digital maps. The target was to register 300,000 buildings in the cadastre. When the project ended, 1,231,000 buildings (410 percent of the goal) had been registered, as had 1,655,000 ‘parts’ (551 percent of goal) of buildings (such as apartments) had been registered.

The Surveying and Mapping Authority of the Republic of Slovenia had been striving to establish a high-quality record of buildings and parts (apartments, business premises, etc.). Using aerial survey data, the 2000–2002 Real Estate Registration Modernization project produced digital data of the outlines and positions of all the buildings in the country. Each was assigned an identification number. The buildings were linked to parcels and house numbers, if the latter were designated. This fulfilled a prerequisite for linking land and building (or parts) data set out in the Law of Property Code. In a continuation of the same project, building data were amended with attribute data using existing records. The data were obtained from the Land Cadastre, the Register of Spatial Units, data for determining ground rents, the Central Population Register, the Business Register, infrastructural cadastres and the records of the major property administrators.

In Slovenia before a property constructed for the market can be sold, it must be registered in the Building Cadastre and the Land Register. Registration of a permanent or a temporary residence requires designation of the apartment number, which is entered in the Building Cadastre. Such uses and the linkage between building registration and life events improve the quality and increase the registration of buildings and parts.

Box 3.16: Experiences in Land Consolidation in Europe

The Netherlands

Van Den Noort cites an average annual return of 9 percent of the value of the initial investment in the form of increased economic activity compared to pre-consolidation levels. He estimates returns to farmers to be much higher, which explains their support for land-consolidation policies.  

Lithuania

The Dutch Government Service for Land and Water Management (DLG) and the Lithuanian Ministry of Agriculture in 2005–2006 analyzed potential for a land consolidation project in Lithuania, where the average size of registered farms is 12 ha. For a 621 ha block, the economic benefit from savings in cultivation and transport costs alone was estimated at €10 / ha. The annual rate of return for 20 years was estimated at 8 percent, not counting increased income from higher productivity.

Portugal

Using simulations with and without land consolidation projects to determine benefits for a representative sample of farms in the Valencia area, where land was consolidated areas of

Serbia had a long history of involuntary land consolidation during the communist era, when nearly two million ha were consolidated. In response to issues of land fragmentation, in 2005 MAFWM, in cooperation with the UNFAO and the RGA, conducted a pilot program in a small area near Belgrade to test methodologies and begin to draft a national strategy for consolidation. When the pilot was successfully completed, the MAFWM designed a more ambitious land consolidation program based on the 2006 Law on Agricultural Land. The program, which is still underway, is supervised by the MAWFM with the support of the German BVVG. The MAFWM has created a fund for program work using about €4 million from the €40–45 million total annual income earned from leasing state-owned lands. With 56,474 ha now in in the process of involuntary consolidation in 12 local government areas (11 of them in the Vojvodina area in the north), the cost is averaging about €71/ha, not including municipal staffing costs.

To date, consolidation on close to 22,000 ha is nearing completion; projects begun in 2006-07 could be finished in late 2011. Consolidation of the remaining 28,000 ha, which began in 2008, is at the preparatory or tendering stage; completion is expected by the end of 2012. When it is complete, the program and its results will be analyzed. In the pilot area, however, consolidated parcels are 1.5–10 times their original size. Based on the pilot and the Vojvodina work, the MAFWM considers the program to be a success and is looking to provide funding for its expansion. There is great potential for the program to be scaled up. With improved infrastructure, the economic impact would obviously be significant.

A land parcel identification system (LPIS) would be useful in land consolidation, and would also move forward Serbia’s EU accession and integration plans. Such a system, created using the RGA spatial data, would contain information including type of agricultural land and area cultivated. An LPIS could also form the core of a larger geo-information system for agricultural lands for use as a management and control tool for such tasks as inventorying public rural lands, farm land asset management, land use and soil quality monitoring, a vineyards cadastre, flood control, extension services in agriculture, and GMO control.

### 3.6.4. Institutions

Institutional inefficiencies, such as poor management of state-owned properties, are restricting government revenue and restraining growth. Forgone government revenue from property taxes on legal as well as illegal settlements, poor use of state property, and the

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98 The objective of the 2006 Law is to protect the country’s productive agricultural land. It provides for both voluntary and involuntary land consolidation. It also deals with planning, use, management, and reorganization of agricultural land.
Management of State-owned Property

451. The constitution three types of state ownership of property: national, provincial and municipal. Until 2011 all state land was owned by the national government, although it was often managed by municipalities and other parts of the general government. In 2011, Parliament passed the Law on Public Ownership, which shifts some rights and responsibilities over public land to the municipalities.99

452. The categories into which state land falls are:
- urban construction land, which was nationalized during the socialist era. Much of this land is occupied, and therefore there are use rights over the property, but it is estimated that there are 194,441 ha of vacant construction land in Serbia. All levels of government also hold many commercial properties, which it leases.
- agricultural lands, of which the state owns some 760,000 ha. This land is generally leased to private farmers.
- large tracts of forest.
- operational lands, which the state and municipalities use for their own operations and to provide services, such as utilities and roads.
- land for which the state has assumed responsibility, which was held during the socialist era by entities that no longer exist.

453. State-owned land covers an extensive area. Large areas of construction land are under the control of municipalities, and central government ministries and agencies also have sizable holdings. One estimate puts the area of construction land held by the state at 194,441 ha. However, this estimate is not confirmed and it is often the case that municipalities do not know the amount of land under their control. While each municipality has a register of the property it holds, the records are often out of date.

454. The quality of the management of state-owned construction land, which is primarily the responsibility of municipalities, varies widely. Some municipalities, like Belgrade, have well-organized and managed systems for the property they control. Elsewhere, systems and records are inadequate, so there is little understanding of what property the municipality manages, which results in poor utilization (including access for the private sector). The quality and capacity of municipal land management staff also varies dramatically. Management of state-owned property is also far from transparent; few honor their reporting obligations.

455. Further, as a consequence of the ways state land is managed, it is difficult for a municipality to sell property it owns. The municipality offering the land advertises it with the minimum bid or starting price. But the starting price, which is assessed by municipal officials, often diverges widely from current market prices. This is not a problem if the starting price is set low. However, when the price is high, no one bids, and the property is unutilized. It does not contribute to economic growth, and the state misses out on revenue. The problem arises due to both a lack of valuation skills in the municipalities and a poor

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99 No matter which level of government owns and manages state land, the problems are the same.
understanding of how markets work.

456. **A further consequence of the lack of good land management is loss of possibly millions of euros in revenue from unused real estate.** For example, the military holds vast expanses, estimated to be worth millions of euro, in addition to the estimated 25,000 ha of vacant construction land owned by the central government. Assuming a very low valuation of €10 per square meter, the latter alone would be worth €2.5 billion.

457. **To profit from such holdings, the government could take a number of practical steps:**
- Improve records, create up-to-date inventories of state properties and keep the inventory current.
- Improve transparency, and report the results of public tenders and auctions that result in transactions: numbers, prices, buyers.
- Increase understanding of property values and make the Tax Administration value database public or at least available to government officials who must manage property.
- Improve capacity: conduct training for local municipalities on good management of public assets, particularly how to assess which properties are not needed for operations and can be offered for sale or lease to the private sector.

458. **More generally, the government could adopt and implement the approach to management of state assets that was developed by the Urban Institute** (Kaganova and McKeller 2006). It devised a broad municipal asset management framework (Boxes 3.17 and 3.18) that recommends a set of improvements based on assessments of needs in a specific city or country. This allows for demand-driven staging of technical assistance in a field where no two countries will have shared the same experience. Box 3.17 shows what is applied in Croatia, while the broad model is presented in Box 3.18. Based on this model, Serbia could introduce a framework to meet local conditions, and in doing so, maximize returns on state owned property.

<table>
<thead>
<tr>
<th>Box 3.17: Initial Croatian Asset Management Model</th>
<th>Box 3.18: Municipal Asset Management Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction of a property-by-property information system</td>
<td>• Develop and maintain comprehensive records of properties owned by the local government (including properties managed and used by various municipal departments and enterprises)</td>
</tr>
<tr>
<td>1. Transitional issues</td>
<td><strong>Project Management and Accounting Component</strong></td>
</tr>
<tr>
<td>2. Property classification</td>
<td>• Develop and maintain a property management and accounting system on a property-by-property basis (including all revenues, costs, and occupancy / tenants records)</td>
</tr>
<tr>
<td>3. Real estate and business appraisal</td>
<td>• Include the value of each property in the accounting database, and include financial liens against each property</td>
</tr>
<tr>
<td>4. Operating statements for income-generating properties or portfolios</td>
<td>• Formalize in writing the relationships regarding property with all tenants / users of municipal property</td>
</tr>
<tr>
<td>5. Intensive financial analysis of portfolios, properties, and projects</td>
<td>• Use private-sector property management approaches for improving public property management</td>
</tr>
<tr>
<td>6. Deregulation of business rentals and improvements in rental practices</td>
<td></td>
</tr>
<tr>
<td>7. Quantification and monitoring of direct and indirect property-related subsidies obtained by tenants and users of local government real estate</td>
<td></td>
</tr>
<tr>
<td>8. Reporting on property</td>
<td></td>
</tr>
<tr>
<td>9. Management consolidation</td>
<td></td>
</tr>
<tr>
<td>10. Comprehensive asset management plan</td>
<td></td>
</tr>
</tbody>
</table>

100 These figures are not official; they were extrapolated from discussions with public officials and private businesspeople.
Serbia collects far less in property taxes than what could be collected because building records are often incomplete and inaccurate. Valuation of properties for taxation can also be problematic: properties can be valued on the wrong basis, using out-of-date data or without proper understanding of valuation principles. Lack of valuation skills in the public sector is of concern to the private sector, since many of its obligations relate to payment of fees and charges based on property value. The Tax Authority database, which has evolved over years through sporadic one-off valuations based on actual sales documents, is not available to the private sector.

Reliable property valuation can be useful in a variety of ways beyond taxation. Valuation is used to set the start price for land auctions, for instance, and in payment of compensation where a property is expropriated for a public need to bring greater transparency to processes for land sales, leases, or expropriation; and as a basis of mortgage lending. Generally accepted valuation data also makes the property market better informed and hence more efficient.

A best practice would be for the private sector either to have access to valuations or to perform them. In many developed countries, a private valuation profession satisfies the needs of both private and public bodies, issuing valuations made in accordance with internationally accepted standards. While the Tax Administration has a system for assessing property values that is used by some government bodies, it is not authorized to operate as a
national valuation office such as exists in many countries. The Serbian government could consider doing the same, either within the Tax Administration or independent of it. Legal restrictions on the sharing of Tax Administration’s extensive database should be removed to improve access to information. Whether or not the valuation body is located within the Tax Administration, it needs to be properly resourced, concentrate only on valuation, and be able to provide services to all ministries, agencies, and institutions that need the information. Finally, there is a role for private evaluators. Building these capacities could be enhanced through out-sourcing.

462. The next step would be a mass valuation covering all properties. In addition to its usefulness in taxation, it would build credibility and public acceptability to valuations needed for expropriations and other matters. Perhaps most important, a mass valuation system would bring illegal settlements fully into the municipal taxation system and probably raise government revenue (see Box 3.19).

463. A program for mass valuation would have the following elements:

- Formal land policy, to establish the necessary laws and regulations and design the framework for mass valuation;
- Training, particularly in valuation methodologies;
- Initial gathering of data;
- Publication of data for both public and private use;
- Training and support for the resolution of disputes.

Box 3.19: Case Study: Slovenia’s Real Estate Tax and Valuation System

A real estate mass appraisal system was successfully tested in three Slovenian municipalities in 2003 with the help of the World Bank Real Estate Registration Modernization Project. The law on mass appraisal set the foundation for better and more complete real estate databases by establishing a unified system for collecting market evidence. It also established a state valuation service responsible for the mass appraisal of all real estate based on market value. The mass appraisal information formed the basis for Slovenia to draft the property taxation law, which was prepared as part of the project.

The result was increased property tax revenues and increased transfer taxes and fees from more and higher value transactions. Total tax revenues to local governments increased 32 percent, and real estate tax revenue increased 15 percent. How much of the increases could be attributed to the project is difficult to quantify, but as the property market improves and more properties are formally registered, both the volume of transactions (from 20,000 in 2000 to 51,000 in 2004) and their worth has risen, pushing up the fees and transfer taxes collected. In addition, as the number (3,024 in 2001 to 16,500 in 2005) and value of mortgages has increased, so have revenues from mortgage registration.

3.6.5. Policy Recommendations

464. The land sector is still constrained by serious land policy problems: insecure property rights, poor land management, and institutional inefficiencies. Conversion and restitution issues undermine the security of property rights. The hindrances to efficient development of land and thus growth in Serbia include bottlenecks in permit issuance, the complexity of the process to regularize illegal developments, and land fragmentation. Institutional inefficiencies like poor management of state assets and tax collection lower
government revenue. The government has moved in the right direction to tackle these issues but has often fallen short due to lack of capacity, resources, transparency, and good governance. The following recommendations provide a basis from which the government can build on its achievements.

Property Rights

465. Proposed restitution agency needs to be properly resourced and backed by a public campaign so that it can finalize claims within a reasonable time and strengthen confidence. The problem is that Property security and transparency problems with restitution have undermined confidence in property rights. In particular, restitution agency does not have adequate budget to deal with the volume of claims. Also, restitution processes are inevitably controversial, making the implementation of the process a delicate balancing act. The agency also needs to be supported with good public relations programs to build confidence among the public and investors.

466. It will be important to assign a dedicated and trained team whose sole responsibility is to deal with conversion applications. This is because the conversion of urban land from use to ownership rights is slow and not transparent. Staffing and skills are a major constraint to the conversion process as is the lack of broader transparency and awareness of the process. Additional staffing may be needed to process hundreds of thousands of applications. Valuation training or use of private valuation services will be particularly important. A public awareness campaign would make the population more aware of the government’s policy position.

Land Management

467. The government is advised to create a national plan to increase local capacity and implement the 2009 Law on Spatial Planning and Construction for dealing with permits. The problem here is that the issuance of construction permits is a bottleneck and resulted in Serbia’s low rank of 176 out of 180 in “ease of obtaining a construction permit” in Doing Business 2011. In this regard, it is important to review and simplify the many procedures associated with obtaining construction permission. It is also important to assign a monitoring and evaluation team to ensure that the law is fully implemented.

468. The government could create a unified and complete cadastre in which every building, state or privately owned, is recorded and its status (legal or illegal) identified. The government has an obvious incentive for citizens to legalize their property because it both provides local tax revenue and is necessary to an efficient land market. While this process is underway, there remain hundreds of thousands of properties outside the cadastre, resulting in huge loss of tax base, and because this capital cannot be collateralized—a large loss of investments.

469. It would be advisable that pilot programs be expanded into national land program for consolidation. The benefits outweigh the costs, as documented for the pilot program. These benefits include increased production and employment, higher tax revenues, improved rural conditions, higher market values for consolidated properties, improved ownership conditions, better infrastructure, and accurate property registers and cadastral maps.

Institutions

470. The government will also need to improve records, public tenders, valuation and capacity of state-owned property. The register of state-owned property is fragmented and
incomplete. To improve the records, it will be important to bring inventories of state properties up to date and introduce a system for keeping the inventory current. The building cadastre would help in establishing this inventory. To improve transparency, it is advisable to report the results of public tenders and auctions result in transactions: numbers, prices, buyers etc. Finally, to improve capacity, it would be useful to conduct training for local municipalities on good management of public assets, particularly how to assess which properties are not needed for operations and can be sold or leased to the private sector.

471. Finally, it might be advisable to consider creating a valuation authority responsible for mass valuation, either within the Tax Administration or independent of it, and properly train and resource its staff. With the aid of the building cadastre, it would be useful to perform a mass valuation in the form of one-off valuations or one that could form the basis for taxation. Also, this would help bring illegal buildings into the municipal taxation system. To increase understanding of property values, the government could make the Tax Administration valuation database available to the public, or at least to government officials responsible for managing property.
3.7. Trade Facilitation: Customs, Logistics and Transport

Serbia performs relatively well in the Trading Across Borders subindex of the Doing Business indicators, but there is room for improvement. It is also ranked 67th out of 125 countries in the 2010 Enabling Trade Index (ETI). But it is ranked 83rd out of 155 countries in the World Bank’s Logistics Performance Index (LPI) 2010, with a very poor ranking in timeliness (137th). However, this offers an opportunity: improvements in targeted areas could yield substantial gains in trade and transport facilitation and more efficient economic activity throughout Serbia. Country-specific performance data based on LPI surveys show that physical inspections at entry are relatively high (15 percent) and last a long time. While the Serbian Customs Administration has made significant productivity gains, because they have slowed in recent years, reforms need to accelerate, especially given the new Customs law. International comparisons also confirm significant shortcomings the quality of Serbia’s transport infrastructure and generally poor performance relative to the rest of the region.

Integration of its transport network with the core regional network is recognized as a major policy objective for Serbia’s economic development. Improving rail performance in key freight corridors is critical to competitiveness; it will require coordinated efforts within the regional and between agencies. Finally, the location of Serbia provides natural advantages for more intensive and efficient river transportation, especially on the Danube River, which is one of the major transport axes in Europe.

3.7.1. Introduction

472. Today, success in export markets for firms in both developed and emerging countries is increasingly affected by the ability of governments to support an environment that promotes efficient and low-cost trade services. The physical size of Serbia, its location, and the size of its domestic market underline the importance of international trade in its economic development. The competitiveness objective for the transport sector might be described as the need to reduce the “economic distance” to Serbia’s main markets (World Bank 2004). This reflects all transportation and clearance expenditures, necessary and unnecessary. The implication is that development requires not only quality physical infrastructure, fully integrated with that of neighboring countries, but also institutions that facilitate trade across borders.

473. Trade facilitation, which covers a wide range of activities centered on lowering trade transaction costs for firms in global commerce, is increasingly important. The costs cover the price of moving freight from factory to customer, because firms must manage border and/or inland clearance procedures and pay trade services fees, among many other steps after goods and services are produced. Trade facilitation therefore involves much more than trucking goods across national borders or shipping a package by sea. National frontiers impose complex procedural requirements on incoming and outgoing goods; countries that ensure that these are met with minimum financial and time costs while honoring the public interest, can perhaps attract more FDI. Policymakers are increasingly concerned with logistics, which encompasses transportation, cargo consolidation, warehousing, border clearance, and payment systems.

474. This chapter first assesses the performance of Serbia in international benchmarking exercises related to transport infrastructure and trade facilitation. The chapter then presents the findings of a simplified audit of logistics to illuminate the concerns
of businesses. Later it provides an overview of land transport infrastructure with recommendations to improve its quality, and discuss the results of the customs audit related to the rest of the customs reform agenda (Raven, 2001).

3.7.2. Comparative Assessment of Serbia’s Performance

Several international indices rank countries on the basis of indicators related to trade and transport facilitation and logistics. Among these are two World Bank indices, Ease of Doing Business and the Logistics Performance Index. In addition, this section also reviews the World Economic Forum’s new Enabling Trade Index. The comparator countries are the Czech Republic, Hungary, Poland, and Slovakia (Figure 3.35).

Figure 3.35: Serbia’s Rankings on Doing Business and Trading Across Borders

![Graph showing Serbia's rankings on Doing Business and Trading Across Borders compared to Czech Republic, Hungary, Poland, and Slovakia.]

Note: Rankings out of 183 countries.

Serbia performs relatively well on the Trading Across Borders subindex of Doing Business, but it could move higher. Doing Business 2011 ranks 183 economies on ease of doing business; a high ranking means the regulatory environment is conducive to operating a business. This index averages the country’s percentile rankings in 10 areas, giving them all equal weight. Although overall Serbia is ranked 89th, its rankings by area vary considerably. The topic most relevant here is the Trading Across Borders subindex, where Serbia is ranked 74th (Table 3.10). Pushing down Serbia’s ranking is the cost to import and export, partly a function of its landlocked status.

Table 3.10: Serbia’s Rankings on Aspects of the Trading Across Borders Subindex

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Documents to export (number)</th>
<th>Time to export (days)</th>
<th>Cost to export (US$ per container)</th>
<th>Documents to import (number)</th>
<th>Time to import (days)</th>
<th>Cost to import (US$ per container)</th>
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<tbody>
<tr>
<td>Poland</td>
<td>49</td>
<td>5</td>
<td>17</td>
<td>884</td>
<td>5</td>
<td>25</td>
<td>884</td>
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<td>17</td>
<td>1,060</td>
<td>7</td>
<td>20</td>
<td>1,165</td>
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<td>74</td>
<td>6</td>
<td>12</td>
<td>1,398</td>
<td>6</td>
<td>14</td>
<td>1,559</td>
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<td>73</td>
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</tbody>
</table>

Serbia is ranked 83rd out of 155 countries in the World Bank’s Logistics Performance Index 2010; it ranks particularly badly on timeliness (137th) (Table 3.11). In 2007 the World Bank launched the LPI, a benchmarking tool based on a survey of global freight forwarders and express carriers that measures a country’s performance along its logistics supply chain and helps identify challenges and opportunities. Using a 5-point scale, the LPI looks at six areas: (i) customs; (ii) infrastructure; (iii) international shipments; (iv) logistics competence; (v) tracking and tracing; and (vi) timeliness. Serbia’s LPI ranking is lower than all the comparator countries. It scores particularly badly on customs (108th), timeliness (137th), and infrastructure (95th)—areas where reform could lead to substantial gains.

Table 3.11: Logistics Performance Index Rankings

<table>
<thead>
<tr>
<th>Country</th>
<th>LPI</th>
<th>Sub-indices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>customs</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>Hungary</td>
<td>52</td>
<td>45</td>
</tr>
<tr>
<td>Serbia</td>
<td>83</td>
<td>108</td>
</tr>
<tr>
<td>Slovakia</td>
<td>38</td>
<td>47</td>
</tr>
<tr>
<td>Poland</td>
<td>30</td>
<td>34</td>
</tr>
</tbody>
</table>


Serbia is ranked 67th out of 125 countries in the 2010 Enabling Trade Index (ETI) (Table 3.13). In 2008 the World Economic Forum (WEF) launched the Global Enabling Trade Report, which ranks nations according to factors facilitating the free flow of goods

479. Serbia is ranked 67th out of 125 countries in the 2010 Enabling Trade Index (ETI) (Table 3.13). In 2008 the World Economic Forum (WEF) launched the Global Enabling Trade Report, which ranks nations according to factors facilitating the free flow of goods
across national borders to destination. It reports both hard data and survey data from the WEF Executive Opinion Survey. The index is structured to cover (i) market access; (ii) border administration; (iii) transport and communications infrastructure; and (iv) business environment.

Table 3.13: The Enabling Trade Index Border Administration and Infrastructure Rankings

<table>
<thead>
<tr>
<th></th>
<th>Serbia</th>
<th>Czech Republic</th>
<th>Hungary</th>
<th>Poland</th>
<th>Slovakia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficiency of Serbian Customs Administration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burden of customs procedures</td>
<td>96</td>
<td>40</td>
<td>49</td>
<td>66</td>
<td>31</td>
</tr>
<tr>
<td>customs service index</td>
<td>40</td>
<td>12</td>
<td>5</td>
<td>55</td>
<td>21</td>
</tr>
<tr>
<td><strong>Efficiency of import-export procedures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness and efficiency of clearance</td>
<td>99</td>
<td>27</td>
<td>44</td>
<td>33</td>
<td>46</td>
</tr>
<tr>
<td>Time for import</td>
<td>37</td>
<td>64</td>
<td>54</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Documents for import</td>
<td>37</td>
<td>50</td>
<td>50</td>
<td>18</td>
<td>73</td>
</tr>
<tr>
<td>Cost to import</td>
<td>88</td>
<td>55</td>
<td>61</td>
<td>32</td>
<td>83</td>
</tr>
<tr>
<td>Time for export</td>
<td>31</td>
<td>55</td>
<td>64</td>
<td>55</td>
<td>71</td>
</tr>
<tr>
<td>Documents for export</td>
<td>47</td>
<td>6</td>
<td>28</td>
<td>28</td>
<td>47</td>
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<tr>
<td>Cost to export</td>
<td>85</td>
<td>54</td>
<td>71</td>
<td>43</td>
<td>90</td>
</tr>
<tr>
<td><strong>Transparency of border administration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irregular payments in exports and imports</td>
<td>65</td>
<td>48</td>
<td>50</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>Corruption Perceptions Index</td>
<td>67</td>
<td>42</td>
<td>38</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td><strong>Availability and quality of transport infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport density</td>
<td>96</td>
<td>78</td>
<td>98</td>
<td>101</td>
<td>45</td>
</tr>
<tr>
<td>Transshipment connectivity index</td>
<td>n/a</td>
<td>94</td>
<td>n/a</td>
<td>62</td>
<td>n/a</td>
</tr>
<tr>
<td>Paved roads</td>
<td>56</td>
<td>1</td>
<td>68</td>
<td>47</td>
<td>33</td>
</tr>
<tr>
<td>Quality of air transport infrastructure</td>
<td>106</td>
<td>22</td>
<td>57</td>
<td>92</td>
<td>101</td>
</tr>
<tr>
<td>Quality of railroad infrastructure</td>
<td>95</td>
<td>24</td>
<td>47</td>
<td>57</td>
<td>22</td>
</tr>
<tr>
<td>Quality of roads</td>
<td>110</td>
<td>75</td>
<td>60</td>
<td>120</td>
<td>71</td>
</tr>
<tr>
<td>Quality of port infrastructure</td>
<td>95</td>
<td>61</td>
<td>69</td>
<td>114</td>
<td>63</td>
</tr>
<tr>
<td><strong>Availability and quality of transport services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liner Shipping Connectivity Index</td>
<td>n/a</td>
<td>97</td>
<td>n/a</td>
<td>74</td>
<td>n/a</td>
</tr>
<tr>
<td>Ease and affordability of shipment</td>
<td>18</td>
<td>17</td>
<td>79</td>
<td>35</td>
<td>53</td>
</tr>
<tr>
<td>Logistics competence</td>
<td>80</td>
<td>34</td>
<td>50</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td>Tracking and tracing</td>
<td>82</td>
<td>27</td>
<td>66</td>
<td>33</td>
<td>31</td>
</tr>
<tr>
<td>Timeliness of shipments</td>
<td>114</td>
<td>18</td>
<td>57</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td><strong>ETI Ranking 2010</strong></td>
<td>67</td>
<td>42</td>
<td>49</td>
<td>58</td>
<td>47</td>
</tr>
</tbody>
</table>

*Note: Ranking out of 125 countries.*  

480. **Serbia scores poorly on the ETI border administration and infrastructure subindices** (Table 3.13). Its worst ranking is on the quality of infrastructure dimension—it ranks 110th for quality of roads, and 106th for quality of airport infrastructure.\(^{101}\) Although there are some caveats about the methodology of the ETI, the data certainly suggest that Serbia could improve its cross-border trade by (i) working to better its logistics indicators,

\(^{101}\) Respondents were asked to rate infrastructure on a scale of 1 to 7.
particularly timeliness; (ii) reducing physical inspections at borders; and (iii) rehabilitating its transport infrastructure.

3.7.3. Freight Forwarding and Logistics Sector Audit

481. **Third party forwarders handle over 90 percent of Serbia’s external trade flows of goods.** A few small manufacturing companies use their own vehicles to deliver to adjoining countries. Among forwarders large freight forwarding companies handle 50 to 60 percent of the flows, mid-size ones about 30 percent, and small ones 10 to 20 percent.

482. **There is a large number of predominantly domestically owned forwarders.** There are more than 2,000 freight forwarding firms in Serbia, of which 700 participate significantly. Most logistics and freight forwarding companies are local; the services offered by the relatively small number of international logistics companies tend to be limited compared with other European markets. More than 80 percent of domestic companies help cargo clear customs and about 70 percent also offer international road transport services. However, foreign companies, predominantly maritime agents, handle over 80 percent of overseas container transport. No major international freight forwarding company operates in Serbia.

483. **Price and flexibility are priorities in selecting a company.** Third party logistics companies and freight forwarders base their competitiveness on specialization, backhaul opportunities, utilization of spare capacity, and lower costs. Small companies stress flexibility as their competitive advantage and local firms stress knowledge of the local market and easier access to local clients. Normally, local clients can also defer payment to domestic freight forwarders by 60 days. International freight forwarders are typically partners of local freight forwarders responsible for international transport. They are also present in foreign manufacturer distribution networks and for larger international supply chains.

484. **The freight forwarding and logistics audit identified a number of constraints.** Some general issues, also identified in other assessments (Box 3.20), are (i) inconsistent application of laws and regulations, particularly the new customs law; (ii) restriction of certain goods imports to specific border crossing stations due to lack of customs and inspection services; and (iii) a high number of controls, sampling, and inspections, suggesting poor risk profiling of goods. All these make it obvious that further efforts are needed to strengthen the Serbian Customs Administration. Other problems relate to infrastructure: absence of intermodal terminals, limited medium-term planning and lack of a comprehensive strategy for logistics development, and inadequacies in the transport infrastructure, particularly the reliability, punctuality, and predictability of rail.

485. **The audit also identified new issues:**

- **There is no association of logistics companies that could act as a neutral platform** to promote awareness in industry and among the public of the importance of logistics and supply chain management; systematically document logistical problem definitions; design interdisciplinary and sector-specific methods and processes to solve problems; and promote and advocate for the legislation. Preferably, a national organization of logistics companies could result from by private-sector initiative.

- **Use of electronic signatures is restricted.** In Serbia, electronic stamp and signature applications still do not function properly, so that there is additional work entailed for scanning documents and shipping originals by express mail. The Law on Electronic
Documents prevents their use of electronic documents whenever another law or regulation specifies matters requiring use a handwritten verified signature on paper.

- **It is difficult to obtain a permit for customs clearance on exporter premises.** Customs clearance on the production site reduces time and costs, but it is difficult for companies to obtain the necessary permit. In the EU, large importers conduct clearance at the point of origin; these are typically cases in which most of the traffic is classified as "green channel" (nothing to declare).

- **Too few bilateral and CEMT permits are issued for international road transport.** Based on interviews with freight forwarders, the limited availability of bilateral permits is an impediment to bilateral trade. Very low quotas are a remnant of historical trade relations. For instance, the number of permits with Italy has not changed since 2002. A second issue is that the procedure for allocating licenses locally and their use is not transparent.

- **Quality standards and the tariff system are not aligned with those of EU member states.** Import of new products for which the tariff number is not known is a particular problem, because the responsible competent ministry can take days to verify classification of the new product.

- **All food shipments are subject to phytosanitary control, which is slow.** Samples are sent to an accredited laboratory selected by inspectors. Obtaining a safety certificate can take 10 to 20 days. Frequent changes in procedures cause further problems, although the new Law on Food Safety, which was adopted in 2009 and was expected to be implemented since June 2011 may ease them.

- **Clearance of containers is cumbersome.** All goods imported in containers from Asia must be placed in the customs warehouse before being cleared, creating additional costs for handling (unloading and loading), storage, and distribution. Goods from Asia can only be cleared through Belgrade, Niš, and Novi Sad, unless special approval of other customs stations is obtained.

---

102 Article 4, paragraph 3, item 6.
103 A bilateral permit permits the carrier to travel between two states whose quotas are determined by bilateral agreements. CEMT, Conference of European Ministers of Transport, sets quotas and conditions of use for CEMT permits.
105 According to the Ministry of Agriculture, Trade, Forestry and Management Water the new Law on Food Safety ("Official Gazette of the Republic of Serbia", no. 41/2009) new legislation complies with European Directive 178/2002, which foresees formation of the expert council for assessment of food risk that must follow the recommendations of the European Food Safety Authority. However, this law is not yet being applied.
Box 3.20: Supply Chain Analysis: Frozen Fruit Exports

Over 85 percent of fresh fruits processed or frozen are sold abroad, mainly to the EU (primarily France, Germany, and Austria) and Switzerland. Companies sign annual contracts with clients and usually receive a monthly plan of the shipments. The number of shipments depends on the cold storage capacity. The average size of a shipment is about 20 tons (32-33 pallets) and the average value is €20,000-50,000. Almost all shipments are by road.

The customs declaration is prepared by the local freight forwarder. The documents that follow the goods are invoice, dispatch document, proof of origin of the goods (EUR1), unique customs clearance, and bill of lading for international road transport (CMR). There is also a certificate of quality and certain other certificates according to the buyer's request (BIO, GMO, phytosanitary, etc.). Other documents needed may be the packing list and temperature lists (signed by the driver when loading the goods). The average effective time for completing an outbound chain is 9-32 hours. Transit times vary by destination: Austria – 1 day; Germany – 2 days; France – 3 days; Switzerland – 2 days.

<table>
<thead>
<tr>
<th>Warehouse manufacturers</th>
<th>Customs station (CS)</th>
<th>Border crossing (BC)</th>
<th>Warehouse buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time, Hours</td>
<td>0.75-2</td>
<td>0.5-5</td>
<td>1.75-5</td>
</tr>
</tbody>
</table>

Outbound logistics chains

Common complaints during the interviews mainly related to (a) working hours of customs; (b) congestion in some customs offices; (c) noncompliance with the right of priority clearance for cold storage vehicles; and (d) inadequate infrastructure for intermodal transport. Customs offices work from 09:00 AM to 5:00 PM, and applications for clearance must be made before 4:00 PM. These working hours represent a problem for fresh products loaded in the evening that cannot clear customs until the following day. Some fresh products have a limited shelf life and often require special conditions (e.g., maintaining a certain temperature). On paper refrigerated goods do have priority and the week-end ban does not apply to them, however in practice, this is often not complied with.

These problems significantly influence shipment reliability. In order to avoid late delivery, the vehicle to be unloaded usually arrives at the buyer’s place a day early. Time for delivery is usually strictly defined, especially for retail goods. Late delivery entails penalties, lowering the price or losing the client. Sometimes, deliveries are even refused, causing major problems and expenses.

3.7.4. Customs Audit

486. Serbian Customs Administration is one of the obstacles to cross-border trade. Serbian customs ranks considerably below that of new EU accession countries. The World Bank’s Logistics Performance Index (LPI) ranks Serbia 108 out of 155 countries on customs, its second lowest rating on an LPI sub-index after timeliness (Table 3.14). This is to some extent due the fact that Serbia initiated customs reforms only in 2001, several years after other Balkan countries.
### Table 3.14: Logistics Performance Index - Scorecard for Serbia

<table>
<thead>
<tr>
<th></th>
<th>Percent answering high/very high</th>
<th>Percent of respondents answering low/very low</th>
<th>Percent of respondents answering high/very high</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Level of Fees and Charges</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The options that best describe the operational logistics environment in your country of work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port charges are</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport charges are</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road transport rates are</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail transport rates are</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehousing/trans loading charges are</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agent fees are</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Quality of Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate the quality of trade and transport related infrastructure (e.g. ports, roads, airports, information technology) in your country of work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ports</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airports</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehousing/trans loading facilities</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecommunications and IT</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Competence and Quality of Services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate the competence and quality of service delivered by the following in your country of work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air transport</td>
<td>0</td>
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</tr>
<tr>
<td>Maritime transport</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehousing/trans loading and distribution</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight forwarders</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs agencies</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality/standards inspection agencies</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health/SPS agencies</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs brokers</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade and transport associations</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consignees or shippers</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Efficiency of Processes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate the efficiency of the following processes in your country of work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance and delivery of imports</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance and delivery of exports</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transparency of customs clearance</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provision of adequate and timely information on regulatory changes</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expedited customs clearance for traders with high compliance levels</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5. Sources of Major Delays</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often in your country of work, you experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compulsory warehousing/trans loading</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-shipment inspection</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maritime transshipment</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criminal activities (e.g., stolen cargo)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solicitation of informal payments</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Changes in the Logistics Environment Since 2005</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since 2005, have the following improved or worsened</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs clearance procedures</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other official clearance procedures</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade and transport infrastructure</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecommunications and IT infrastructure</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private logistics services</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation related to logistics</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence of corruption</td>
<td>33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

487. The Customs Administration has introduced performance measurement on which to base monthly evaluation of clearance times and annual assessment of departmental performance. Unlike those of the LPI or Doing Business, these indicators are quantitative, related to border performance and sampling at selected pilot sites. Table 3.15 shows the evolution of border entry processing times at four crossings in Serbia, including Batrovci, which is the largest crossing in Serbia. The figures cover queues and processing by all agencies (customs, border police, phytosanitary, and veterinary) and show a sustained reduction in times after 2005 but not much change in the past two to three years. A similar story can be told for the Belgrade Inland Terminal. Reductions that reflect customs modernization efforts have now settled at what seems to be an uncompressible level. This indicates the need for new qualitative measures to bring times down to a 20-minute average, comparable to that at the non-EU borders of Poland.

Table 3.15: Average Entry Time for Trucks at Serbian Border Crossings (minutes)

<table>
<thead>
<tr>
<th>Location</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradina (Bulgaria)</td>
<td>137</td>
<td>138</td>
<td>149</td>
<td>142</td>
<td>55</td>
<td>51</td>
<td>98</td>
<td>54</td>
<td>64</td>
</tr>
<tr>
<td>Horgoš (Hungary)</td>
<td>145</td>
<td>116</td>
<td>93</td>
<td>61</td>
<td>61</td>
<td>39</td>
<td>32</td>
<td>28</td>
<td>39</td>
</tr>
<tr>
<td>Preševo (FYR Macedonia)</td>
<td>106</td>
<td>96</td>
<td>73</td>
<td>146</td>
<td>37</td>
<td>29</td>
<td>32</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Batrovci (Croatia)</td>
<td>98</td>
<td>74</td>
<td>62</td>
<td>100</td>
<td>52</td>
<td>42</td>
<td>28</td>
<td>27</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: Serbian Customs Administration

488. Although physical inspection rates have declined, they are still above EU levels. Under the legacy system of all transition countries, until 2006 the culture of control by default led to nearly 100 percent examination of all imports. Routine inspections are cursory, risk management is minimal, and there is no focus on a specific type of fraud as a targeted control would provide. However, after 2006 when a more risk-based approach to inspection was adopted and there were fewer but better-organized controls, detections began to increase. This was also more cost-effective, reducing the marginal cost of compliance, detection rates are higher, and clearance delays have been slashed. It should be noted that the traditional EU benchmark of approximately 5 percent inspections may be too low in a country like Serbia, at least for the moment. Experience in Bosnia and Herzegovina suggests that the optimum rate of physical inspection, the one that yielded most detection, was close to 20 percent.

489. The Serbian Customs Administration had been making significant gains in productivity, but that has slowed. The cost effectiveness of customs, calculated in terms of total costs compared to revenue, moved from a ratio of 3.77 to 1.48 in 10 years – a nearly 155 percent improvement. During the same period staff productivity, based on average annual number of declarations processed by customs officers, improved by over 70 percent. The average consolidated duty ratio (collections compared to assessed values) increased by 80 percent. The 80 percent correlative increase in salary costs had a less than proportional effect on the economic cost per declaration, which only went up by 70 percent. After a spectacular start, gains in productivity started to stagnate in 2007, revealing again that the considerable progress in previous years had reached its limits and would not be sustained without a qualitative leap.

490. Enhancing customs performance will require a package of second-phase reforms. The progress made reflected departmental commitment to modernization and the introduction of EU-compatible approaches and technologies. New concepts, such as the integration of border control or risk-based checks, have contributed to a sense of efficiency and responsibility toward users. To upgrade to EU standards, Serbia now needs a second phase of
reform, which will require mainstreaming indicators and agreeing on performance benchmarks with private involvement. Border institutions—not just customs—need to be credible in terms of securing borders. Earlier reforms largely tended to deal with specific legacy problems, but they were not applied in the context of how to operate in Western Europe. A new change-management approach is needed, based on a critical analysis of objectives and the means necessary to achieve them.

**Outstanding Issues**

491. **The role of customs is not clearly defined.** While in most EU countries customs is considered to be responsible for ensuring that anything and anyone crossing the border complies with national law, the Serbian Customs Administration is still affected by the lingering pre-transition idea that it is essentially in charge of controlling goods for revenue-collecting purposes. This affects customs and border performance in several ways:

- **Functional integration of customs and border police.** The current system is still based on the notion that customs is in charge of goods, and police control people. Efforts to build cooperation between the two (for example, placing customs and border police officials in the same booth so they can jointly capture truck and driver data) are in the right direction but there is also scope for much greater integration of processes.\(^{106}\)

- **The need for specialized controls.** Customs officials act as dispatchers at border crossings, informing phytosanitary and veterinary agencies when consignments require their attention. This is obviously an improvement over previous practices where most if not all trucks had to systematically report to these agencies. However, many simple checks could be carried out by properly trained customs officers, reducing the need for specialized control.\(^{107}\)

- **It is difficult to operationalize the new law when most of the new concepts are alien.** For example, the new law describes the risk management approach, but the risk management unit in headquarters is part of the enforcement directorate, thus reinforcing the notion of control by default. Modern risk management tools are based on the assumption that a transaction is automatically cleared unless risk indicators exceed a certain threshold. In an enforcement-based system, all transactions are deemed suspicious unless they successfully pass positive (usually reputational) tests.

- **The EU code is a compilation of historical standards applied in different member states but often overlapping.** Therefore, adopting all these new principles without the necessary organizational and operational experience may be problematic for Serbia.

- **Some aspects of the new customs law will require significant changes to present operations.** The concept of warehousing will be significantly affected. For instance, there is no real distinction in Serbia between temporary storage of goods before they are declared (part of cargo reporting under EU legislation)\(^{108}\) and declaring goods for

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\(^{106}\) For example, in Georgia, customs are delegated as immigration officials for all freight traffic crossing the border.

\(^{107}\) For example, customs now can offer veterinary services to examine domestic pets, but not other animals or animal products. This does not imply that customs should take over all specialized checks, only that customs officers could carry out many initial verifications officers, under the overall supervision of the responsible agencies.

\(^{108}\) In Serbia, a summary declaration is all that is needed to place entering goods in a “warehouse”, which under EU legislation and practice is known as a transit shed or clearance area is subject to specific rules, notably in terms of liability
bonded warehousing (known in the EU as an economic regime) though the risks in terms of revenue leakage are different, as are the ways these procedures are managed. Another example is the liberal granting of warehouse licenses (there are several hundred in Belgrade alone), which will have to be discontinued.\textsuperscript{109} There are often no limitations on how long goods stay in warehouses. Another important change relates to post-clearance reviews. While the wording tracks Article 78 of the EU code, these reviews are understood in Serbia as being part of an investigative process, when they are actually a measure to test compliance by importers, not necessarily a presumption of irregularity.

- \textit{The law introduces new concepts that might not be well understood in the context of Serbia.} An example is Approved Economic Operator (AEO) status, which is a recent international principle that most countries have not yet defined operationally.

- \textit{Similarly, the notion that a declaration is a legally binding document from the moment it is lodged with customs is not yet fully accepted.} Customs officials still verify declarations in detail before registering them, which may encourage dishonest importers to declare goods incorrectly with little risk of being prosecuted.

- \textit{Penalties are unclear.} The Customs Law has only 15 provisions dealing specifically with violations; it refers to other laws (Article 306) for prosecuting misdemeanors, with an understanding that whatever is not covered in this law is dealt with under the penal code. However, it is difficult to merge customs with other offences because they are essentially different. Smuggling, for instance, is internationally defined as deliberate avoidance of customs control, so it should be under the jurisdiction of the Customs Law. Other violations that are serious offenses are treated as misdemeanors, such as breaking seals on vehicles in transit, which in theory would equate to smuggling. Finally, there is a mistaken concept that customs have jurisdiction only over goods, not people. This ignores the fact that goods are carried, shipped, and declared by people.

492. \textit{When harmonizing Serbian and EU customs legislation, it is important to recognize that the EU code deals only with procedures.} Under the principle of subsidiarity, the EU customs code was not allowed to have penal or organizational provisions. All EU member states therefore introduced the code into their own legislation but retained their own original enforcement provisions, which were fairly consistent. Accession countries had to adjust their legacy legislation (or sometimes post-transition legislation) to support modernized customs operations. Serbia will also have to do this in relation to:

- Defining customs as a law enforcement agency (e.g., ensuring the new customs service law grants adequate powers to customs officers).

- Streamlining offense procedures, preferably by mainstreaming them in customs legislation.

\textsuperscript{109} The multiplicity of private warehouses raises a serious control problem for customs.
• Ensuring inter-agency cooperation (e.g., adopting an approach based on legislation by objective rather than the current legislation by institution, and defining the role of customs in every law likely to affect cross-border operations).

493. **Inland customs clearance at Belgrade also still has some problems.** In the past 10 years there has been significant progress at Belgrade terminal, where in 2010 over 92,000 import declarations were lodged. A straightforward clearance with no inspection takes only 15 minutes and the average delay for release is one hour, but

• **The process is still somewhat bureaucratic.** Importers and clearing agents can lodge declarations through direct trader input into the customs system but still need to produce a hard copy, which the receiving officer checks against the computer record. In the case of a physical inspection of goods, a three-member commission of customs officers recommends truck unloading to the shift leader, who makes the final decision.

• **Agency coordination is weak.** In the absence of phytosanitary and veterinary officials at Belgrade customs house, customs must either call them for specific checks or allow clearing agents to collect samples. Not only does this delay clearance, it also raises issues of integrity, as there is no guarantee that the samples are properly collected and no audit mechanism. Considering the computerized border reporting system, it would not be difficult for these agencies to be informed of the arrival of a sensitive shipment so they could arrange for an inspection.

• **The terminal operator dominates operations at Belgrade.** The Belgrade customs house is inside the terminal, and the operator provides perimeter security. Breaches, such as fencing gaps, can allow leakage of goods and access by unauthorized personnel. Gate entry and exit checks are done solely by the terminal operator staff, with no customs surveillance, and each truck must be weighed for a fee.

494. **Customs could usefully focus on its role as trade facilitator, and work more closely with other agencies.** Customs has three traditional roles: facilitator of trade, coordinator of cross border movements, and enforcer of cross-border rules. Trade facilitation implies minimal control over entering goods (other than reporting), and reliance on post-release audits to ensure that everything that enters the country is fiscally accounted for. To do that properly requires close inter-agency integration, compatible IT systems, and a high level of compliance and traceability. Little of this exists in Serbia. Meanwhile, enforcement customs is a necessary complement; to be credible, customs must have powers of search and enforcement throughout the customs territory. Creating a medium-term strategy for making customs a true trade facilitator would put emphasis on reform measures that are trade, and therefore export, friendly.

495. **Implementation of the new Customs Law needs to be completed.** A new Customs Law (Official Gazette of the Republic of Serbia No.18/2010) entered into force in May 2010.\(^{111}\) The law follows the principle that customs procedures and the Serbian Customs Administration be governed by separate laws. As a result, customs administration is still

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\(^{110}\) Some delays (also recorded at other inland clearance locations) are due to importers or freight operators. The railways will typically not lodge declarations until an entire wagon can be cleared; importers can delay production of a declaration for 20 days (a legal prescription) and then extend the clearance delay by lodging a warehousing declaration. After clearance, payment can take up to 8 days, which further delays release.

\(^{111}\) This is based on Foreign Investors Council (2010), *White Book 2010, Proposals for Improvement of the Business Environment in Serbia.* Belgrade, Foreign Investors Council.
regulated by the customs law that came into force in 2004. The new Customs Law is almost a verbatim translation of the EU Community Customs Code (Council Regulation No/2913/92/EEC, as amended). Among the main changes it makes are creation of the category of authorized economic operator; (b) summary declaration; and (c) customs broker as the indirect representative will now be the declarant and the customs debtor. However, the new Customs Law is yet to be elaborated by decrees, rulebooks, and decisions, although it is likely that these will follow EU implementing regulations. Until this takes place, old decrees, rulebooks and decisions apply as long as they do not actively oppose the new law.

496. **An integrated border management approach needs to be revisited.** A strategy for border management adopted in 2006 was based on the premise that lack of coordination and clarity among border agencies undermined border security. However, the logic was never carried to its conclusion, and border management staff continue to work mainly in functional silos. With the number of border crossing points, Serbia has no excess capacity for controlling borders, and customs and border police are not required in all borders, so there is a need for a more dynamic approach that is not limited to border areas. The implicit limitation of customs to approved crossings, with no possibility of intervention elsewhere along the border (the “green border”) or, without police support, along major transit routes leaves a major gap that the border police cannot fill: (i) the police have their own tasks, and cannot devote resources to areas like smuggling, which customs would be better equipped to deal with; (ii) policing of transit requires specific tools and information that only customs staff have; and (iii) depriving customs of the right to carry out random roadside checks without police assistance, which every EU country uses to intercepting downstream what was not apprehended at the border, gives the police oversight over customs control and is not necessary.

497. **Organizational structure and human resource issues need to be addressed.** Management of customs is divided between the Ministry of Finance and the Serbian Customs Administration, and the lines of authority are not well demarcated. While day-to-day operations are the responsibility of Customs Administration proper, legislation and policy matters are in the hands of the Ministry customs department, which might not be an optimal solution. Moreover, regional management within the Customs Administration is not sufficiently professionalized. In most countries, regional customs managers have to translate headquarters guidelines into local operational practice and provide national management with feedback on local difficulties as well as recommendations for reform. Regions are also the key echelon for staff management and supervision, given their geographic proximity to customs offices. In Serbia several regional directors of customs appear to be outside appointees, reducing promotion opportunities for station managers and their subordinates. Finally, experienced local managers are expected to move to another office every two or three years. The intent was to avoid routine and possible development of vested interest, but the results is that officials are transferred just when they start acquiring local experience and have built-up a network of relations with their counterparts in other agencies. In addition, with few promotion opportunities, incentives for moving are limited. The Serbian Customs Administration has too few ranks to allow linear progression based on merit and seniority.

498. **Customs has limited awareness of other agencies and legislation.** Although notable progress has been achieved in recent years, different ministries and agencies create new requirements, often based on EU standards, that are difficult for customs to enforce due to lack of coordination. For example, the ministries of finance, trade, and economy have not aligned documents or harmonized, as by recognition of controls and acknowledgement of
foreign certification bodies. A comprehensive review of all documentary and procedural requirements could result in elimination of many redundant checks.

499. **There is a case for juxtaposed border facilities.** Shared or juxtaposed facilities generate economies of scale because the two border stations are located on the same platform. The use of a pooled parking lot avoids queues spilling over into the adjacent country, communication between border agencies is better, and some joint processing can take place (for different concepts see Box 3.21). Although Serbian authorities were keen on introducing such facilities and were making progress on one at Gradina (border with Bulgaria), negotiations came to a halt when Bulgaria joined the EU and mistakenly claimed that co-located border stations could not operate between EU and non-EU countries, although such stations exist between Switzerland and all its EU neighbors and between Norway and Sweden. The approach to co-location could be resuscitated with Croatia and Bosnia, where there seems to be more inclination for cross-border cooperation, with all checks taking place in the country of exit. Some of the assets (e.g., weighbridge, scanner) could be shared countries, and a local community computer system would expedite and secure traffic.

500. **Customs IT could prepare for integrated border management.** The customs border system allows for transit management and border data capture. If it was made available to other agencies (at least for the data these agencies require) it could speed processing (for example, advance notification, agency-specific risk management, combination of multiple profiles) and would make customs the coordinator of all border freight operations. Gradual integration of agency-specific objectives is recommended, from a collaborative border management perspective that would lead eventually to integrated border management.

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**Box 3.21: Examples of Joint Border Stations**

Significantly altered in recent years, this concept now covers:

**Juxtaposed facilities straddling the borderline.** Each side is on its own territory, but there is usually a single building with a clear border separation in the middle and a single parking area. The major benefit is the economy of scale in infrastructure. This is the model at many borders between France and Belgium.

**Co-located facilities.** These are not necessarily on the borderline but may be placed at a distance from it. Within the station in the host country there is a designated area for the other country’s officials, who operate under a variety of extra-territorial statuses.

**Staggered co-located facilities.** In that model, all processing takes place in one country for one direction of traffic, and in the other for the other direction. Often geography or operating conditions dictate use of this model (for example, the Channel Tunnel terminals at Cheriton, UK and Sangatte, France).

**Advance clearance.** Officials from the country of entry operate in the country of exit and prepare the release of travelers or commercial traffic when there are few if any formalities; when full formalities are required, they prepare the clearance process. This system operates for air passengers travelling from Canada to the US. It may raise sovereignty issues when authorities of the country of destination operating on the territory of the country of departure want to arrest or detain a traveler.

**One-stop border posts (OSBP).** This concept refers to any of the previous models with the addition of the single window concept. There are some open issues. First, there is no such thing legally as one stop; as each country applies its own rules and is entitled to stop travelers. This requires very complex alignment of legislation, which can only take place after years of approximation. Second, it is often thought, mistakenly, that OSBPs are expected to combine exit checks with entry checks. However, these checks must still be sequenced, if only to establish jurisdiction if an offense is detected. In addition, the country of exit may not wish to carry out a detailed check that the country of entry may
501. **Serbia has a comprehensive IT action plan designed to create a full e-business environment for customs, but it is not yet being implemented effectively.** First, some functions still need to be computerized, notably: (a) administrative and offence procedures; (b) human resource management; (c) revenue collection (payment, calculation of interest, bank guarantees); (d) statistics (passenger data, vehicles data, offenses); and (e) customs passenger declaration. Some e-business applications were completed in 2010: simplified procedures and the use of accounting documents instead of declarations, core risk analysis (selectivity profiles, feedback on results), intranet and internet web portals, applications for post-clearance audit, and the first phase of Systematic Electronic Exchange of Data (SEED). The customs IT department, which has 100 employees, is under pressure to deliver on all these objectives. However, customs does not have resources to undertake a number of activities, and outsourcing will be necessary if the IT system upgrade is to meet EU standards. A prioritized action plan is required, with sufficient resources to implement it effectively.

### 3.7.5. Transport Infrastructure Review

502. **International comparisons of the quality of Serbia’s transport infrastructure confirm significant shortcomings and generally poor performance relative to neighboring countries** (Figure 3.36). The annual WEF competitiveness reports examine many factors that enable national economies to achieve sustained economic growth and long-term prosperity. Since 2005, the WEF has based its analysis on the highly comprehensive Global Competitiveness Index (GCI), which captures 12 pillars of competitiveness, including infrastructure (telecommunications and electricity as well as transport). The 2010–11 Report ranks Serbia 96th out of 139 countries. Serbia’s rank in infrastructure, 122, is lower than its overall rank. In quality of road infrastructure Serbia ranks 129th, rail infrastructure 93rd, port infrastructure 124th, and air transport infrastructure 124th.
The density of the road network in Serbia is similar to that of neighboring countries but well below EU averages. The network totals about 40,845 kilometers—5,525 km of main and primary roads (Class I), 11,540 km of regional and secondary roads (Class II), and 23,780 km of local roads (Class III). Road density in Serbia is 462 km per 1,000 square km, in line with most regional neighbors but substantially behind levels found in new EU member states and in OECD countries. On a second measure, road density per 1,000 inhabitants, Serbia, with 5.4 km per 1,000 inhabitants, has a higher density than Albania but is below all other countries in the Western Balkans.

The condition of Class I and Class II roads has improved in recent years, but design of much of the network represents a transport bottleneck. A 2008 survey of main and regional roads (Figure 3.37) revealed that while 37 percent of the network was in good condition, 15 percent was in poor and 28 percent in very poor condition. This is a significant improvement, reflecting increased spending on maintenance, over 2005 when the rage was 30 percent of the network good, 17 percent poor, and 35 percent very poor. The only exception to the general picture is motorways and semi-motorways, where 81 percent

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112 This section is based in part on the background transport paper for World Bank (2009), Serbia: Doing More with Less.
113 These results are from a survey conducted in 2008 as part of the road and inventory database study under the World Bank funded Transport Rehabilitation Project. The survey defined road condition using the International Roughness Index (IRI), but with different boundary values for different road classes.
are in good condition and another 12 percent in fair conditions. In addition much of the existing network is not designed to carry European-standard speed and axle loads, which means vehicle operating costs in Serbia, and safety and competitiveness are reduced.

505. **Inadequate maintenance accelerates the deterioration of any road until reconstruction is necessary, at considerably greater expense than any short-term saving in maintenance expenditure.** Adequate maintenance can sustain the pavement of a road far beyond the original design life. Reconstructing a paved road is three to five times more expensive in current terms than maintaining it and about 35 percent more expensive in net present value terms (Heggie and Vickers 1988). Meanwhile, a maintenance backlog accumulates, becoming a contingent liability for the future. Failure to maintain a paved road has also been estimated to triple user costs in terms of additional time, fuel, and vehicular wear and tear, which has a direct impact on the prices individuals pay for goods and services.

506. **Integration of the Serbian transport network with the core regional network is recognized as a priority policy objective for Serbia’s economic development of the country** (Government of Serbia 2007). Serbia is crossed by the following segments of the Trans European networks (TEN): (i) Corridor 10 with branches 10b (Belgrade-Budapest) and 10c (Nis-Sofia), which is the most significant road and railway route in Serbia. It is part of the Core Regional Transport Network (hereinafter: Core Network) that connects Austria/Hungary, Slovenia/Croatia, the Republic of Serbia, and Bulgaria/Macedonia/Greece. Serbia’s part of this corridor contains 792 km of roads and 760 km of railway lines; and (b) Corridor VII (the Danube River), which connects Central Europe through Serbia with the Black Sea and part of the South East multimodal axis. Its watercourse through Serbia is almost 600 km long.\(^\text{114}\)

**Figure 3.37: Condition of Roads in Serbia, 2008**

![Figure 3.37: Condition of Roads in Serbia, 2008](image)

**Source:** Public Enterprise Putevi Srbije (PEPS).

**Railways**\(^\text{115}\)

507. **Serbia’s railway infrastructure is aging and in poor condition.** Of about 3,809 km of network, only 31 percent is electrified and 7 percent is double-tracked; the average age is 38 years.\(^\text{116}\) Line speeds do not exceed 60 km/hour on 57 percent of the network and reach speeds above 100 km/hr on only 3 percent of the network, despite the fact that the average

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\(^{114}\) Detailed data on importance of different modes of transport are presented in the Figure 3.38.

\(^{115}\) This section is based on Monsalve 2011.

\(^{116}\) The total network includes 334 km in Kosovo and Metohija, 39 km used only as factory sidings, and 180 km that is out of service.
design speed is 94.5 km/hr. On 39 percent of the network, the load capacity is less than 18 tons. Insufficient maintenance has reduced the operational effectiveness of much of the network. To preserve safety, temporary speed restrictions (TSR) have been introduced, although “temporary” is something of a misnomer: because limited resources mean that the restriction stays in place for a lengthy period of time. In 2009, 33 TSRs were introduced on 658 km of track. About 57 percent of the main lines had a major overhaul more than 30 years ago, with only 294 km in the last 10 years.

508. **Rolling stock and labor productivity are less than 50 percent of the EU average, and have deteriorated over 2005-2009.** Low productivity of rolling stock and labor, together with low freight traffic density, undermines the ability of Serbian Railways to generate profits. Labor productivity is in particular low – only 29 percent of the EU average. In turn, years of losses adversely affects ability to undertake much needed rehabilitation and reconstruction works and to invest in improved rolling stock.

509. **The performance of Serbian Railways is critically dependent on undertakings by other railways along freight corridors, and thus on the speed of border clearance.** Border-crossing delays are a major factor affecting the competitiveness of rail with other transport modes because they increase logistical costs and create a negative perception of the reliability, predictability, and punctuality of rail.

510. **Improving rail performance requires coordinating efforts within the region and between agencies.** As a test run along rail Corridor 10 revealed, commercial speeds can rise dramatically if border-crossing delays are reduced—even without major improvements of infrastructure (Box 3.22). Efforts by a number of countries to upgrade rail infrastructure to 160 km/hr at great expense have not necessarily been as cost-effective as substantial reductions in border-crossing delays, which cost less and require little or no spending on infrastructure. The Corridor 10 test run usefully demonstrates to governments and rail companies what can be done if a regional approach to harmonization, synchronization, and cooperation is adopted. The South East Europe Transport Observatory can do a great deal to promote regional cooperation.
Box 3.22: Bosphorus Europe Express

The objective of the test run of the Bosphorus Europe Express was to reduce transit time between Ljubljana and Istanbul to 35 hours to create a more attractive rail product. Before the test run, a train from Ljubljana to Kapikule took 60 hours and 43 minutes, with a three-hour delay in Dimitrovgrad and a four-hour delay in Kapikule. In the test run, stoppage time was reduced from 19 hours to 6 hours, which brought total travel time down to the targeted 35 hours. The testers decided to amend the timetable to 45 hours of travel time, because they recognized that the exceptional conditions of the test run could not be matched in practice. The testers had been given six months of preparation, with a remit to work exclusively on making the test run a success. The test set benchmarks, but these were not necessarily easy to match in normal day-to-day business.

Inland Waterways

511. The location of Serbia provides natural advantages for intensive river transportation, especially on the Danube, one of the major transport axes in Europe (Corridor VII). The Serbian segment of the river, from Bezdan to Timok, is 588km long. Though the Sava River, which joins the Danube at Belgrade, is currently restricted in use, potentially it provides 500 km of navigable waterway into Bosnia and Herzegovina, Croatia, and Slovenia. Comprehensive river navigation training along the Danube was done in the 1960s and 1970s to ensure that navigation was in line with the Danube Commission’s recommendations, but since then there has been no significant investment in dredging and training along the Serbian reaches of the Danube. Annual transport volume and capacity is greatest at Belgrade, Pančevo, Smederevo, and Prahovo. Only Belgrade and Pančevo have container terminals; container transport volume is very low.
512. Inland waterways are an important transport mode in Serbia. Because the fairway of the Danube River is below Danube Commission parameters, navigation is restricted and navigation safety impaired. The situation is far worse in the Sava, where there is little traffic, due to years of inadequate maintenance. Thus while the potential for inland waterway transport is significant, a number of problems need first to be resolved before this mode can grow rapidly: (a) unexploded ordnance at eight locations; (b) sunken vessels; (c) navigation locks that require major overhaul and rehabilitation; and (d) the parameters of the fairway along 19 critical sections. The government’s 2005 Master Plan and Feasibility Study for Inland Waterway Transport for Serbia estimated initial construction costs for these improvements at €203 million for the Danube, €58 million for the Sava, and €20 million for the Tisa. To make this low-cost mode more competitive and reduce inland transport costs for imports and exports, investments to rehabilitate the Danube and Sava rivers are most pressing.

513. The Directorate for Inland Waterways, PLOVPUT, is responsible for maintaining navigability, marking waterways, creating and maintaining river information systems, and developing international and interstate waterways, but its budget is inadequate to finance needed rehabilitation. Serbia’s transport strategy recognizes the importance of inland waterways and acknowledges that the infrastructure is inadequate but budgetary allocations are heavily focused on roads and railways. In future it will be important to ensure that this environmentally friendly transport mode is given enough funds to support the rehabilitation of both the Danube and the Sava, both of which are international waterways with significant untapped potential.

3.7.6. Policy Recommendations

514. Policy Recommendations in this chapter are focusing on customs and border clearances procedures given that transport infrastructure issues are covered in other recent World Bank reports. Border clearance procedures could be strengthen by better interagency coordination; improved performance of the customs administration and some organization changes within that administration.
515. **Government of Serbia can rethink integrated border management and greater cooperation with neighboring countries.** Integrated Border Management is a complex process that calls for a close inter-agency integration and cooperation, compatible IT systems, and strong compliance and traceability. Some of this is already underway, at least in terms of legislation, but actually bringing the efficiency of border management to EU levels still lags. The government can also consider juxtaposed border facilities with the neighboring countries, probably starting with Croatia or Bosnia and Herzegovina. Shared or juxtaposed facilities generate economies of scale because the two countries’ border stations are located on the same platform. This enhances cross-border cooperation, reduces waiting times and takes advantage of economies of scale.

516. **The Customs Administration could be given a greater role in customs policy which should be accompanied by proper human resources policies and adequate IT.** To give Customs Administration a larger policy role, establish a directorate for compliance that would cover risk management and policies related to valuation, origin, and tariff and post-clearance audit. As one of the priorities related to improved capacities, establish a career path for customs officers like those in other European countries. Finally, the government can consider improving the IT system which is essential to support the entire Customs reform agenda. For that the e-business plan should be developed together with a prioritized action plan.

517. **Performance of the Customs Administration could be greatly improved by reform of the inland clearance procedures; containers management, and alignment of the product quality standards and the tariff system with that of the EU.** Government should try to finish developing a state-of-the-art inland customs clearance process. This would primarily mean redefining the electronic single window, moving away from lodging all documents (customs, transport, phytosanitary, etc.) at a single point and rationalization of the warehousing principles and control. Containers management and inspection can be improved by introduction of the large-size X-ray digital radiography to inspect full containers on their trailer. Trade in food products can be significantly simplified by reducing the number of cases where analysis is required; hours during which applications for phytosanitary certificates are extended, and cold storage priority for customs clearance enforced. Finally, product quality standards and the tariff system need to be consistent with those for EU member states. Harmonization with EU standards and tariff structure is essential to cut waiting times and expedite customs clearance. In this regard Serbia should look to the Online Customs Tariff Database (TARIC) and should make more use of the binding tariff advice provisions of the EU Customs Code.
Annex 3.2: Measuring Border and Clearance Performance

Background. At first, the basis of measurement was essentially self-justifying: the Customs Administration used a quantitative index—the time it took their officials to perform all clearance functions. Over the years, as traffic increased and commercial patterns evolved, the business community became more demanding and often objected to the delays quoted by customs because they did not include two aspects of clearance, whether border or inland: (i) the time it took to reach the control position, and (ii) intervention by other agencies. What was needed was a general measurement tool that would provide results acceptable to (i) to the private sector, insofar as it reflected the real time involved in clearing goods or transporting them from one end of a transport corridor to another; (ii) the agencies and administrations involved if they showed a breakdown between different administrative processes; and (iii) the economy as a whole. For example, it is estimated that an idled truck costs US$ 50 per hour, so clearance delays can be estimated at their real economic cost.

New approach. All the different approaches and methodologies adopted all tried to provide an analysis of total times, procedural steps, and “behind the border” delays (e.g., the time taken to accomplish formalities before the import of goods). Each type of methodology has strengths and weaknesses. There are three main categories:

- **Procedural breakdown and evaluation of lag time between steps:** This is essentially the World Customs Organization (WCO) Time for Release Study (TRS), which first analyzed each customs process in the clearance chain and then was extended to non-customs steps. The TRS requires careful identification for a pilot observation period and relies on systematic review of every customs document lodged during that period, which makes it difficult to carry out regular measurement without disrupting clearance work.\(^{118}\) Because the TRS is based on customs documents, it only starts measuring time from the moment a document is lodged and does not do a good job of covering queuing times, which can be significantly longer than actual clearance.

- **Overall time estimates either at a specific location or along a corridor.** This approach was adopted for the USAID-designed and UN-ESCAP-implemented Time Cost Survey and more extensively by the World Bank for the Trade and Transport Facilitation in South East Europe (TTFSE) program and subsequently in other regions. Measurement, which is recurrent, is based on sampling supplemented by driver and importer interviews and the use of trip diaries. It essentially consists in measuring times from departure to delivery or from joining the queue at a clearance facility until final release. The queue effect, and the incidence of spill-over—a queue building up in the country of exit as a result of long delays in the country of entry—are measured. Global values can be further analyzed locally to obtain a breakdown between different steps and agencies; it highlights the importance of the queuing factor. This methodology is simple and cheap to implement, not disruptive, and was accepted by agencies and the public alike. It relies on monthly measurement.

- **Subjective surveys.** More analytical but subjective surveys—such as the World Bank Doing Business and Logistics Performance Index (LPI)—are typically based on interviews of businesses. The LPI approach is a significant improvement for measurement purposes because it is based on a much wider sample of users and involves a detailed questionnaire with, for border management purposes, a concentration on customs procedures and facilitation measures. The merit of these methodologies is that they give a far better picture of the total transaction cost of an import than the two earlier ones, but there is a risk of distortion linked to a rather narrow statistical base and the fact that many behind the border operations cannot be directly linked to a specific border operation. Like the TRS, the LPI is not designed to be recurrent.

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\(^{117}\) This annex is taken from Zarnowiecki (2011).

\(^{118}\) With computerized operations and interconnection between agency-specific systems, real-time monitoring might be possible.
The pilot site concept. Without full computerization of operations, it is difficult to carry out a comprehensive survey of delays. First, some form of sampling is necessary, and it is usually not possible to survey every border crossing or point of clearance. This is one reason why pilot sites were adopted under the Trade and Transport Facilitation in the Southeastern Europe (TTFSE) concept, where new procedures and approaches would be tested. The risk with this could have been that while performance improved at these border crossings, there was no real assurance that improvements also occurred at other, non-pilot, locations. Furthermore, the reliability of sampling had to be established. In Serbia, these issues were offset by (a) selecting sites on major international routes, where drivers had little if any scope to choose an alternative route; (b) verifying month after month the consistency between numbers; and (c) performing spot checks at other locations to validate the benchmarking.
Annex 3.3: Toward EU Accession – Lessons from Poland’s Experience

Broad indicators. The cost/effectiveness ratio for Polish customs (total cost compared to collections) is 1.53, to which Serbia at 1.48 compares favorably. Other values are difficult to compare because there are no longer customs declarations in intra-EU trade, Germany is Poland’s major trade partner, and a significant number of entries into Poland are in transit to another EU country where final clearance takes place. The customs department is currently drafting indicators for the efficiency of control (the rate of inspection of imports is about 5 percent). Processing times are about 30 minutes (2 minutes for empty trucks), but there are massive queues on the Belarus and Ukrainian side of the border, which jams up vehicles leaving Poland.

Relations with the business community were central to improving the image of Polish customs. Great efforts were made throughout the transition process to keep the business community abreast of changes in legal and operational requirements and what they might imply for company IT systems. Messages were sent to importers each time a major change was being prepared. An advisory body in the Ministry of Finance (the Council on Customs and Excise Issues, with representatives from exporters and Chambers of Commerce) still oversees communication and registers user concerns. At a regional level, customs directorates communicate directly with operators and have their own websites. Border performance and delays are closely monitored and published in real time on a dedicated website. Abnormal delays must be accounted for, and discrepancies reported by private operators are investigated.

The border changed in dimension. When Poland entered the EU it had the longest border with third countries in the Union. This totally changed the role of the two major border agencies (customs and border guards), which became responsible for the integrity of the Eastern flank of all 27 countries. Early in the transition Poland had experienced the same conflict between customs and border guards as Serbia, with the border guards claiming overarching leadership at border points, to the extent that they stifled facilitation efforts and created massive border delays. A cooperative strategy was eventually successful; it has resulted in close cooperation and complementarity between the two agencies (see Box 3.23).

Efforts were made to upgrade infrastructure and equipment. While not a panacea, decent housing for border facilities contributes to better operations. The approach has been to:

- Assign traffic to dedicated facilities: Commercial and passenger traffic are separated and occasionally several kilometers apart, which reduces bottlenecks and traffic jams.
- Promote cross-border communication to anticipate traffic surges and adjust processing capacity (each border station has a customs dispatcher who monitors traffic in the lanes and queues, and reassigns staff according to needs).

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119 This annex is taken from Zarnowiecki (2011).
120 See http://www.granica.gov.pl/?v=en
121 Romania has a slightly longer external border, but 400 kilometers of it border Serbia.
Box 3.23: Inter-agency Border Management: How to Integrate Services

The initiative came largely from customs; the border guards had to some extent inherited the syndrome of closed borders by default. Three initiatives were undertaken in parallel:

*It was essential for customs to establish its credibility.* Customs did not want to retain a purely clerical and revenue collection status, feeling that EU enlargement would rapidly bring an end to their border presence, and that was not considered a viable option for the country. At the same time, customs had to improve its image, which was marred by (possibly overstated) allegations of corruption, and was also obstructed by the Border Guards.

- It vigorously combated corruption, and a department-wide adherence to ethical behavior was ingrained; this was then reinforced by introduction of decent salaries. One way to establish an honest and motivated service was to re-introduce a military template, drill, and uniforms that corresponded to those of the border guards, and ranks that matched comparable levels of responsibility in both agencies. The communality of interests of the two agencies proved to be a bonding factor.
- Efforts were made to better detect fraud and advertise frauds to leverage public recognition. In support of this was fact that customs had introduced risk analysis and management and had partly regionalized risk management units: Information and intelligence were available to all agencies and willingly shared.
- There was more specialization than competition between services: customs focused on cigarette smuggling (a large scale activity on the Eastern border) for which they could use commercial intelligence while the border guards looked for weapons and illegal immigrants.
- Mutual information sharing on detections was promoted.

*It was accepted that (limited) resources ought to be pooled.* National, regional, and local inter-agency agreements were prepared.

- Detailed rules of communication and data sharing were established jointly with a view to integrating processes.
- The different service laws were streamlined yet allowed for overlaps: For example, customs is in a better position through risk analysis to detect weaponry spare parts; it shares that information with the border guards. The agency most involved makes the seizure.
- Inter-agency training now allows customs and border guard officials to perform the other agency’s primary controls, leading the way for cross-designation and delegation of powers. There are contingency plans for emergencies where one agency can take over the responsibilities of the other.

*A legislative and organizational structure* was introduced to support the strategy.

1. customs officers were allowed to carry weapons, and exercise their powers of search and arrest throughout the territory, which enabled a second line of targeted controls, and reduced the incidence of immediate border checks
2. Full integration between law enforcement agencies (including sharing of radio frequencies and use of GPS tracking to allow the Police, Border Guards, or customs patrols to be aware of one another’s activities) led to joint operations, further reinforcing the team approach in the border region.

Some possibilities for staff to move from one agency to another were introduced.
Staff management became innovative. Recognizing that adequate incentives are essential, Polish customs has introduced a gradual promotion system through which any young recruit can hope to reach the highest ranks in the hierarchy.

- There are 3 private or corporal ranks, 4 NCO ranks, 3 warrant officer ranks, and 10 junior and senior officer ranks.

- Promotion is based on both seniority and professional examinations, which are theoretical, managerial, and practical.

- In each rank, customs officers are encouraged to apply for specialization training. Each successfully completed course qualifies the officer for a salary increase.

- Academic qualifications are not a prerequisite but may qualify new entrants for fast track promotion.
REFERENCES


