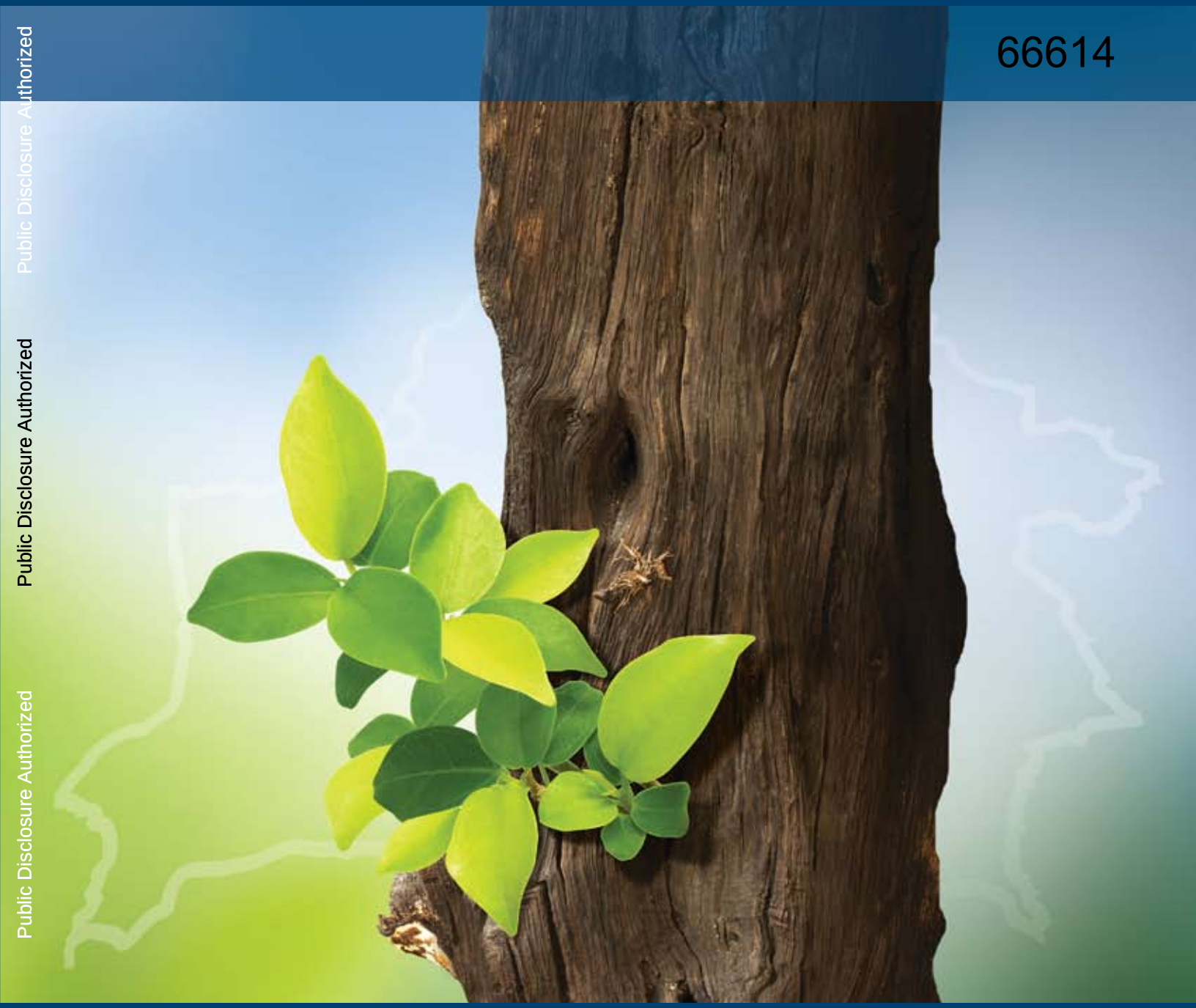
ECONOMIC TRANSFORMATION FOR GROWTH

COUNTRY ECONOMIC MEMORANDUM FOR THE REPUBLIC OF BELARUS



THE WORLD BANK

REPORT NO. 66614-BY

Belarus Country Economic Memorandum:
Economic Transformation for Growth

April 5, 2012

Poverty Reduction and Economic Management Unit (ECSPE)
Europe and Central Asia Region

THE WORLD BANK
Washington, D.C.

Currency and Equivalent Units
(as of January 1st 2012)
Currency Unit = Belarusian Rubel (BYR)
US1$=BYR 8,370
Government Fiscal Year
January 1 – December 31

Acronyms and Abbreviations

ACF	Anti-Crisis Fund
BEEPS	Business Environment and Enterprise Performance Survey
Belstat	National Statistics Committee of the Republic of Belarus
CIS	Commonwealth of Independent States
COM	Council of Ministers
BYR	Belarusian Rubel
DB	Doing Business
EBRD	European Bank for Reconstruction and Development
EU	European Union
ECA	Europe and Central Asia
EADB	Eurasian Development Bank
EXPY	Export Product Income
FDI	Foreign Direct Investment
FEZ	Free Economic Zone
FSU	Former Soviet Union
GDL	Government-Directed Lending
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
HEIS	Household Expenditures and Income Surveys
HHI	Herfindahl-Hirshman Index
IFI	International Financial Institution
ILO	International Labor Organization
IMF	International Monetary Fund
IPR	Intellectual Property Rights
JSC	Joint Stock Company
LFS	Labor Force Survey
MOE	Ministry of Economy
MOI	Ministry of Industry
MOF	Ministry of Finance
MOLSP	Ministry of Labor and Social Protection
NAIP	National Agency for Investment and Privatization
NBRB	National Bank of the Republic of Belarus
NPL	Nonperforming Loan
OECD	Organization for Economic Co-operation and Development
PRODY	Product Income
RCA	Revealed Comparative Advantage
ROSSTAT	State Statistics Committee of Russian Federation
R&D	Research and Development
SNA	Systems of National Accounts
SOE	State-Owned Enterprise
SPF	Social Protection Fund
SPC	State Property Committee
VAT	Value Added Tax
TCM	Thousand Cubic Meters
TFP	Total Factor Productivity
TFSCB	Trust Fund for Statistical Capital Building
TOT	Terms of Trade
TSA	Targeted Social Assistance
ULC	Unit Labor Costs
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
WDR	World Development Report
WDI	World Development Indicators
WITS/UN COMTRADE	World Integrated Trade Solutions/United Nations Commodity Trade Statistics Database
WTI	World Trade Indicators
WTO	World Trade Organization

Vice President	**Philippe Le Houerou**
Country Director	**Qimiao Fan**
Sector Director	**Yvonne Tsikata**
Sector Manager	**Benu Bidani**
Team Leader	**Gallina A. Vincelette**
Co-Task Team Leader	**Marina Bakanova**

Contents

Acknowledgments viii

Executive Summary ix

Chapter 1. A Growth Model in Peril 1
- A. Growth and Poverty 2
- B. Macroeconomic Factors 3
  - Growth Dependent on External Factors 3
  - Growth Increasingly Reliant on Domestic-Demand-Boosting Policies 8
  - Booms and Busts 11
- C. Lack of Structural Transformation 12
  - Sectoral Shifts 12
  - Growth Accounting 13
- D. The Need for Macro-Structural Adjustment 15

Chapter 2. Boosting Efficiencies in Factor Markets 17
- A. Facilitating a Transition in Labor Markets 17
  - Unemployment in Belarus 18
  - Misallocation of Labor: Excess Labor in SOEs and Skill Mismatches 21
  - Misallocation of Labor and Structural Shifts in the Economy 23
  - Real Wage Growth and Implications for Competitiveness 25
  - Policy Recommendations 25
- B. Reducing Distortions in the Capital Allocation 27
  - The Allocation of Capital 27
  - Government Directed Lending 30
  - Financial Sector Risks 33
- C. Policy Recommendations 35

Chapter 3. Transforming the State Owned Enterprise Sector 37
- A. Key Characteristics of the SOE sector 38
- B. Performance of SOEs during the Past Decade 43
- C. Recent shifts in demand and supply 48
- D. Capacity of SOEs to Adapt to Structural Changes 52
- E. Policy Recommendations 54

Chapter 4. Igniting New Engines of Growth 56
- A. Developing a Vibrant Private Sector 57
  - Institutional Quality of the Business Environment 57
  - The Role of Privatization 63
- B. Developing the Services Sector 66
- C. Restoring Competitiveness 68
- D. Policy Recommendations 75

List of References 77

Annexes 80

List of Figures

Figure 1.1. Average Growth Rates 2
Figure 1.2. Belarus: Growth, Poverty and Inequality Dynamics 2
Figure 1.3. Russian Energy Subsidies 3
Figure 1.4. Growth in Belarus and Russia 3
Figure 1.5. Terms of Trade Index 4
Figure 1.6. Terms of Trade and GDP Growth 4
Figure 1.7. Export Product Concentration 4
Figure 1.8. Export Market Concentration 4
Figure 1.9. Energy and Nonenergy Balance 5
Figure 1.10. Indexes of Real Wage, Real Incomes, and Labor Productivity Growth 5
Figure 1.11. Current Account Balance and GDP Growth 7
Figure 1.12. Capital Inflows 7
Figure 1.13. Gross International Reserves 7
Figure 1.14. Debt Service Burden and Debt Stock 7
Figure 1.15. Growth Composition, by Expenditure 8
Figure 1.16. Expenditure Growth with Moderate Deficits 8
Figure 1.17. Cyclicality of Government Spending 9
Figure 1.18. State Support 9
Figure 1.19. Credit to the Economy, share in Net domestic credit 10
Figure 1.20. Mounting Directed Lending Programs 10
Figure 1.21. Nominal and Real Interest Rates 10
Figure 1.22. Real and Nominal Exchange Rate to US$ (2005=1) 11
Figure 1.23. Consumer Price Index and Producer Price Index, y-o-y change 11
Figure 1.24. Sectoral Contribution to GDP Growth 12
Figure 1.25. Sectoral Employment 12
Figure 1.26. Sources of Growth 13
Figure 1.27. Evolution of Total Factor Productivity 14
Figure 1.28. Growth Accounting by Major Sector 14
Figure 1.29. Decomposition of Productivity Growth in the Economy 15
Figure 2.1. Registered Unemployment Rate 19
Figure 2.2. Registered Unemployment by Duration of Unemployment 19
Figure 2.3. Ratio of Average Unemployment Benefit to Average Wage in the Region, 2007 21
Figure 2.4. Structure of the Able-Bodied Working-Age Population 21
Figure 2.5. Share of Employed Working in Nonprofitable Enterprises in Total Employment in the Machine-Building Sector 22
Figure 2.6. Excess Labor in SOEs Relative to Private Firms 22
Figure 2.7. Distribution of Firms in the Region that Consider Skills as a Major or Severe Constraint to Growth 22
Figure 2.8. Labor Productivity Growth Decomposition 1995–2010, Compounded Annual Growth Rates 24
Figure 2.9. Correlation between Sectoral Productivity and Change in Employment Share, 1995–2010 24
Figure 2.10. Real Wage and Labor Productivity Growth (2000=100) 25

Figure 2.11. Unit Labor Cost Dynamics: Russian Manufacturing and Belarusian Industry (2005=1) 25
Figure 2.12. Domestic Credit to the Economy 28
Figure 2.13. Sources of Investment Financing 28
Figure 2.14. Gross Fixed Capital Formation 28
Figure 2.15. Gross Fixed Capital Formation and Rates of Return on Capital, 2001–10 28
Figure 2.16. Bank Asset Concentration 29
Figure 2.17. Government Directed Lending 30
Figure 2.18. Credit to Sectors of the Economy 30
Figure 2.19. Debt of Agricultural Enterprises 30
Figure B2.3.1. Schematic Representation of the GDL Program in Housing and Agriculture 31
Figure 2.20. Efficiency of Credit Allocation 32
Figure 2.21. Credit by sector, 2010 32
Figure 2.22. SOEs Absorption of Bank Lending, 2005–10 32
Figure 2.23. Average Differences in Long Term Borrowing to Total assets in SOEs compared to Private Firms 32
Figure 2.24. Credit to Firms 33
Figure 2.25. Loan-to-Deposit Ratio 34
Figure 2.26. NBRB Claims on the Banking System 34
Figure 2.27. Ratio of Nonperforming Loans to Outstanding Loans 34
Figure 2.28. Bank Recapitalization Expenditures 34
Figure 3.1. Share of SOEs in Production Volumes by Economic Sectors 38
Figure 3.2. Average Size of Assets and Share of SOEs in Production Volumes, by Sector, 2010 38
Figure B3.1.1. Share of SMEs in total output 39
Figure 3.3. Distribution of Cumulative SOE Assets, by Sector, 2010 40
Figure 3.4. Product Positioning Relative to Competitors 41
Figure 3.5. Average Price of Selected Product Categories, MAZ Trucks 42
Figure 3.6. Average Returns on Assets of SOEs, by Sector, 2004–10, weighted average 44
Figure 3.7. Performance of Vertically Integrated SOEs in the Machine-Building Subsector 45
Figure 3.8. Differences in the Cost Structure of Vertically Integrated SOEs in the Machine-Building Subsector 46
Figure 3.9. Leverage and Accounts Overdue in the Machine-Building Subsector 46
Figure 3.10. Average Returns on Assets by Ownership 47
Figure 3.11. Relative Shares of Loss-Making Enterprises, All Sectors 47
Figure 3.12. Average Ratio of Labor Productivity in Private Firms to SOEs, 2004–10 48
Figure 3.13. Productivity Differences by Ownership in the Machine-Building Subsector 48
Figure 3.14. Accumulated Depreciation of Fixed Assets, Machine-Building Subsector 50
Figure 3.15. Share of Trade Partners in the Global Machinery Exports to the Russian Federation 50
Figure 3.16. Belarus's Market Share in Total Imports to the Russian Federation 51
Figure 3.17. Sales of Trucks (including tractors trailers), 2003–10 51
Figure 3.18. Correlation between Changes in Productivity and Profitability in Industry 52
Figure 3.19. Average Inventory Levels, Machine-Building Subsector, 2005–10 52
Figure 3.20. Real Wage and Employment Growth in Private and State Enterprises, Machine-Building Subsector, 2006–10 54

List of Figures (continued)

Figure 4.1. Quality of Regulation Index Based on Doing Business Indicators 58
Figure 4.2. Business and Property Registration, Belarus and Regional Average, 2012 58
Figure 4.3. Private Sector Firm Creation, 2005–10 59
Figure 4.4. Resolving Insolvency: Belarus and Regional Comparators 59
Figure 4.5. Belarus: Share of Largest Enterprises in Total Industrial Output 60
Figure 4.6. Firms with More than Five Competitors in the Main Market 60
Figure 4.7. Competition Policy, EBRD Scores, 2011 60
Figure 4.8. Labor Tax and Contributions 61
Figure 4.9. Total Tax Rate 61
Figure 4.10. Investor Protection Index 62
Figure 4.11. Director Liability Index 62
Figure 4.12. Progress in privatization over time 63
Figure 4.13. The EBRD privatization reform index: Belarus and its peers, 2010 63
Figure 4.14. GDP Per Capita and Share of Services in GDP in 2009 66
Figure 4.15. Value Added Structure: Belarus and Comparators, 2010 66
Figure 4.16. Services Sector Value Added Structure, 2010 66
Figure 4.17. Services Sector Employment Structure, 2010 66
Figure 4.18. Openness to Trade with the EU-27 and with CIS 69
Figure 4.19. Share of CIS and EU-27 in Total Non-Mineral Export 69
Figure 4.20. RCA Index by Leamer Clusters, EU-27 Market 70
Figure 4.21. RCA Index by Leamer Clusters, Russian Market 70
Figure 4.22. Trade in Services 70
Figure 4.23. RCA in Services 70
Figure 4.24. EXPY in Goods and Services, Belarus 71
Figure 4.25. Goods EXPY: Belarus and Comparators, 2001 and 2008 71
Figure 4.26. Services EXPY: Belarus and Comparators, 2000 and 2007 71
Figure 4.27. Intensive and Extensive Margin Growth 72
Figure 4.28. Capital Goods Imports, average for 2001–10 72
Figure 4.29. Royalty and License Fees Payments Per Capita, 2007 72
Figure 4.30. Share of Firms with Recognized Quality Certification, 2008 72

List of Boxes

Box 1.1. Belarus–Russia Gas Relations 6
Box 2.1. State Directed Lending Programs Distort the Allocation of Credit 31
Box 3.1. Characteristics of the SMEs sector in Belarus 39
Box 3.2. History of Machine-Building in Belarus 40
Box 3.3. China's experience in reforming SOEs: promoting private sector 43
Box 3.4. Productivity in the Machine-Building Subsector in Belarus: Econometric Results 49
Box 3.5. Quantitative Targets 53
Box 4.1. Do the Innovation Funds engender innovations? 73

List of Tables

Table 2.1. Alternative Measures of Unemployment, % of the economically active population 20
Table 3.1. Share of SOEs in Output, Export, and Inputs of production, 2004–10, % of total 38
Table B3.1.1. Belarus's SMEs (not including IEs) share in main economic indicators, percent of total 39
Table 3.2. Selected Unified Tariff Rates, Belarus, Kazakhstan, and Russian Federation Customs Union 41
Table 3.3. Characteristics of Vertically Integrated Enterprises in the Machine-Building Subsector, 2005–10, annual weighted averages 44
Table 3.4. Liabilities as a Share of Total Assets in the Machine Building Sector 45
Table B3.4.1. T-Test for Differences in TFP, by Type of Firm 49
Table B3.4.2. TFP Convergence Equations 49
Table 3.5. Average Cost of Electricity for Industry, US$ per kilowatt hour 50
Table 4.1. Comparative FDI Performance of Belarus and Selected Countries, 2001–10 74

List of Annexes

Annex 1.1. Complementary Table for Chapter 1 81
Annex 1.2. Growth Accounting Assumptions 82
Annex 1.3. Rates of Return on Capital Assumptions 83
Annex 2.1. Sources of Labor Statistics in Belarus 85
Annex 3.1. Complementary Tables and Graphs for Chapter 3 86
Annex 3.2. Defining State Owned Enterprises in Belarus and Data Sources 88
Annex 3.3. Case Study of Minsk Motor Plant 89
Annex 3.4. Managing SOEs in the OECD Countries 90
Annex 3.5. Key Elements of SOE manager's Compensation System 91
Annex 4.1. Complementary Tables and Graphs for Chapter 4 92
Annex 4.2. The World Bank Technical Assistance on Privatization in Belarus 96
Annex 4.3. Lessons learned from the Privatization Efforts in Emerging Economies 97
Annex 4.4. Export Sophistication: Methodology 99
Annex 4.5. Extensive and Intensive Margin: Methodology 101

Acknowledgments

This report was prepared by a core team comprising Gallina A. Vincelette (TTL) and Marina Bakanova (co-TTL), Sebastian Eckardt, Edgardo Favaro, Maryna Sidarenka, and Karlis Smits (all ECSPE) and Indhira Santos (ECSHD). Contributions were made by Ruslan Piontkivsky, Victor Sulla, Jesus Crespo Cuaresma, Harald Oberhofer (ECSPE); Mizuho Kida (PRMED); Feyi Boroffice, Andrea Dall'Olio, Gregory T. Jedrzejczak, and Marius Vismantas (all ECSPF); and Riz Mokal (LEGPS). Alina Gres and Maureen Itepu provided excellent support during the preparation process.

The peer reviewers are John Panzer (Sector Manager, AFTP1) and Vandana Chandra (Senior Economist, PRMED). Ivailo Izvorski (Sector Manager, ECSP1) provided peer review comments at the concept state of this report. The team benefited from the guidance and advice of Yvonne Tsikata, Benu Bidani, Pablo Saavedra (ECSPE), and Martin Raiser (former Country Director, ECCU2). This report also benefited from the comments of World Bank and International Monetary Fund colleagues during internal presentations and informal discussions at several review stages.

The team gratefully thanks the government Interagency Working Group led by the Deputy Minister of Economy Alexander Yaroshenko for guidance, cooperation, and support at all stages of the preparation of this report, including numerous workshops and seminars where preliminary results were presented and discussed. The intensive efforts of the Ministry of Economy, the Ministry of Finance, the Ministry of Industry, the National Bank of the Republic of Belarus (NBRB), and other agencies in helping to prepare this report are gratefully acknowledged. The team is particularly grateful to the First Deputy Chairman of the National Statistics Committee (Belstat) Irina Kostevich and other staff of the Belstat for the high-quality and timely statistical support. In addition, the team benefited greatly from the discussions at various formal and informal meetings and seminars with the representatives of various government agencies and local authorities, the donor community, local research institutions, and independent experts.

The team would also like to thank the participants in the Inclusive Growth and Competitiveness Course organized jointly by the World Bank and the NBRB in Raubichi (Minsk rayon) in October 2011 for very helpful exchange of ideas, deep insights and open discussion. The team gratefully acknowledges the funding for this course and the associated research provided by the World Bank's Diagnostic Facility for Shared Growth (DFSG) as well as the opportunity to analyze firm level data provided by the NBRB.

Executive Summary

The last decade in Belarus was marked by an average economic growth rate of close to 8 percent annually and an impressive eight-fold reduction in poverty. Economic growth was initially driven by external factors, but after 2005 expansionary domestic demand became the prevalent contributor to growth. Growth was backed by large state support to the economy, sizeable public investments, and huge expansion of credit, particularly under government directed lending programs. Simultaneously, the external balance shifted from a surplus of 1.4 percent of GDP in 2005 to a deficit of 15.0 percent of GDP in 2010. Throughout the period 2001-10, the economic model relied on underpriced energy resources from Russia, with an annual average size of the imputed subsidy of over 13 percent of GDP.

However, the existing growth model has reached its limits and cannot ensure growth sustainability without structural reforms. The weaknesses of the current growth model became evident even prior to the international financial crisis of 2008/09. Concerned with sustaining high growth rates and further delivering on social commitments, the government began to adjust its economic policy with the objective of attracting FDI and increasing private domestic investments. Moreover, missed opportunities to pursue structural transformation of the economy in the boom years of transitory advantages (underpriced energy and positive terms of trade) narrowed Belarus's possibilities to find new sources of growth. Declining productivity and competitiveness indicate that Belarus failed to structurally modernize its economy, increase its competitiveness, and find alternative sources of income. Unable to overcome its external imbalances, the country was hit by two crises in the last three years.

Going forward, the growth model will have to rely on significant productivity gains driven by structural reforms in an environment of macroeconomic stability. Macroeconomic adjustment which effectively combats the sources of external imbalances in Belarus is a critical and necessary, but insufficient condition for achieving sustainable economic growth in the medium term. The Belarusian economy is facing formidable challenges beyond the macroeconomic issue of adequately financing its external imbalances: (1) how to reallocate labor and capital to high productivity segments of the economy; (2) how to restructure the state-owned enterprise sector; and (3) how to support the underdeveloped private sector and the services sector. By successfully overcoming these challenges, Belarus will revive its competitive segments of the economy and discover untapped opportunities for growth. It will also diminish its economic dependence on underpriced energy from Russia and move up the value chain in global integration. With valuable geographical location and an educated and disciplined labor force, Belarus can restructure its economy, diversify its exports, and increase the prosperity of its people.

Chapter 1: A Growth Model in Peril

In the past decade (2000–10), Belarus grew at an impressive annual rate of close to 8 percent, which was translated into a large reduction in poverty from 47 percent at the beginning of the period

to 5 percent in 2010. Favorable external environment, expressed in substantial terms of trade gains, underpriced energy from the Russian Federation (estimated at an annual average of 13.3 percent of gross domestic product 2001–10), and strong economic growth among Belarus's main trading partners, supported economic growth.

In the past few years, however, growth has become increasingly dependent on domestic demand propped by expansionary monetary and fiscal policies and at the expense of macro stability. The switch from external- to domestic-demand-driven growth, financed by large (mostly state-directed) lending to the economy, allowed Belarus to maintain high economic growth rates after 2005. However, the economic gains came at the expense of widening external imbalances: the current account balance shifted from a surplus of 1.4 percent of gross domestic product (GDP) in 2005 to a deficit of 15.0 percent of GDP in 2010. The growing domestic savings-investment gap was covered through external borrowings. Gross external debt over 2009–11 increased 2½ times exceeding 62 percent of GDP in 2011. Low foreign direct investment (FDI) and low levels of international reserves amplified the uncertainties about the sources of financing of the external balance. The growing external imbalances have put Belarus on an unsustainable growth path. It experienced two macroeconomic crises in three years: one a product of the global financial meltdown in 2008/09, and the other, in 2011, stemming from Belarus's own loose macroeconomic policies.

The urgency of macro-economic stabilization is amplified in the less benign and much more unstable external environment. Euro contagion and slower global demand would cause strong headwinds for Russia and other emerging economies in 2012, with negative implications for Belarus. Developing countries, including Belarus, have less fiscal and monetary space for remedial measures than they did in 2008/09. As a result, their ability to respond may be constrained if international finance dries up and global conditions deteriorate sharply.

Belarus's large external vulnerabilities, including its economic dependence on underpriced energy inputs from Russia, have harmed its growth prospects for the medium term. The underpriced-energy-inputs model has brought large, but transitory, advantages to Belarus. Inability to use them for finding additional sources of income has deemed the model unsustainable. Indeed, export concentration of both energy-dependent products and markets increased, while the competitiveness of manufacturing exports eroded in the last decade. Without structural reforms, the economy exhausted its growth potential, and productivity took on a declining trajectory in the period 2005–10. For most of the last decade, the factors of production (labor and capital) did not reallocate to sectors with increasing productivity.

Chapter 2: Boosting Efficiencies in Factor Markets

By fostering the efficient reallocation of capital and labor Belarus can exploit the significant productivity differences that persist across sectors and firms. The reallocation of labor and capital toward more productive sectors and the creation and growth of productive firms in the private sector are essential for achieving the objective of inclusive and sustainable growth in Belarus. To enable this,

Belarus needs to accelerate and deepen the delayed structural reforms, including reforms to liberalize its factor markets.

Facilitating a Transition in Labor Markets

High economic growth and full employment were key elements of the Belarus socioeconomic model. The low official unemployment (below 1 percent) is largely a result of retained labor in the state sector. Employment targets for state owned enterprises (SOEs) and labor market rigidities limited the extent of workforce adjustments, even during periods of economic downturn. However, notable shares of the economically active population seeking job assistance and unemployment figures from the 2009 population census suggest up to more than six times higher unemployment rate than reported.

Labor market policies have led to excess employment in SOEs and skill mismatches. Econometric evidence suggests that overemployment in SOEs is at about 10 percent on average. If excess labor is entirely shed, the current unemployment rate would go up by 4.2 percentage points. In addition and despite high levels of formal education, the shortage of appropriate skills is a more acute problem in Belarus than in the rest of the region: between 60 and 70 percent of surveyed firms in Belarus consider skills as a major or severe constraint to growth. Hence, government labor policies, while preserving near full employment, have contributed to a large misallocation of labor.

The misallocation of labor has stalled productivity-enhancing structural shifts in the economy. Strong productivity growth over the last decades has come mainly from productivity growth within sectors rather than from the reallocation of labor to more productive sectors. In the boom years (2000–07), labor was, on average, moving toward less productive sectors, and, as a result, the overall contribution of structural change to productivity was negative.

Accelerated structural reallocation of labor across sectors and the creation of new productive jobs in the private sector are essential for sustainable growth in the medium term. Within-sector productivity growth will continue to contribute to overall productivity, especially through enterprise restructuring and strengthening of labor market institutions. In addition, Belarus needs to tap the potential productivity gains associated with the cross-sectoral reallocation of labor from less-productive to more-productive sectors. In the medium term, there is large growth potential in accelerating shifts of labor toward segments of the economy with higher-than-average productivity such as the private sector and the underdeveloped areas of the services sector (such as finance and business services).

Reallocating labor from less to more productive pockets of the economy will require policy interventions to mitigate the social impact of economic restructuring. Currently, the lack of appropriate unemployment insurance and poorly targeted social assistance undermine the effectiveness of the existing policy instruments. The key policy recommendations stemming from the analysis in this part of the report include:

- *Liberalize labor markets by removing administrative controls on wages and employment levels.* To achieve this, Belarus may consider harmonizing primary and secondary regulation to stop the enforcement of wage grids in all firms. In addition, full discretion on decisions related to the levels of employment could be given to SOEs. To facilitate this, any guidelines on employment-level targets among enterprises should be eliminated.

- *Strengthen unemployment benefits and safety nets to mitigate risks associated with more dynamic labor markets.* Simplify the requirements for unemployment registration and eliminate the obligation to participate in paid public works to receive unemployment benefits. The unemployment benefit should be extended to workers without employment for no longer than the first six months. In the short term, the cap for the unemployment benefit should be redefined to provide a minimum level of income for the unemployed. In terms of social assistance, efforts need to be made to improve means-tested targeting and reduce leakage.

- *In the medium term, establish an effective unemployment insurance mechanism to facilitate labor mobility and to provide adequate protection from the risks associated with dynamic labor markets.*

- *Reform active labor market policies to support skill development and job creation in the private sector.* Belarus may consider using the funding of active labor market policies (for example, for training in government organizations) to fund on-the-job training in private enterprises for newly-hired workers and alternative schemes based on international experience. In addition, incentives for firms to hire new workers through temporary wage and hiring assistance should be in place. The design of such policy measures should be aimed at avoiding abuse and minimizing fiscal cost.

Reducing Distortions in the Allocation of Capital

Fueled by a rapid expansion in credit, after 2005, investment became a major source of economic growth. Gross fixed capital formation grew at an average rate of 18.6 percent (in real terms) annually, outpacing GDP growth rates (7.4 percent) during the second half of the past decade.

State interference in the financial system has undermined the efficient allocation of capital. Belarus's financial sector channels a predominant share of financing to less-productive parts of the economy, including SOEs, which enjoy privileged access to and lower costs of financing. In addition, the government influences the allocation of credit through its directed lending (GDL) programs, which push funds toward the government's priority sectors. This practice has softened budget constraints and delayed restructuring in the enterprise sector.

There are large vulnerabilities and risks associated with the misallocation of credit in the economy. By boosting domestic demand, the rapid expansion in credit has not only exacerbated external imbalances, but also undermined the efficiency of investment. Stagnating returns on capital and growing (albeit still reportedly low) rates of nonperforming loans (NPLs) are worrying signs of deteriorating asset quality and associated banking system risks. In addition, the Belarusian state banks have regularly relied on

government support, averaging 1 percent of GDP during 2005–10 and 5.3 percent of GDP in 2011. These capital injections indicate significant write downs of bank equity (averaging about 13 percent of banking capital during 2005–10 and 40 percent in 2011) and in effect compensate state banks for their losses.

Comprehensive financial system reforms are needed to improve efficiency in the allocation of capital and to support the structural transformation of the economy. These reforms would comprise a set of interrelated measures to reduce state interference in the financial system, enabling capital allocation to respond to market signals:

- *Curtail GDL programs.* In the short term, significantly reduce the scope of GDL and move existing loans granted under GDL to the new Development Bank. Any new GDL should be done through this bank and registered above the line in the fiscal accounts. Any other directed or recommended lending through the state-owned commercial banks should be discontinued. Commercial banks should have full autonomy to decide on their lending portfolio and credit terms.

- *Reduce government ownership, foster competition, and enhance corporate governance in the banking system.* In addition to curtailing direct state interventions in credit allocation, reforms to stimulate competition among banks will be needed to increase market-based lending. Divestiture from direct majority ownership in the state banks could therefore be pursued over the medium term. Easing entry of foreign banks could be an effective way to bring skilled private operators to the sector. Those banks that would remain under state ownership should be required to meet international standards of corporate governance, including clear lines of accountability, a greater focus on performance throughout management, and an independent board. This would not only contain sovereign risk associated with the banking system, but also improve risk management practices and the operational efficiency of the banking system, thereby lowering the cost of financing for borrowers.

- *Actively expand the channels for nonbank funding in the economy.* The development and deepening of capital markets can play an important role in opening up low-cost and long-term financing options, especially for large corporate entities. This would entail strengthening regulatory frameworks and market infrastructure for cooperate bond and stock markets. The role of nondepository financial institutions (such as microfinance and housing finance) could also be expanded.

Chapter 3: Transforming the SOE Sector

In contrast to other former communist countries which implemented deep political and economic transformations and sharply reduced the share of state ownership in economic activity in the 1990s, Belarus preserved functioning political and administrative institutions and opted for enterprise consolidation. SOEs were organized in vertical integration chains, allowing well performing enterprises to take over loss makers to avoid divestiture, labor shedding, and the closure of chronically unprofitable ventures. This strategy preserved the governance structure of the enterprise sector, concentrating management decisions in the state.

However, vertical integration masked the inefficiencies among SOEs. Profit-making firms at the top of vertically integrated chains cross-subsidized their less efficient loss-making supplier firms. The top-down direction of subsidies within the vertical chains suggest that softer budget constraints prevail among supplier SOEs because they: (1) have almost three times lower average effective interest payments; (2) adjust prices of their output to costs and not market signals; (3) despite overall poorer performance, have higher debt-to-equity ratios; and (4) have higher arrears compared to the top-of-the-chain SOEs.

Despite access to economic rents for SOEs, on average, private firms in Belarus outperform the state-run ones. Econometric evidence, based on firm level economy-wide data, suggest that: (1) there is an inverse relationship between average return on assets and state ownership; (2) the share of loss-making enterprises in the private sector is significantly lower than that among mixed-ownership or state-owned firms; (3) the level of productivity in non–state-owned enterprises exceeds by 40 percent the corresponding level of productivity in SOEs; and (4) state firms have become relatively less productive between 2005 and 2010 due to significantly lower total factor productivity (TFP) growth in SOEs compare to the TFP growth in private companies.

Productivity differentials between SOEs and private firms in Belarus are a result of structural differences rather than the temporary impact of exogenous factors. SOEs tend to converge toward long-run productivity levels significantly lower (between 11 and 16 percent) than the productivity levels of privately owned firms. Empirical evidence presented in the report suggests that these differences stem from the unproductive use of the factors of production.

The core objective of reforming the SOEs is to attain efficient employment of assets. This would include a set of policy measures to expand the role of the private sector, including:

- *Introduce a time-bound plan to phase out soft budget constraints in SOEs.* SOEs should face the same credit, tax, energy, raw material, labor pricing, and procurement norms faced by private corporations. Resources have alternative uses and, therefore, should be priced accordingly, regardless of the ownership of the enterprise.

- *Restructure vertically integrated SOEs by bringing strategic investors to the top-of-the-chain companies and privatize the feeder companies.* Assess critically to determine when vertical integration is economically justified and when it is used to hide inefficiency. This will lead to a cut in the inefficient product segments of SOEs, and thus, reduce the cost of cross-subsidization. It will also mean that non-core activities are taken away from the state firms. In fact, outsourcing or divesting such non-core activities of SOEs will contribute to the development and the strength of the private sector.

- *Enhance incentives for SOE managers.* Managers of SOEs should be empowered to make decisions regarding the appropriate mix of inputs (labor, capital, materials) in production, as well as the level of prices of all outputs. This will require the elimination of the system of quantitative targets in the economy. The introduction of true performance-based contracts, delinked from the quantitative targets system, would reduce the control over the performance of managers, but will put the right incentives in place and may simplify considerably the design of the reforms ahead.

Chapter 4: Igniting New Engines of Growth

The report argues that the existing economic growth model of Belarus has reached its limits. It advocates that comprehensive structural reforms need to be pursued in an environment of macroeconomic stability. Looking at comparable countries by level of development, Belarus is an outlier along three fronts: (1) the small role of the private sector in the economy, (2) the small contribution of the services sector to the growth of the economy, and (3) the increasing concentration of energy-dependent exports and markets. A new growth strategy is needed to embrace these three linked elements to develop the private sector, grow services, and diversify exports and markets to raise productivity and improve the allocation of the factors of production.

To improve the efficiency of resource allocation across sectors and among firms, obstacles to entry, exit, and operation of all enterprises need to be eased. Increasing the role of the private sector in Belarus through both encouraging private sector growth and the restructuring and privatization of SOEs, have to become key elements of any medium-term structural reform program aimed at stimulating efficiency improvements and innovation. Privatization can become an important instrument for enhancing the productivity of SOEs, increasing market competition, generating benefits for consumers and providing incentives for the modernization of Belarus's economy.

The development of services sector could become a major growth area and an incubator for new jobs. Services sector remains nascent in Belarus. If the regulatory and administrative barriers are reduced, growth in the services sector could act as a potent engine of growth, both through increased productivity and through synergies with manufacturing growth.

Expanding export capabilities is a key lever for change. Modernizing the production base and removing barriers to entry, investment, operation, and exit of business is pertinent for improving existing and exploring new sources of growth in the economy. Without a sizeable influx of quality FDI, Belarus may find it difficult to expand its exports, promote product diversification and sophistication to enable the economy to climb the value chain ladder.

Belarus needs a new growth strategy to help the country reverse the trends of declining productivity and eroding competitiveness. To be successful, this new growth strategy needs to be launched hand in hand with a strong macroeconomic adjustment and in an institutionally reliable environment where domestic and foreign investors' rights are secured. The recommendations arising from the analysis include:

- *Improve the business environment.* Streamlining of the licensing regime will help business entry and operation. Effective exit mechanism is needed to preserve the value of distressed but viable businesses. Reducing the burden of taxation, controls and inspections on businesses, strengthening the framework for competition; strengthening property and investor rights legal frameworks (land and real estate, IPR) and court enforcement will lower the costs of business operations.

- *Establish a process and start implementing competitive and transparent privatization.* Privatization should be strategically used as a tool to attract quality FDI, advanced technology and modern

management. Non-core sectors such as agriculture, food processing, pharmaceuticals, and light manufacturing are suitable sectors to launch competitive and transparent privatizations. Core machine-building enterprises could be sold to strategic investors in tandem with the sale or the restructuring of their supplier companies. New owners/investors should be relieved from maintaining recommended levels of employment or carrying on any social responsibilities in privatized SOEs. The National Agency for Investment and Privatization (NAIP) should be the main vehicle for privatization to ensure a transparent process.

- *Develop the services sector, including business services.* The policy measures should include targeted improvement of the business environment and lowering of entry barriers for service companies and expanding private participation in utilities, banking, telecommunications, transport and logistics. Divesting non-core assets and non-core functions from SOEs would not only make the SOEs more attractive for potential investors, but also support the development of business services market.

- *Strengthen competitiveness.* Belarus should pursue a two-pronged strategy for improving its competitiveness: (1) strengthen existing comparative advantages and (2) develop new sources of comparative advantage based on greater technological sophistication. Belarus could continue to develop business areas where there is already a demonstrated ability to compete. At the same time, the country could invest in the development of related (to the areas of comparative advantages) segments of the economy, which utilize common endowment of factors of production (especially skills). Potential areas include: machinery, capital and labor intensive goods, development of business services, transport services.

- *Pursue further trade liberalization.* Lifting sector-specific constraints for products/sub-sectors with export potential, advancing WTO accession and adoption of EU harmonized standards across the board, including sanitary and phyto sanitary standards would help Belarus increase the range of exported products and the discovery of new markets.

Successful economic rebalancing toward a more efficient economic structure could help Belarus sustain medium-term economic growth. Such a new structure would be more open to entry, operation, and growth of the private sector, including services. The latter could play a great role in generating jobs and incomes. Moreover, the new economic model would make Belarus's exports less dependent on energy-intensive production and open opportunity for supplying competitive products to new markets.

Chapter 1. A Growth Model in Peril

Economic growth in Belarus averaged close to 8 percent in the period 2001–11. Favorable external environment (prior to 2008) and high investment rates drove growth in Belarus. Supportive external factors included substantial terms of trade gains, underpriced energy supplies from the Russia, and strong economic growth among Belarus's main trading partners. In the past few years, however, growth has relied extensively on domestic demand propped by expansionary monetary and fiscal policies; namely: high levels of investment (including through GDL to state-owned firms and farms) and high wages and transfers to the population. The strong growth translated into a large reduction in poverty, from 47 percent in 1999 to 5 percent in 2010.

Since 2005, economic growth has come at the expense of widening external imbalances. The current account position shifted from a surplus of 1.4 percent of GDP in 2005 to a deficit of 15.0 percent of GDP in 2010, adjusting slightly to 10.6 percent in 2011. The growing domestic savings-investment gap was covered through external borrowings. Gross external debt increased 2.5 times over 2009–11, exceeding 62 percent of GDP. Negligible FDI and low levels of international reserves amplified the uncertainties about the sources of financing of the external balance. The growing external imbalances have put Belarus on an unsustainable growth path; it experienced two macroeconomic crises in three years: one a product of the global financial meltdown in 2008/09, and the other, in 2011, stemming from its loose macroeconomic policies.

Belarus's inability to combat its large external vulnerabilities, including its economic dependence on underpriced energy inputs from Russia, has harmed its growth prospects for the medium term. Receiving underpriced energy from Russia is a transitory phenomenon, which Belarus could use to modernize its economy, increase its competitiveness, and find alternative sources of income. However, the Belarusian experience of the past several years indicates a missed opportunity: the underpriced energy subsidy (estimated at an annual average of over 13 percent of GDP 2001–10) was used to boost domestic demand and postpone genuine economic restructuring. As a result, the competitiveness of Belarusian manufacturing exports eroded and export concentration of both its energy-dependent products and markets increased. Without structural reforms, the economy exhausted its growth potential, and productivity took on a

declining trajectory in the period 2005–10. For most of the last decade, the factors of production (labor and capital) did not reallocate to sectors with increasing productivity.

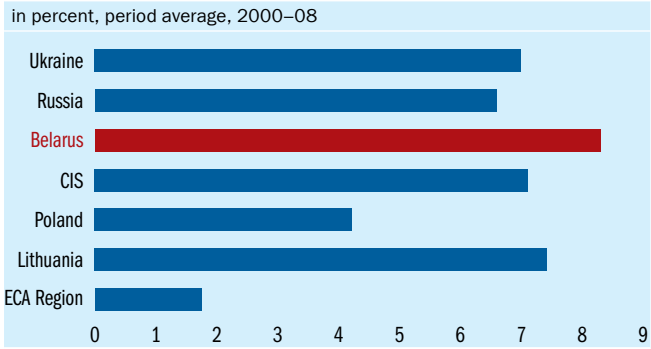
Along with the needed macroeconomic adjustment, placing growth on a sustainable path requires deep structural transformation of the economy. The Belarusian economy is facing formidable challenges beyond the macroeconomic issue of adequately financing its external imbalances: (1) how to reallocate labor and capital to high productivity segments of the economy; (2) how to restructure the SOE sector; and (3) how to support the underdeveloped private sector and the services sector. By successfully overcoming these challenges, Belarus will revive its competitive segments of the economy and discover untapped opportunities for growth. It will also diminish its economic dependence on underpriced energy from Russia and move up the value chain in global integration.

A. Growth and Poverty

Belarus has been a strong growth performer in the 2000s. During 2001–08, Belarus's GDP grew by 8.3 percent annually, which is more rapidly than both the Europe and Central Asia (ECA) region average (5.7 percent) and the Commonwealth of Independent States (CIS) average (7.1 percent) (figure 1.1). By 2003, the country had reached its pre-independence income level and has continued to grow steadily since then.[1] The strong economic growth trend was interrupted only by the global financial crisis in 2009, when the economy expanded by only 0.2 percent. A quick rebound in 2010–11 restored the high growth trajectory, and the economy grew at an average annual rate of 6.5 percent. A rapid increase in income per capita brought Belarus to the upper-middle income group of countries.

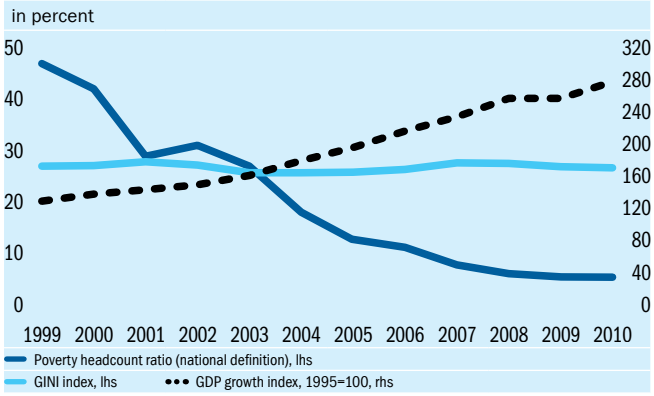
High economic growth contributed to the largest reduction in poverty rates in the region. The strong growth translated into a large reduction in poverty, from 47 percent in 1999 to 5 percent in 2010 (figure 1.2). At the same time, the broad-based economic model

Figure 1.1. Average Growth Rates



Source: World Bank ECA regional database.

Figure 1.2. Belarus: Growth, Poverty and Inequality Dynamics



Source: Belstat.

1 Belarus's real GDP index (1990 = 100) was 97.4 in 2002 and 104.2 in 2003.

ensured that the benefits the state distributes reach wide groups of the population. As a result, Belarus shows not only one of the lowest poverty rates, but also one of the lowest inequality rates in the region.

B. Macroeconomic Factors

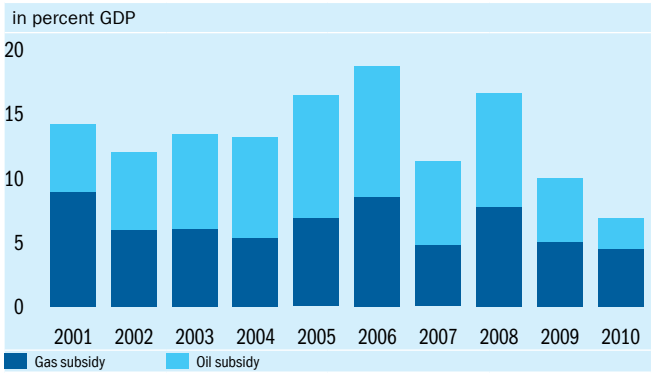
Growth Dependent on External Factors

External factors played an important role in Belarus's economic growth prior to 2008. Supportive external factors included the underpriced energy supplies from Russia, the strong economic growth among Belarus's main trading partners, and substantial terms of trade (ToT) gains. Belarus benefited strongly from each of these:

- *Underpriced energy from Russia.* The subsidies allowed Belarus to import energy at below world prices and export refined oil and other energy-intensive products at world prices. The size of the average annual imputed Russian oil and gas subsidy for the period 2001–08 is estimated at 14.5 percent of Belarus's GDP, annually[2] (figure 1.3).

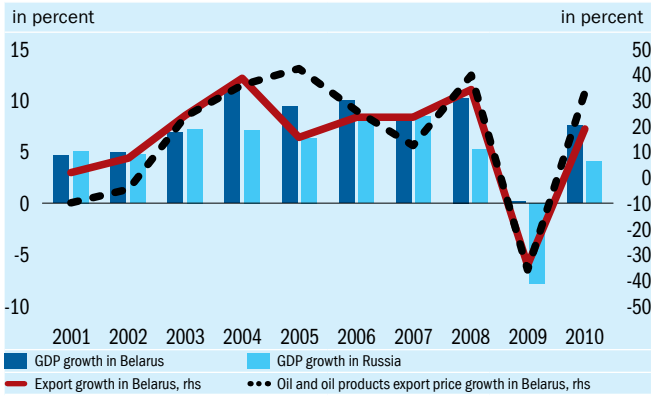
- *Positive ToT developments.* Between 2006 and 2008, the prices of oil products doubled, and the prices of fertilizers tripled. As a result, Belarusian exports became increasingly driven by prices (figure 1.4). In 2008, for example, 95 percent of export growth was caused by the price factor compared relative to the (already high) 61 percent in 2004. Steady ToT gains in the context of growing export demand (and, importantly, a booming trading partner: Russia) supported the tradable sector. Overall, cumulative ToT gains peaked at 34 percent in 2008 relative to 2000 (figures 1.4 and 1.5).

Figure 1.3. Russian Energy Subsidies



Source: World Bank estimates.

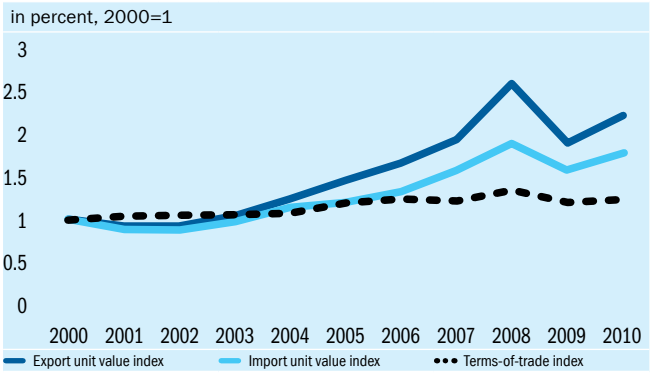
Figure 1.4. Growth in Belarus and Russia



Source: Belstat, Rosstat, World Bank estimates based on Belstat data.

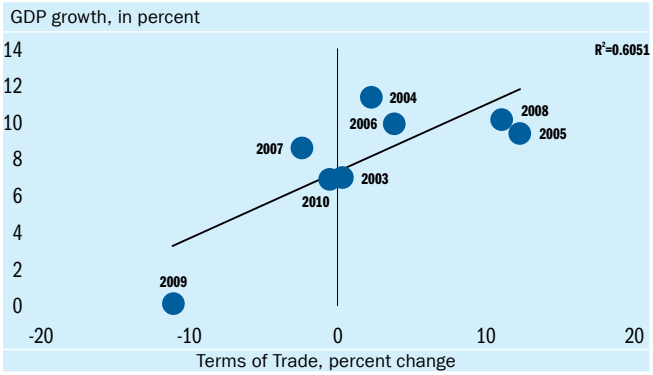
2 The imputed gas subsidy was calculated using formula-based gas price (lagged dynamics of oil prices) as a benchmark with a 30 percent discount in 2001–07; 20 percent discount in 2008, 10 percent discount in 2009 and zero discount in 2010.

Figure 1.5. Terms of Trade Index



Source: World Bank calculations based on Belstat data.

Figure 1.6. Terms of Trade and GDP Growth



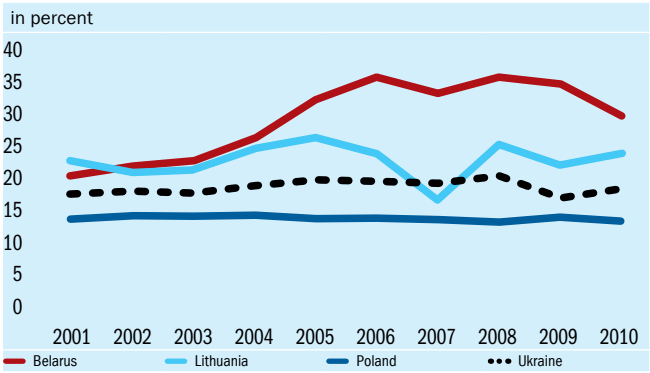
Source: World Bank calculations based on Belstat data.

- *Strong growth of trading partners in the CIS, especially Russia.* Economies in the CIS accounted for over two-thirds of Belarus's total nonenergy exports, on average, during 2001–08. The share of the CIS in machinery and agricultural exports was even higher: over 85 and almost 90 percent, respectively.[3] Demand for exports from Belarus was strong on the back of favorable oil prices boosting growth in the CIS, especially Russia (figure 1.3).

Notwithstanding the strong contribution of external factors to economic growth between 2000 and 2008, both export product and market concentration increased:

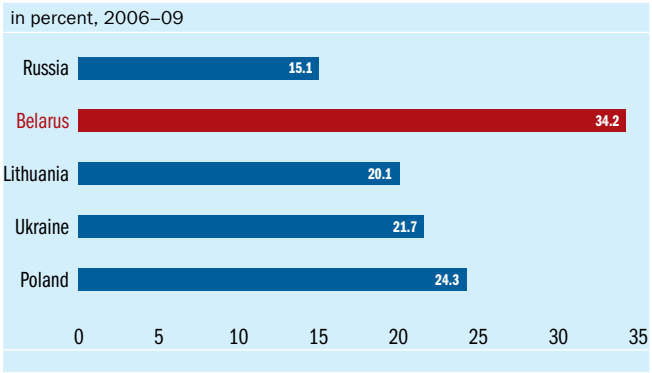
- *Belarus's product exports became more concentrated* (figure 1.7). High export concentration renders an economy vulnerable to external shocks, including those caused by movements in ToT. Belarusian exports are bunched in resource-based and primary product categories, accounting for close to 80 percent of the export basket of goods with strong comparative advantage.[4]

Figure 1.7. Export Product Concentration



Source: World Bank Staff calculations on WITS/COMTRADE data.
Note: Herfindhal-Hirschman Index(HHI).

Figure 1.8. Export Market Concentration



Source: World Trade Indicators.
Note: Herfindhal-Hirschman Index (HHI).

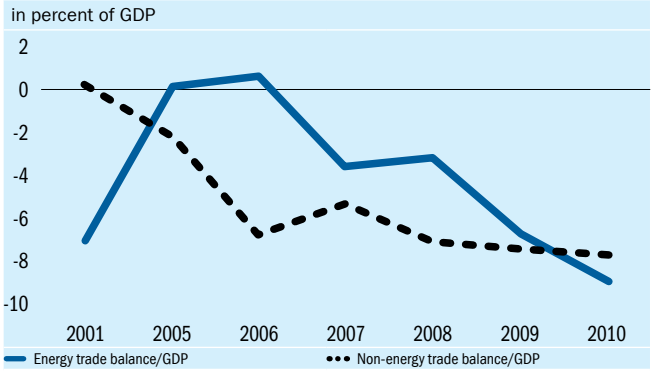
3 Agricultural exports include agricultural produce (Harmonized System [HS] 0–15) and food (HS 16–24). Machinery and equipment include (HS 84–85) and vehicles (HS 86–89) exports.

4 World Bank (2010_b).

- *Belarus has higher export market concentration than any of its neighbors* (figure 1.8). The export destination concentration index shows that Belarus sells its exports on fewer markets than comparator middle-income countries. High export market concentration is an indication of external vulnerability.

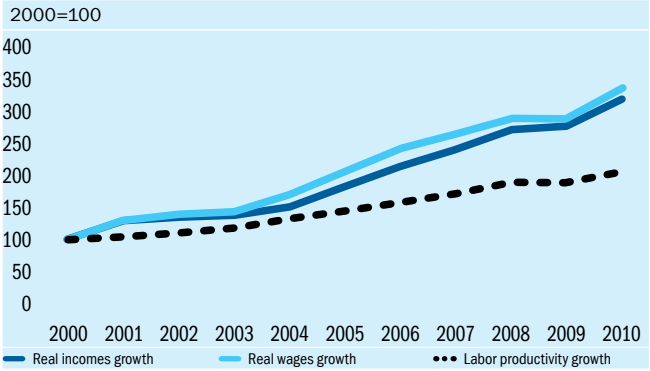
These two trends—the increase in export product and export market concentration—reveal a declining role of nonenergy trade for Belarus (figure 1.9). While the energy trade deficit is subject to large swings in volatility and uncertainty about imported oil and gas prices and, in effect, is an exogenous product of trade negotiations with Russia, the nonenergy trade balance could be influenced by appropriate economic policies.

Figure 1.9. Energy and Nonenergy Balance



Source: World Bank calculations based on Belstat data.

Figure 1.10. Indexes of Real Wage, Real Incomes, and Labor Productivity Growth



Source: World Bank calculations based on Belstat data.

The opportunity presented by the external environment was not used by Belarus to restructure its export pattern strategically and lay down the foundations for sustainable export-driven growth. Overall, the economy's growth remained highly dependent on ToT gains from energy-dependent exports. A strong positive association is evident between the growth rate of the economy and ToT, rendering the Belarusian economy vulnerable to external shocks (figure 1.5 and figure 1.6). Indeed, as Russia gradually started to move toward market-based pricing of its energy exports to Belarus, import prices for oil and gas increased, and Belarus's export dividends declined.

The decline in energy subsidies from Russia exposed structural vulnerabilities of the economy. The energy subsidy for Belarus was more than halved in 2009–10, from 14.5 percent in 2008 to close to 6 percent of GDP in 2010 (figure 1.3). ToT also declined by over 11 percent year-on-year in 2009, contributing to rising trade and current account deficits. The current account deficit reached 15.0 percent of GDP in 2010 as compared to a surplus of 1.4 percent of GDP in 2005 (figure 1.11). The energy prices between Russia and Belarus had to be renegotiated annually, making the economic fortune of Belarus highly dependent on these negotiations (box 1.1).

As a result, since 2005, economic growth in Belarus has relied on foreign savings. The current account deficit became increasingly financed by external borrowing, with limited FDI and reserves (figures 1.11 and 1.12):

Box 1.1. Belarus–Russia Gas Relations

Belarus has enjoyed gas import prices from Russia below those charged to other CIS countries and significantly below prices charged to Europe. Given the need to ship natural gas from Russia to Europe through a pipeline going through some of the former Soviet Union (FSU) countries, Gazprom segments its export market in two tiers, countries of the FSU and Europe, and annually negotiates prices with each country. Because of lower income in the FSU countries, gas prices are much lower than the price Gazprom charges in Europe. However, as income levels increase, price convergence is expected (Tarr and Thomson, 2003).

Russia significantly increased the price of gas for several CIS countries in early 2006, but the gas price for Belarus remained at US$47 per thousand cubic meters (tcm). For instance, the price of Russian gas nearly doubled for Ukraine, from US$50/tcm in 2005 to US$95/tcm in 2006, and, in Armenia and Moldova, it reached US$110/tcm in early 2006. The annual average Russian gas subsidy for the period 2001–06 is estimated at 7 percent of Belarus's GDP.

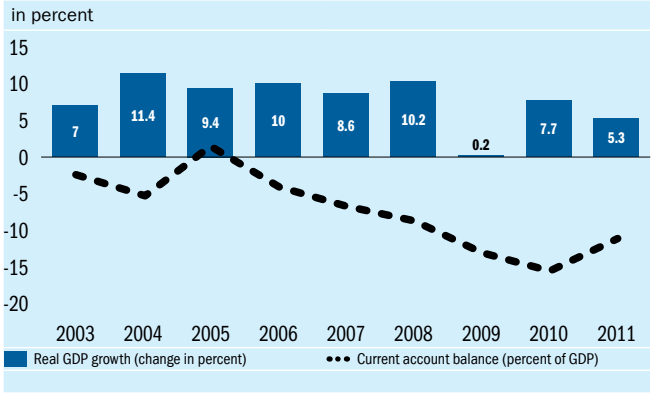
The 2007 gas agreement for 2007–11 covered the following: (1) Gas price for Belarus for 2007 was agreed at US$100/tcm (2.16 times increase relative to 2006) with its gradual increase to the European level by 2011; (2) The transit fee via the Beltransgaz pipeline was set at US$1.45/tcm per 100 kilometer (1.93 times increase relative to 2006); and (3) Beltransgas is to be transformed into Russian-Belarus Joint Venture by June 1, 2007, with Gazprom acquiring 50 percent of the joint venture stakes by June 1, 2010, for which it will pay US$2.5 billion in four installments. While import gas almost tripled in 2011 relative to 2007, the average annual Russian gas subsidy remained high, at about 5.8 percent of Belarus's GDP annual average during 2007–11.

On November 25, 2011, the new gas supply deal was signed under which (1) the gas price for Belarus in 2012 is set at US$165.6/tcm; (2) Gazprom acquired the remaining 50 percent of stakes of Beltransgas for US$2.5 billion and becomes the sole owner of the gas transporting company in Belarus. The agreement also defines the volume of gas imported, markups and gas price formula for 2013–14. The integration discount formula will be based on the price of gas for consumers in Russia's Yamal-Nenets Autonomous District, which is set by the Russian Federal Tariffs Service; the cost of transporting gas from Yamal to the Russian-Belarus border and the cost of storing gas in underground storage facilities in Russia. Ukraine, for instance, pays US$416/tcm in 2012. The deal is seen by observers as a part of a larger US$14 billion–US$15 billion Russian rescue package for Belarus.

The new gas deal provided Belarus with breathing space in the midst of the macroeconomic crisis. It is yet to be seen, however, whether this opportunity will be used to reinvigorate market reforms or to, yet again, postpone them. The evidence so far is in favor of the latter.

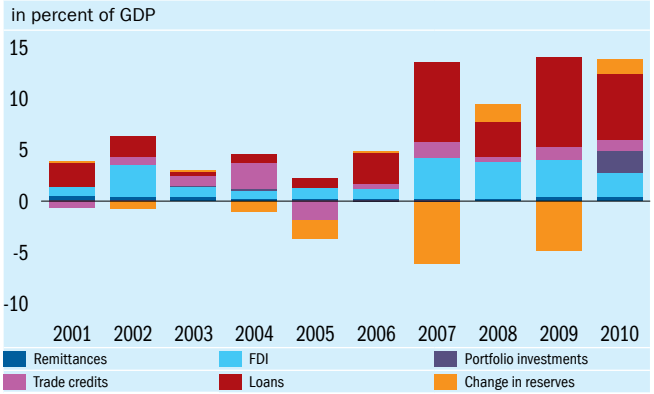
- *Reserves.* Gross international reserves have remained at precariously low levels for the past few years (figure 1.13). After reaching a peak of coverage of 2.2 months of imports of goods and services at the end of 2009, reserves began a declining trend and had bottomed at below 1 month of coverage by mid-2011. As of January 1, 2012, gross international reserves reached a record high US$7.9 billion (2 months) because of the proceeds from the Beltransgas sale (US$2.5 billion), the second tranche of an Anti-crisis Fund (ACF) loan (US$440 million), and a syndicated loan from Russian Sberbank and Eurasian Development Bank (EADB) to Belaruskalii (US$1 billion).

Figure 1.11. Current Account Balance and GDP Growth



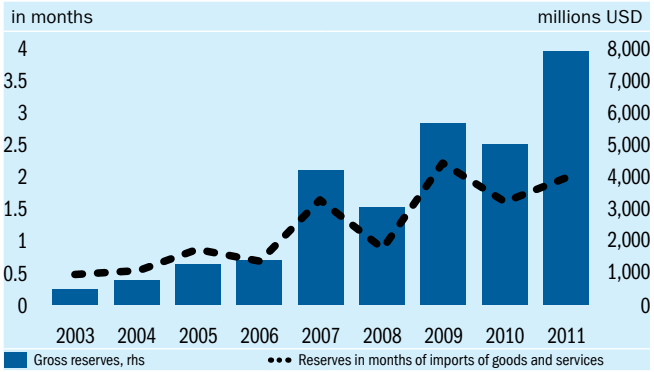
Sources: Belstat, National Bank of the Republic of Belarus, World Bank estimates.

Figure 1.12. Capital Inflows



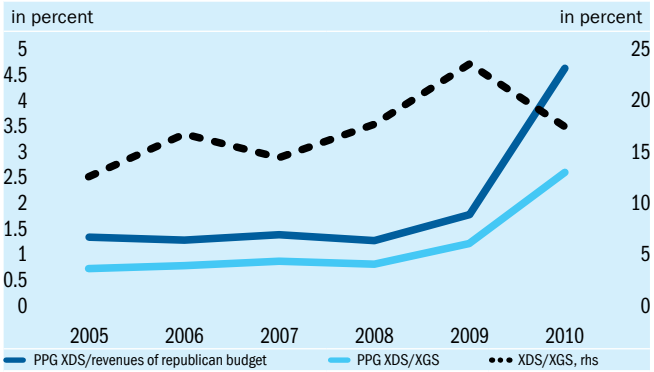
Source: National Bank of the Republic of Belarus.

Figure 1.13. Gross International Reserves



Source: National Bank of the Republic of Belarus.

Figure 1.14. Debt Service Burden and Debt Stock



Source: National Bank of the Republic of Belarus.

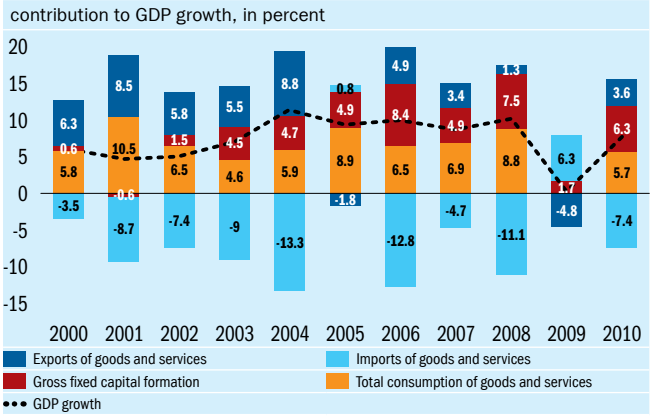
- *Limited FDI and portfolio investment.* FDI inflows in Belarus have been weak in the past 10 years, accounting for an annual average of 2 percent of GDP in 2000–10 and 7 percent of GDP in 2011. FDI peaked in 2007 and 2010 largely because of Russia's purchase of the 50 percent stake in the state gas pipeline network (Beltransgas) and a few other fire sales (see chapter 4 and table A4.1.1). Portfolio flows have also been minimal (figure 1.14).

- *External debt accumulation.* Gross external debt to GDP ratio increased 2.5 times over 2009–11, exceeding 62 percent of GDP, while external public debt soared 3.5 times in relation to GDP within the same period, to close to 25 percent in 2011. In 2010–11, Belarus issued Eurobonds of over US$2 billion in three installments. Two tranches of the US$3 billion loan from the ACF for US$800 million and US$440 million were disbursed in June and December 2011, respectively. Servicing the debt exerts increased fiscal pressures on a thinly-stretched government budget, with a peak of repayment falling to 2012–15. The maturity structure of external SOEs and the private corporate and banking sector debt is heavily weighted on the short term (around 45 percent), thus increasing the roll-over risks.

Growth Increasingly Reliant on Domestic-Demand-Boosting Policies

After 2005, economic growth became increasingly reliant on domestic demand. Unable to diversify its export products and markets to find other sources of income and overcome its dependence on underpriced energy inputs economic growth in Belarus became less export driven since mid-2000s (figure 1.15). To keep the economic model intact, domestic demand had to be boosted. Overall, domestic absorption contributed two-thirds of total economic growth, on average, between 2005 and 2010, on the back of expansionary income, fiscal, and monetary policies.

Figure 1.15. Growth Composition, by Expenditure



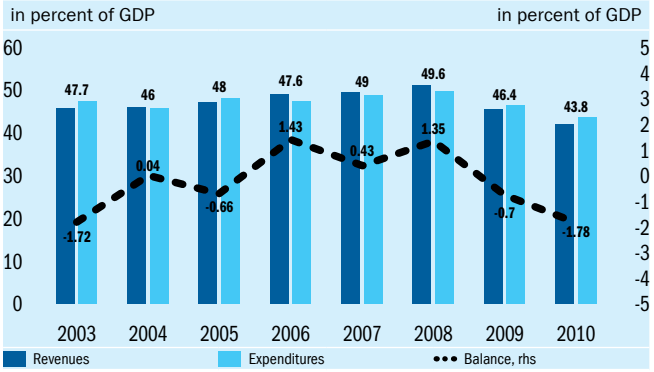
Source: World Bank calculations based on Belstat data.

Rapidly growing real wages fueled growth in consumption. Consumption grew strongly, supported by the government's wage policies, as well as positive changes in the ToT, which, through income and wealth effects, fueled domestic demand more generally. Household consumption went up by a 14.6 percent annual average in the period 2005–08, collapsed in 2009, and went further up by 9.5 percent in 2010. Real wage and income growth outpaced productivity gains and, thus, became an additional factor contributing to the loss of competitiveness of Belarus (figure 1.10).

High investment growth was supported by expansionary fiscal and monetary policies after 2005. Gross fixed investment contributed 5.5 percent to economic growth on average during 2005–10. Gross fiscal capital formation (GFCF) expanded by close to 23 percent on average per year in the period 2005–08. Even in 2009, when economic growth was 0.2 percent, investment (i.e. GFCF) continued to grow at a rate of 5 percent. In 2010–11 it grew on average by 14.2 percent.

On the fiscal front, general government expenditures in Belarus remained large, accounting for over 47.4 percent of GDP, on average, for the period 2005–10 (figure 1.16). This is over 3 percentage points higher than the regional average and about 5 percentage points above the average in countries with similar per capita income. Moreover, especially prior to 2008, the government spent in a procyclical fashion.[5]

Figure 1.16. Expenditure Growth with Moderate Deficits

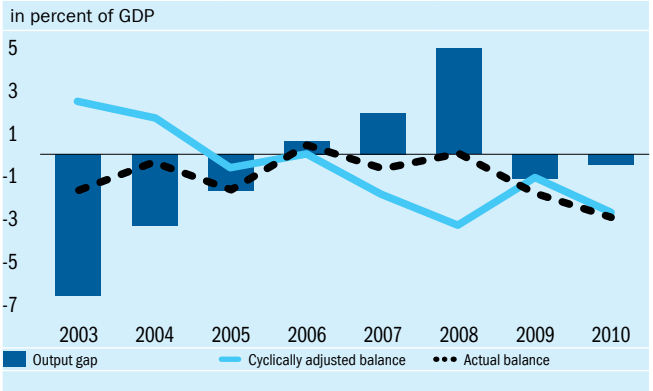


Sources: Ministry of Finance, Social Protection Fund, and World Bank estimates.

5 Detailed discussion on public expenditures in Belarus can be found in World Bank (2011_b).

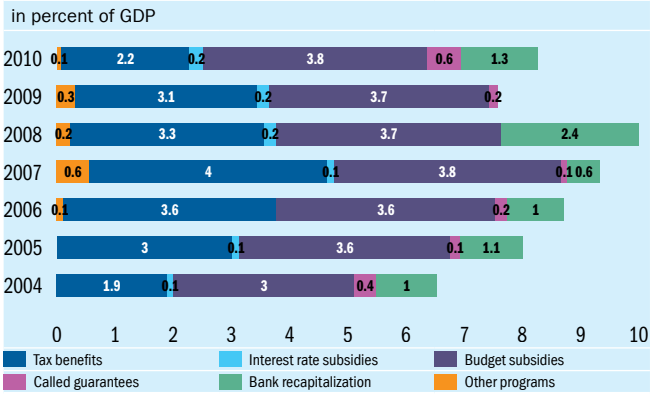
Modest cash deficits masked the procyclical weakening of the fiscal position. While the headline budget was approximately in balance, already in 2008, Belarus had an estimated structural deficit of 3.4 percent of GDP (figure 1.17).[6] The average annual growth of consolidated general government expenditures per capita stood at 11 percent in real terms between 2005 and 2008, exceeding the pace of growth of output per capita for the period (9 percent). The rapid expansion of expenditures was driven by subsidies and transfers, followed by capital expenditures and expansionary income policies in public sector wages and social transfers. Despite a fiscal tightening in 2008–09 in response to the global financial crisis, spending exceeded revenues, and, in both 2009 and 2010, the general government budget was in deficit.

Figure 1.17. Cyclicality of Government Spending



Sources: Ministry of Finance, Social Protection Fund, and World Bank estimates.

Figure 1.18. State Support



Source: World Bank (2011_b).

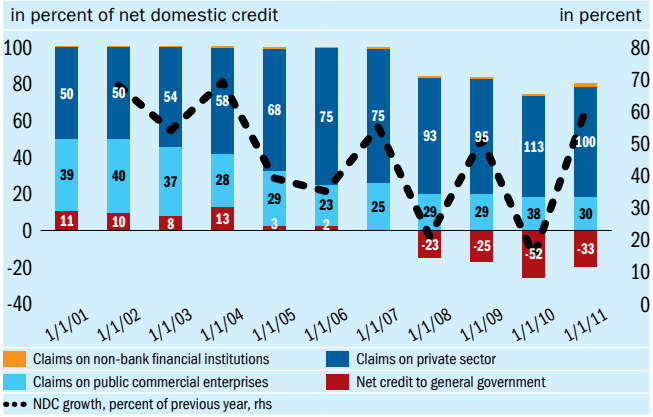
Domestic demand was propped up by significant state support. The overall cost of state support increased from 7.6 percent of GDP in 2004 to 10.4 percent of GDP in 2008, largely driven by subsidies, which grew from 3.0 to 3.7 percent of GDP (figure 1.18). The total cost of state support, including tax privileges, declined to less than 8 percent of GDP in 2009, but sprung back up in 2010. The rise in the annual cost of state bank recapitalization is particularly worrisome because it, de facto, served as compensation to the banks for their losses incurred through the excessive credit growth, including through GDL programs. After being reduced from 2.4 percent of GDP in 2008 to less than 0.04 percent of GDP in 2009, bank recapitalization expenditures grew again to 1.3 percent of GDP in 2010 and to 5.3 percent of GDP in 2011 (see also figure 2.30).[7]

On the monetary side, a massive expansion of credit to the economy, including through GDL, has fueled domestic demand in the past five years. On average, domestic credit grew by 40 percent (in nominal terms) annually between 2005 and 2010 (figure 1.19). GDL played a large role in this credit

6 The cyclically adjusted balance is the budget balance adjusted for cyclical factors, e.g. it shows what the government's budget balance would be if the economy was at a normal level of activity (full potential). Changes in the cyclically adjusted balance therefore reflect structural (policy) changes in either revenue or expenditure policy. For Belarus we statistically estimated the permanent trend and cyclical component of GDP by applying the Hodrick-Prescott (HP) filter to annual GDP data for 1995-2010, extending it with projections to 2015 (to mitigate end of series bias). Cyclically-adjusted revenue is calculated from actual tax revenues adjusted according to the ratio of potential output to actual output and the estimated revenue elasticity (equal, to 1.7). We assume expenditures are inelastic, taking into account labor market rigidities and the absence of comprehensive unemployment benefits and other automatic stabilizers on the expenditure side in Belarus.

7 A large increase in bank recapitalization expenditures in 2011 was necessitated by the large devaluation of Belarusian Rubel and the need to bring the prudential ratios of the state-owned banks in conformity with the international standards.

Figure 1.19. Credit to the Economy, share in Net domestic credit



Source: National Bank of the Republic of Belarus.

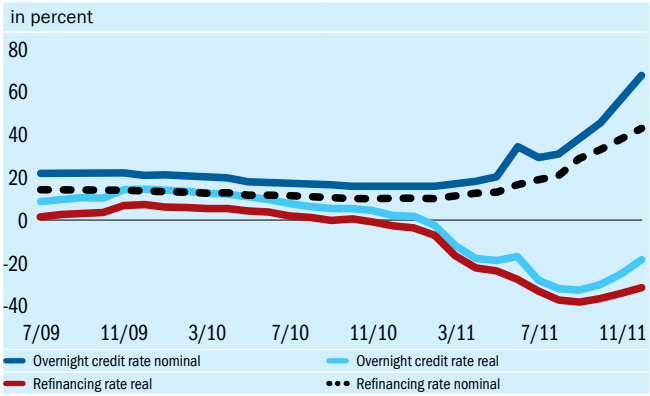
Figure 1.20. Mounting Directed Lending Programs

Source: World Bank estimates on National Bank of the Republic of Belarus data.

expansion. More than 60 percent of all banking credits granted in Belarus by the end of 2010 originated within GDL programs. Such loans are disbursed through state-owned commercial banks, and borrowers under these programs pay lower than market (interbank) interest rates. Often, loans under GDL programs carry central and local government guarantees. In 2009–10, GDL grew by 60 percent on average per year. In 2010, off-budget GDL financing (gross flow) accounted for 8.5 percent of GDP, while the stock of GDL ballooned from 4.0 percent of GDP in 2005 to 25.5 percent of GDP in 2010 (figure 1.20).

Negative real interest rates were another factor contributing to expanding domestic demand in Belarus (figure 1.21). Policy interest rates were reduced during 2010 and kept unchanged (at 10.5 percent per year) after mid-September 2010 for six months. This brought real interest rates into the negative area already in November 2010. Despite numerous stepwise increases, policy interest rates remained highly negative in real terms until end-2011. The refinancing rate was raised 12 times during 2011, and, since December 12 2011, it has stood at 45 percent per annum.[8] Other policy rates were increased as well with the overnight credit rate reaching 70 percent per annum in December 2011. Negative interest rates are, in effect, an implicit subsidy and another policy tool for boosting domestic demand.

Figure 1.21. Nominal and Real Interest Rates



Source: World Bank calculations based on National Bank of the Republic of Belarus data.

Note: The refinancing rate is the NBRB basic instrument for regulating interest rate levels in the money market and a basis for setting interest rates on the operations involving liquidity provision to banks. The overnight interest rate is another policy rate set by the NBRB for interbank market regulation. The real interest rates are calculated as follows: real interest rate = (nominal interest rate–three months year on year inflation)/(one+three months inflation)*100, where three months include the current month and the two subsequent months

8 In 2012, the refinancing rate was reduced to 43 percent p.a. from February 15 and further to 38 percent p.a. from March 1st.

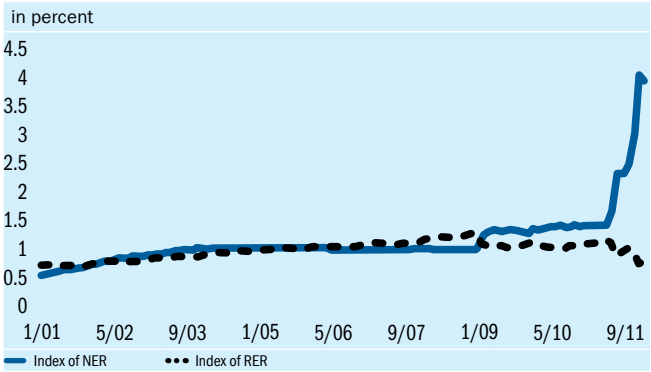
Booms and Busts

During most of the 2000s, the economic growth model of Belarus relied on a combination of favorable external factors (including underpriced energy inputs from Russia) and loose fiscal and monetary policies. While the economy was able to grow at a strong pace, this came at the expense of large external vulnerabilities and resulted into two crises in the last three years: the first one was a direct outcome of the global financial crisis of 2008/09, and the second one (the 2011 "homemade" macroeconomic crisis) was a direct result of loose macroeconomic policies in 2010/11.

The 2008 global economic and financial crisis was transmitted to Belarus through lower export revenues and reduced access to external borrowing. A sharp reduction in export demand and export prices among the main trading partners (Russia), combined with constrained access to external finance, resulted in external financing difficulties for Belarus. The government's macroeconomic policy response in 2009 was supported by external financing including from the International Monetary Fund (IMF). It involved external adjustment via expenditure compression through fiscal discipline and wage restraints and expenditure switching through a one-off adjustment of the exchange rate.

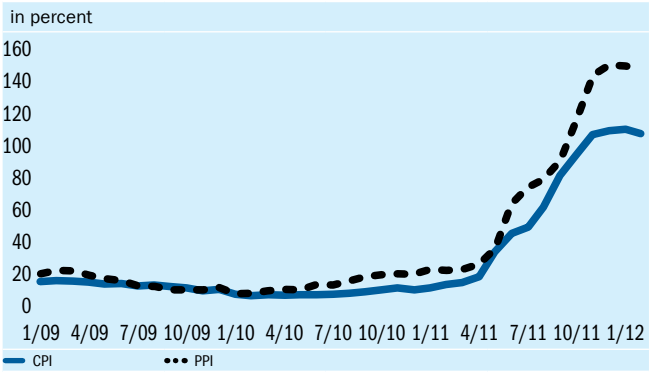
Macroeconomic policies were loosened during the second half of 2010 (in the Presidential election run-up), resulting in foreign exchange and balance of payments crisis in 2011. The large and unsustainable external imbalances put pressure on reserves in early 2011, and the NBRB was unable to defend the Belarusian rubel (BYR) through foreign exchange interventions. It devalued the national currency at the end of May 2011 from BYR 3,155 per U.S. dollar to BYR 4,930. Confidence in the BYR was not restored, however. The foreign exchange markets continued their fragmentation, and a multiple exchange rate system emerged. The gap between the official and the street exchange rate had widened to 100 percent by mid-September 2011. Overall, the BYR lost close to 70 percent of its value relative to the U.S. dollar in 2011. Inflation soared, and Belarus fell into an inflation-depreciation spiral. Along with the loss in value of the currency, which traded at BYR 8,350 per U.S. dollar at the end of 2011, inflationary pressures escalated, and the consumer price index reached 108.7 percent, while the producer price index grew by 149.6 percent as of December 2011 relative to December 2010 (figures 1.22. and 1.23.)

Figure 1.22. Real and Nominal Exchange Rate to US$ (2005=1)



Source: National Bank of the Republic of Belarus.

Figure 1.23. Consumer Price Index and Producer Price Index, y-o-y change



Source: Belstat.

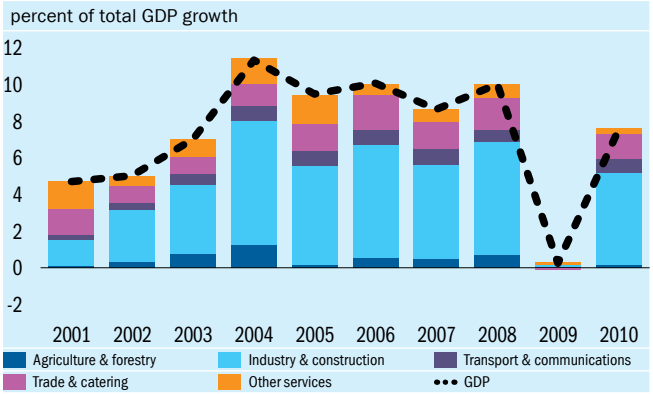
The macroeconomic response to the 2011 crisis involved the tightening of monetary and fiscal policies. The policy measure included: (1) exchange rate unification, which came only on October 20, 2011, after months of uncertainty; (2) balancing the budget for 2011[9]; (3) increases in policy interest rates; and (4) a notable slowdown of the GDL programs in the fourth quarter of 2011.[10] The government managed to secure a US$3 billion loan from the ACF and negotiated a large rescue package with Russia in November 2011 (valued at some US$14 billion–US$15 billion). The latter included not only an attractive price of gas from Russia (box 1.1), but a larger commitment to Belarus for the financing of the planned construction of a nuclear power plant.

C. Lack of Structural Transformation

Sectoral Shifts

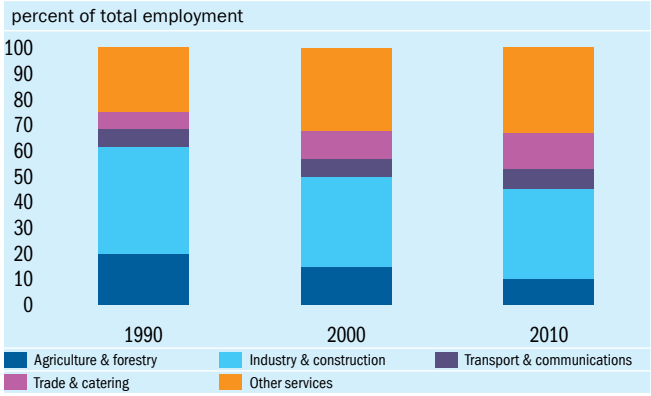
Belarus experienced limited structural change with a declining contribution of agriculture and services and increasing importance of industry and construction (figure 1.24). The share of industry and construction in value added in 2001 was 36 percent, but had expanded to 48.5 percent by 2010.[11] During the same period, the share of services in value added had declined by 10.5 percentage points to 43.1 percent in 2010. Economic growth was increasingly driven by industrial and construction growth: these sectors were responsible for two-thirds of the overall GDP growth as of 2010 relative to 30 percent in 2001. The contribution of the services sector to growth had fallen from almost two-thirds in 2001 to less than one-third in 2010.

Figure 1.24. Sectoral Contribution to GDP Growth



Source: World Bank calculations based on Belstat data.

Figure 1.25. Sectoral Employment



Source: Belstat.

9 General government budget was concluded with a surplus of 3.1 percent of GDP in 2011. Republican budget surplus accounted for 0.9 percent of GDP in 2011.

10 GDL continued in the first half of 2011 but slowed down afterwards and stopped in the fourth quarter of 2011. Overall GDL flow in 2011 is estimated at 4.5 percent of GDP in 2011, 50 bp above the commitment under the ACF program.

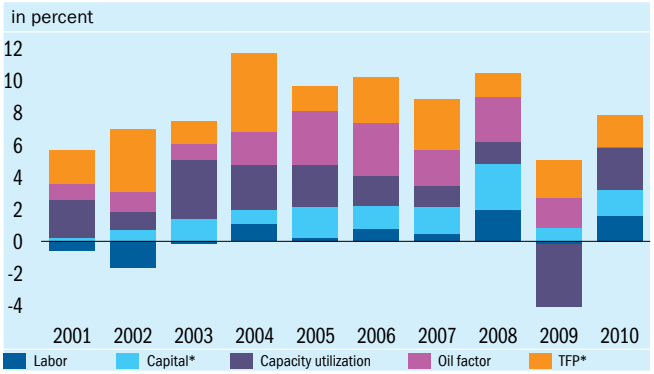
11 Unless otherwise stated the data analysis in this report is performed by sectors of the economy, i.e. based on the OKONX classification. Shares of economic sectors in value added are calculated in constant 2005 prices. New classification (by type of economic activities – OKED) is introduced in Belarus since 2011.

However, most of the changes in the employment structure took place prior to 2000; few employment shifts took place thereafter (figure 1.25). Agriculture is the only sector that has observed a significant decrease in employment: from close to 20 percent in 1990 to 15 percent in 2000 and to below 11 percent in 2010. Prior to 2001, labor moved from agriculture, industry, and construction to the services sector. As in 1990, industry and construction have remained the largest employer, accounting for over one-third of total employment in 2010. Employment in the services sector increased, especially in trade and catering, where the share of total employment has more than doubled over the last 20 years, becoming the second largest sector of the economy, with almost 14 percent of total employment.

Growth Accounting

From a pure accounting perspective, between 2000 and 2005, aggregate economic growth in Belarus was largely driven by improvements in total factor productivity (TFP). In the period 2000–05, average annual growth rates of over 7 percent were driven by other than the production inputs (figure 1.26). The weak contribution of growth in the labor force to output growth reflects a problem of excess labor capacity (and high real wage growth), which can discourage new hiring in response to strong output expansion. Similarly, capital stock was not growing rapidly. But Belarus was able to use excess capacity in capital and labor to respond quickly to the renewed export demand from Russia and other CIS countries. Capital utilization accounted for over one-third of GDP growth between 2001 and 2005.

Figure 1.26. Sources of Growth



Source: World Bank and National Bank of the Republic of Belarus calculations based on Belstat data.

Note: Capital* -adjusted for capital utilization; TFP* - adjusted for the "oil factor"

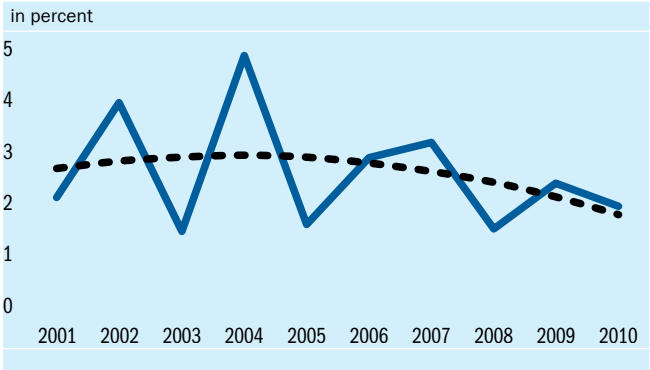
After 2005, supported by the strong growth of credit to the economy, capital accumulation began to increase rapidly. Between 2005 and 2008, the capital accumulation growth rate doubled to close to 11 percent from less than 5 percent in 2001–05.[12] In turn, productivity lost its leading role in GDP growth, and its contribution continued to decline during and after the 2008 global financial crisis. However, with slower growth in output than in investment in the past few years, aggregate rates of return on capital reached a plateau in 2009–10. The rate of return on capital—an indicator of the efficiency of investment, measured as changes in income accruing to capital over changes in capital stock—has increased since 2000, but has begun to show signs of slowing in more recent years .

12 Given the well-known sensitivity of TFP estimates to underlying assumptions (and the sensitivity of estimates of rates of return on capital to the same assumptions), we employ alternative estimates based on different assumptions about the initial capital stock, the appropriate discount factors, and the share of capital's income in output (see annex 1 for more detailed explanations). We find that the relative contribution of factor accumulation and TFP growth to aggregate growth in Belarus is not so sensitive to the choice of estimate.

The role of underpriced energy inputs from Russia has also been important for economic growth in Belarus. The growth dynamics of the last 10 years show a notable reliance on underpriced energy subsidies ("oil factor").[13] On average, the oil factor accounted for about a quarter of GDP growth annually in the period 2001–10. Naturally, the contribution of the oil factor to economic growth is closely correlated with the size of the energy subsidy that Belarus receives from Russia (a correlation coefficient of 0.72): the bigger the size of the subsidy, the larger the gains in GDP growth attributed to it.

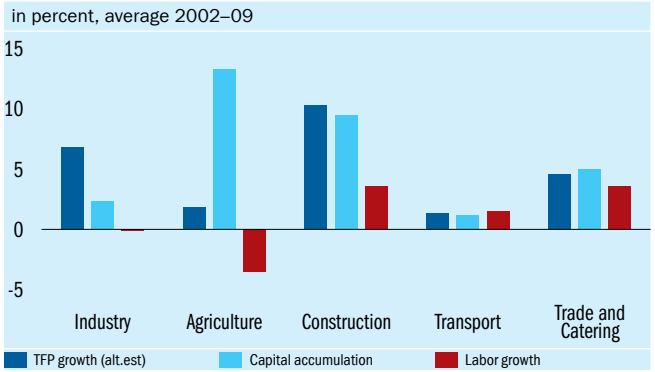
In all sectors but agriculture, productivity was the major driver of growth. Unable to isolate the effect of the oil factor and capacity utilization by sector, we disaggregate sectoral growth rates into the contributions of capital, labor, and productivity (figure 1.28). Along with productivity, capital accumulation played an important role in output growth in all sectors. Labor growth contributed positively to output growth in the construction and the services sectors. These are more labor-intensive sectors that are likely to have benefited disproportionately from stronger growth in domestic demand in the second half of the 2000s. Transport also had a high average productivity growth, but growth has decelerated sharply after peaking in the mid-2000s.

Figure 1.27. Evolution of Total Factor Productivity



Source: World Bank calculations.

Figure 1.28. Growth Accounting by Major Sector



Source: World Bank estimates based on Belstat data.

However, aggregate productivity growth has been on a steadily declining trend since 2004 (figure 1.27). Growth accounting demonstrates that aggregate productivity growth contributed over one-half of GDP growth in 2000–04, after which its contribution began a steep descending trajectory. TFP growth accounted for 24 percent of overall economic growth in 2010.

In agriculture, output growth was largely driven by capital accumulation. Productivity growth fluctuated around zero. Economic growth in the sector was supported by a sustained outflow of labor in 1996–2002. A rate of capital accumulation in excess of output growth for most years reflects distorted credit flows to agriculture (discussed in more detail in chapter 2). Indeed, the sector has yielded declining rates of return on capital, indicating that output expanded more slowly than net investment (investment, minus depreciation).[14] The reduced outflow of labor since the early 2000s, coinciding with the increased

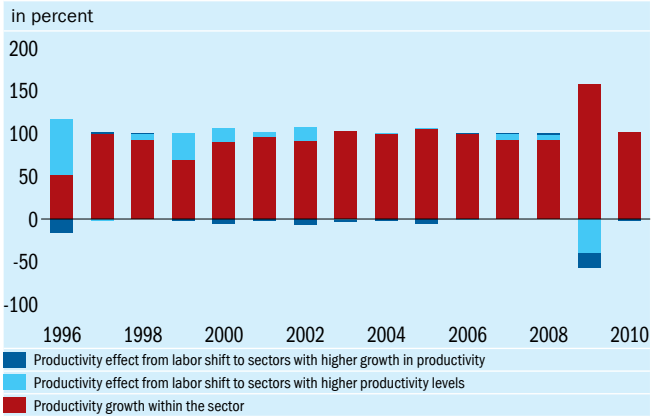
13 Demidemko and Kuznetsov (2010).

14 See World Bank (2011_b) for a discussion on state support to agriculture.

rate of capital accumulation, suggests that the government's support to the sector (primarily through various GDL programs) is discouraging or delaying the necessary restructuring.

Aggregate productivity gains came from factor reallocation within and not across sectors. For the period 2000–10, labor reallocation played a limited role in productivity growth in Belarus (figure 1.29). The share-shift analysis suggests that, after 2003, the overall labor productivity growth was disproportionally dependent on within-firm productivity improvements. Moreover, labor movement from sectors with low to sectors with high productivity levels played a role, albeit small, only in the early years of transition. Rapid productivity-growing segments of the economy also have not attracted labor from more slowly productivity-growing pockets of the economy for the last 15 years in Belarus. This observation is in contrast with the experience of other transition economies, where the process of labor reallocation toward higher-productivity firms and subsectors has been an important driver of productivity growth.[15]

Figure 1.29. Decomposition of Productivity Growth in the Economy



Source: World Bank calculations based on Belstat data.

Note: Based on disaggregated data that combine 16 large economic sectors and 11 industrial subsectors.

D. The Need for Macro-Structural Adjustment

The traditional engines of growth in Belarus have lost momentum. Below the surface of high growth rates, a number of warning signs related to the quality and sustainability of the Belarusian growth model have emerged in the past few years. These have a direct effect on the sources of growth in the economy. On the macroeconomic front, these warning signs include: (a) procyclical expansion of expenditures; (b) large state support; (c) excessive credit to the economy, including through GDL programs; (d) negative real interest rates. In parallel, the impact of delayed structural reforms has become pronounced, as evidenced by: (a) declining productivity growth, (b) inefficient allocation of resources; (c) widening the gap between the real wage and labor productivity growth; (d) declining share of services in value added; and (e) eroding competitiveness.

The effects of loose macroeconomic policies and the lack of structural transformation have led to marked erosion in Belarus's competitiveness. The switch from external to domestic demand-driven growth, financed by strong (mostly state-directed) lending to the economy, allowed Belarus to maintain high economic growth rates after 2005, even in the face of two economic crises. Declining productivity and the declining contribution of exports to growth indicate that Belarus has not found alternative

15 World Bank (2008).

sources of income (through diversification), nor has it decreased its dependence on underpriced energy inputs from Russia. At the same time, the country has faced serious challenges in securing external financing.

A credible macroeconomic adjustment is needed to rein in the external imbalances. This would imply tighter than current domestic policies and slower than recent economic growth. On the fiscal side, the budget should be balanced over the medium term, given the excesses that have already taken place on the monetary side through credit to the economy (particularly under the GDL programs). GDL should be curtailed, and a contraction in capital spending and subsidies should be planned. The rise in the consumer price index should slow and gradually subside to single digits over the medium term with monetary policy transition to inflation targeting, as advised by the IMF.[16] External debt dynamics should also be stabilized.

The urgency of macro-economic stabilization is amplified in the less benign and much more unstable external environment. Euro contagion and slower global demand would cause strong headwinds for Russia and other emerging economies in 2012, with negative implications for Belarus. Developing countries, including Belarus, have less fiscal and monetary space for remedial measures than they did in 2008/09. As a result, their ability to respond may be constrained if international finance dries up and global conditions deteriorate sharply.[17]

Along with the macroeconomic adjustment, combating the external imbalances would require deep structural transformation of the economy. This implies that Belarus's growth will have to rely on significant productivity gains driven by structural reforms. Structural reforms are needed to invigorate additional engines of growth (such as the private sector and the services sector), attract quality FDI and technology, and reduce the footprint of the state-run segments of the economy. While economic growth would slow during the period of structural transformation, growth dividends will materialize in the medium term. Staggered implementation would not enable the medium-term modernization of the economy or improve investor confidence.

Belarus should pursue a new growth strategy to unveil untapped opportunities for economic development and deepen its integration into the world economy. To do this, it will need to understand its major structural weaknesses to overcome its growth challenges expressed in exhausted traditional sources of growth. With the aim of increasing Belarus's competitiveness, the transformation needed in the economy requires the reallocation of labor and capital to high productivity segments, the restructuring of the SOE sector, and the implementation of reforms to support the nascent private sector and the underdeveloped services sector. We tackle these challenges in the rest of this report. Chapter 2 assesses the efficiency of allocation of factors of production across sectors. Chapter 3 approaches the same issue from a microeconomic perspective, looking at differences in performance across firms with different ownership. Chapter 4 offers ideas how Belarus could revive its competitive segments of the economy and discover untapped opportunities for growth.

16 IMF (2011).

17 World Bank (2012_a).

Chapter 2. Boosting Efficiencies in Factor Markets

Heavy interventions in the economy have helped Belarus to avoid the social cost associated with economic restructuring; but these policies have distorted the allocation of resources, negatively impacting productivity growth and eroding competitiveness. The economic growth of the past 15 years has disproportionately relied on underpriced energy inputs from Russia. This high growth period, however, was not used to pursue structural changes. The cursory look at the production function, provided in chapter 1, has raised warning flags about the efficiency in which Belarus utilizes its factors of production.

By fostering efficient resource reallocation Belarus can exploit the significant productivity differences that persist across sectors and firms. The reallocation of labor and capital toward more productive sectors and the creation and growth of productive firms in the private sector are essential for achieving the objective of inclusive and sustainable growth in Belarus. To enable this, Belarus needs to accelerate and deepen the delayed structural reforms, including reforms to liberalize factor markets and reduce state interference in the labor market and the banking system. This chapter explicitly assesses whether capital and labor have shifted from low- to high-productivity sectors and firms in Belarus and explores ways to increase efficiency in resource reallocation.

A. Facilitating a Transition in Labor Markets

High economic growth and full employment were key elements of the Belarus socioeconomic model. This was achieved through gradualist economic reforms, which maintained state ownership and delayed restructuring in the enterprise sector. The state remained the main source of employment. Two-thirds of employees work at state-controlled enterprises. Over half of working Belarusians are employed by 100 percent SOEs; 17.3 percent, in enterprises of mixed ownership where the state owns 50 percent or more of the shares; slightly under a third, in firms where the private sector is a majority shareholder; and 1.5 percent, in foreign companies. The share of employment in the private sector is among the lowest in the region.

Labor market policies have led to excess employment in SOEs and skill mismatches. Employment targets for SOEs and labor market rigidities limited the extent of workforce adjustments, even during periods of economic downturn. Econometric evidence suggests that over-employment in SOEs is at about 10 percent on average. If excess labor is entirely shed, the current unemployment rate would go up by 4.2 percentage points. In addition and despite high levels of formal education, the shortage of (what businesses view as) appropriate skills is a more acute problem in Belarus than in the rest of the region: between 60 and 70 percent of surveyed firms in Belarus consider skills as a major or severe constraint to growth.[18] Hence, government labor policies, while preserving near full employment, have contributed to labor misallocation.

The misallocation of labor has stalled structural shifts in the economy. Strong productivity growth over the last decades has come mainly from productivity growth within sectors rather than from the reallocation of labor to more productive sectors. In the boom years (2000–07), labor was, on average, moving toward less productive sectors, and, as a result, the overall contribution of structural change to productivity was negative.

The accelerated structural reallocation of labor across sectors and the creation of new productive jobs in the private sector are essential for achieving the objective of inclusive and sustainable growth in Belarus. Labor market reforms are crucial for enabling the capacity of the private sector to create more and better jobs and for allowing labor to move toward more productive segments of the economy.

Unemployment in Belarus

Belarus has been able to maintain low registered unemployment for the past 15 years. The average official (registered) unemployment rate for the period 1995–2008 was 1.96 percent of the economically active population, and, since then, it has decreased further, reaching 0.9 percent in 2009, 0.80 percent in 2010 and 0.60 percent in 2011.[19] Even during the 2008/09 global economic crisis and the Belarus 2011 homegrown macroeconomic crisis, the labor market in Belarus remained largely unresponsive to demand shocks: the official unemployment rate persistently stayed below 1 percent (figure 2.1).[20]

The number of vacancies relative to the economically active population has also been expanding over time. In recent years, with the exception of 2009, the number of registered vacancies has exceeded the number of registered unemployed (annex 2.1). There were roughly 1.4 vacancies for each unemployed in 2010 (the ratio of unemployment to vacancies was 0.7 in 2010).

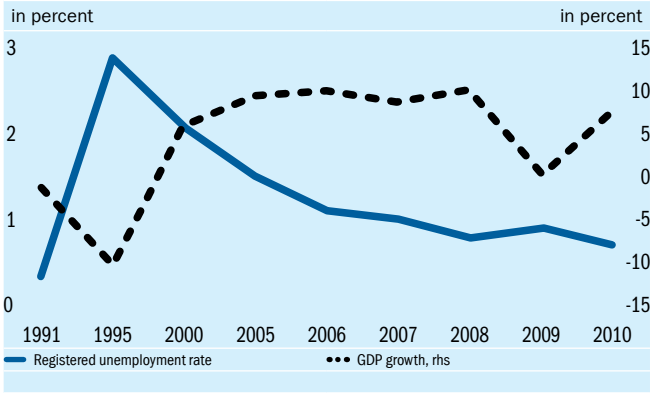
18 Based on Business Environment and Enterprise Performance Survey (BEEPS) 2008/2009.

19 These numbers refer to registered unemployment and, as such, cannot be compared with numbers based on International Labor Organization definitions. Labor Force Survey is being introduced in Belarus's statistical practice in 2012.

20 As in other countries in Europe and beyond, the government of Belarus resorted to administrative measures to minimize job losses. Among these measures were wage subsidies, forced vacations, temporary administrative leaves, reductions in working hours, and encouragement for early retirement. The average number of hours worked per month fell by one hour between 2008 and 2009, with important differences across sectors of the economy. In particular, industry, the sector most affected by the global economic crisis, saw average monthly hours worked fall by around 4 percent, equivalent to 5.7 hours a month.

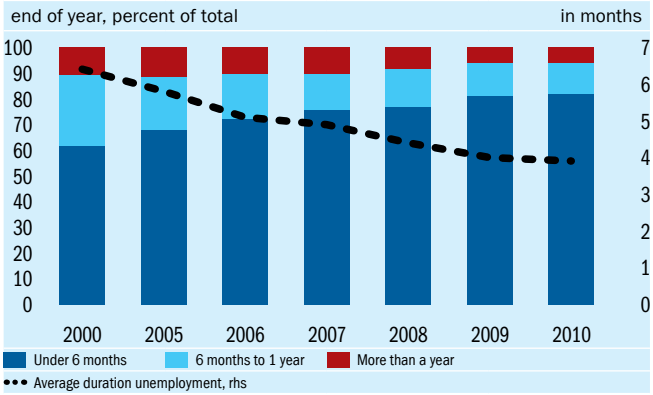
The long-term registered unemployment rate has also remained low. Unemployment spells in Belarus are relatively short and have become shorter over time (figure 2.2). The average duration of unemployment was 3.9 months in 2010, down from 6.4 and 5.8 months in 2000 and 2005, respectively. The proportion of the long-term unemployed (that is, unemployed for more than a year) has almost halved, from 11.7 percent in 2005 to 6.2 percent in 2009. Most unemployment actually lasts less than three months (62 percent of total unemployment episodes).

Figure 2.1. Registered Unemployment Rate



Source: Belstat.

Figure 2.2. Registered Unemployment by Duration of Unemployment



Source: World Bank calculations based on Belstat data.

Although overall registered unemployment remains low, it is concentrated in particular groups. Youth, people approaching retirement age or beyond the age of retirement, people with general secondary educational attainment and women appear to be disproportionately likely to register as unemployed. But, a different profile of unemployed emerges based on the Household Expenditures and Income Surveys (HEIS) data compared to the characteristics of the unemployed based on the registered unemployment data. Notably, in the latter, well educated people are in the largest group of unemployed, comprised of people with specialized secondary educational attainment (almost half the unemployed) rather than people with general secondary educational attainment in the official unemployment registry. Similarly, most unemployed according to household surveys are men (60 percent of the unemployed), which is different from the case in the registered unemployment data, where women represent the bulk of registered unemployed (57 percent).

The evidence suggests that the actual unemployment rate in Belarus is higher than the officially registered rate. Official unemployment is likely to underestimate actual unemployment because national statistics only take into account the registered unemployed. Alternative indicators of unemployment suggest that the unemployment rate may be up to seven times higher than the one in official records (Table 2.1).

- *The 2009 population census data suggest a 6.1 percent unemployment rate in Belarus.*[21] Overall unemployment remained practically unchanged relative to the results of the 1999 population census. However, unemployment in urban areas decreased by 0.9 percentage points (to 5.9 percent), while unemployment in rural area increased by 2 percentage points (to 6.6 percent). There are significant regional differences in unemployment: unemployment reaches over 10 percent in several rayons of Brest and Vitebsk oblast.

- *The share of the economically active population seeking job assistance exceeds the registered unemployment rate by more than sevenfold.* For 2010, the share of the economically active population seeking job assistance was 7 percent, while the registered unemployment was 0.8 percent (table 2.1).

- *About one-fifth of the working-age population is currently economically inactive* (figure 2.4). The size of economic inactivity should be interpreted with caution as it could reflect a notable informal activity and/or labor migration to Russia. Notwithstanding these caveats, the share of economically inactive population is significantly higher than before the breakup of the Soviet Union in 1990 (17.8 percent), but below the peak in 2005 (24.6 percent). While, in all transition countries, the transition was accompanied by increases in inactivity rates, the inactivity rates are significantly below those found in more well functioning labor markets. For example, inactivity rates are between 16 and 17 percent in Denmark and Sweden.

Table 2.1. Alternative Measures of Unemployment, % of the economically active population

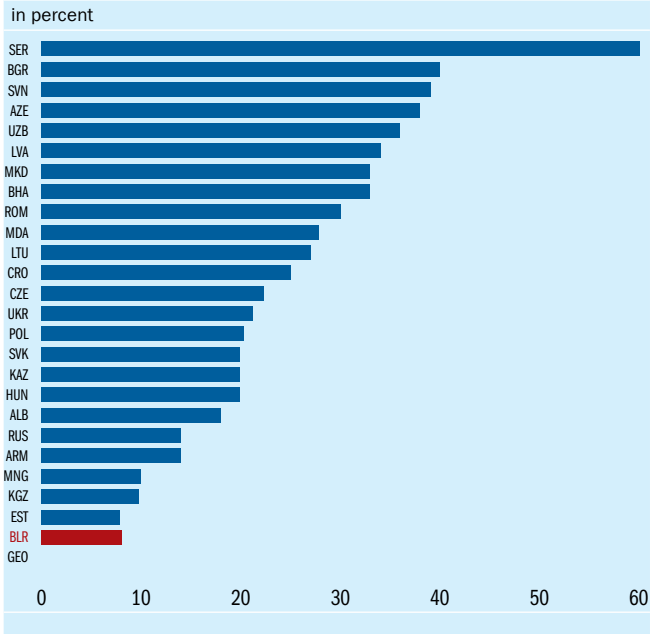
Year	Registered Unemployed	Requesting Job Placement Assistance
1999	2.2	6.3
2000	2.1	6.6
2001	2.2	6.8
2002	2.7	7.4
2003	3.1	7.2
2004	2.5	6.4
2005	1.7	6.6
2006	1.4	6.8
2007	1.1	7.2
2008	0.9	6.9
2009	0.9	7.2
2010	0.8	7.0

Source: Belstat.

In addition, the small size of unemployment benefits reduces the incentives to register as unemployed. Unemployment benefits in Belarus are currently provided through the Social Protection Fund (SPF). All employed workers contribute to this fund as part of their payroll contributions. However, unlike unemployment insurance systems, the benefit is not designed to provide wage replacement. The monthly allowance paid to the unemployed is limited to around 8 percent of the average economy-wide monthly wage or about 20 percent of the survival minimum, which is the poverty line established by the government. This puts Belarus second to last in the region with respect to the size of the benefits for the unemployed (figure 2.3).

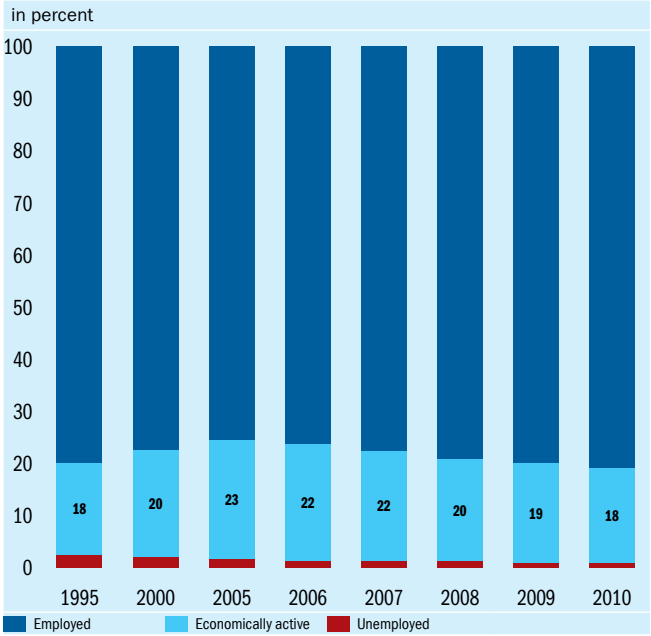
21 In the census results, the unemployed are respondents who did not have work during the last week prior to the census and who (a) had been looking for jobs during the last month prior to the census and had been ready to start working in the previous two weeks; (b) had established their own businesses or had found jobs and would start in the next two weeks; and (c) had found jobs and were waiting for responses from the employers, or had taken part in the competition to fill the vacancies and were awaiting the results.

Figure 2.3. Ratio of Average Unemployment Benefit to Average Wage in the Region, 2007



Source: IZA Labor Market Institutions Database, Institute for the Study of Labor, Bonn.

Figure 2.4. Structure of the Able-Bodied Working-Age Population



Source: Belstat.

Moreover, cumbersome registration procedures also deter the registration for unemployment benefits. In addition to the small size of the unemployment benefits, a number of administrative constraints prevail. Registering as unemployed requires numerous documents that are not necessarily easy to obtain, including a certificate of family composition, a copy of the employment record, a statement of wages from the previous workplace, copies of children's birth certificates, and an open bank account. In addition, the status can be revoked for various reasons, among which are failure to sustain a job, attend vocational training, or accept public works. Later, the registered unemployed are often required to participate in public works, often at meager pay and in areas not related to their expertise. In 2009, over half of the registered unemployed (53.7 percent) participated in public works.

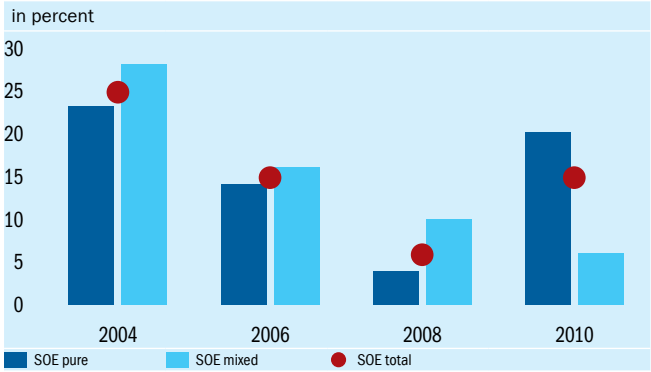
Thus, the true size of unemployment in Belarus may well be in line with the regional average. The relatively high levels of inactivity, the job assistance, and the limited incentives to register, the focus on only the registered unemployed and the gaps in labor statistics (see annex 2.2) imply an underestimation of the number of unemployed. Taking into account these factors, the actual unemployment rate for Belarus would be significantly higher than the official registered unemployment rate.

Misallocation of Labor: Excess Labor in SOEs and Skill Mismatches

State control of key economic areas, combined with government policies aimed at maintaining full employment, has amplified frictions in the labor market. The SOE sector hoards labor regardless of enterprise profitability. In 2010, about 15 percent of the people employed by SOEs were employed by loss-making enterprises (figure 2.5). Beginning in 2004, the share of people employed by loss-

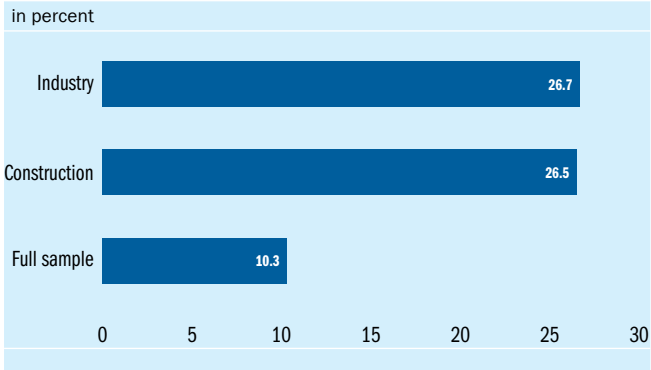
making companies has gradually decreased, reaching only 6 percent in 2008, but, as a result of the 2008 global economic crisis, the trend was reversed. In 2010, one-fifth of the employed in SOEs with 100 percent state ownership were working in non-profitable firms, and another 6 percent were working for mixed-SOEs.

Figure 2.5. Share of Employed Working in Nonprofitable Enterprises in Total Employment in the Machine-Building Sector



Source: World Bank estimates based on the National Bank of the Republic of Belarus dataset.

Figure 2.6. Excess Labor in SOEs Relative to Private Firms

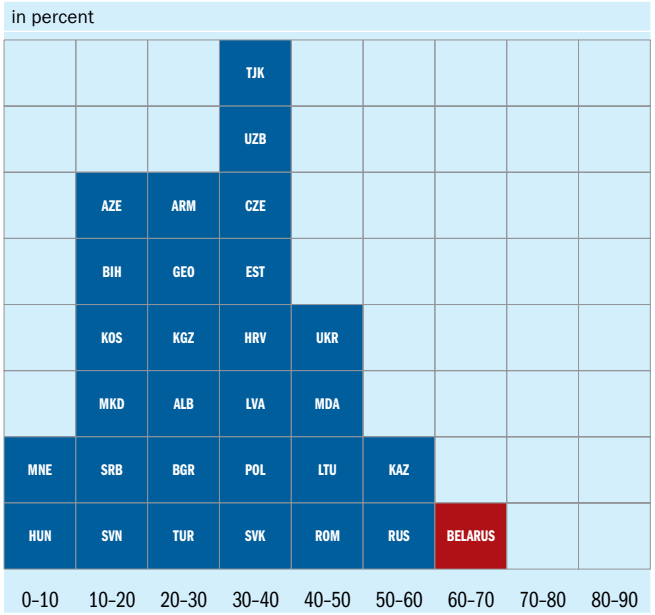


Source: National Bank of the Republic of Belarus survey data.

Note: Matching estimators (three nearest neighbors) for excess employment in total employment in SOEs compared with private firms. Based on level of total factor productivity, total factor productivity growth, profits, exports, value added, revenues, subindustry, and time-fixed effects.

Firm-level empirical evidence confirms the magnitude of over-employment in SOEs. Over-employment in SOEs is estimated to stand at more than 25 percent in the industry and construction sector alone (figure 2.7). Over-employment is estimated by comparing the relative performance of state and non-state firms with similar characteristics. In other words, private enterprises operating in industry can achieve comparable outcomes in terms of productivity, profits, exports, value added as SOEs, but with significantly fewer employees. In a broader sample of sectors that includes also transport and catering, the size of hoarded labor is estimated to be about 10 percent, on average. It is estimated that eliminating the excess employment in SOEs would lead to an increase of about 4.2 percentage points in the overall unemployment rate.[22] Such an increase would be on top of the already registered official unemployment of 0.8 and any other nonregistered unemployment.

Figure 2.7. Distribution of Firms in the Region that Consider Skills as a Major or Severe Constraint to Growth



Source: World Bank (2011_c).

Note: Based on Business Environment and Enterprise Performance Survey 2008/09.

22 The total size of excess labor employed by the SOEs is estimated at about 200,000; 67,000 of which are employed in industry.

Mismatches in the demand and supply of skills are another indication of inefficiencies in the allocation of labor resources in Belarus. Despite the high levels of formal education of the working population in Belarus, there is evidence that workers are not equipped with the appropriate mix of skills, that is, those demanded on the labor market. Specifically:

- Firm surveys indicate that *Belarus is the country in the region in which firms report being the most constrained by the lack of skills* (figure 2.7). More than 60 percent of firms interviewed during the Business Environment and Enterprise Performance Surveys (BEEPS) of 2008/09 consider skills a major or severe constraint to firm performance, becoming an obstacle to firm growth in Belarus. In another survey conducted among 559 Belarusian industrial firms in November 2011, every second firm indicated that skill shortages in qualified workers, engineers, and marketing impede firm competitiveness.[23]

- *Skill mismatches are also evident in the agriculture sector,* where one-quarter of workers have attained higher or secondary specialized education and could presumably move to better jobs in more productive sectors, but have not done so. The high share of workers with high education employed in the agriculture sector could be indicative of a low quality in education: a mismatch between those skills and professions available among workers and those demanded by firms. It could also signal a lack of appropriate economic opportunities for a well-educated Belarusian population.

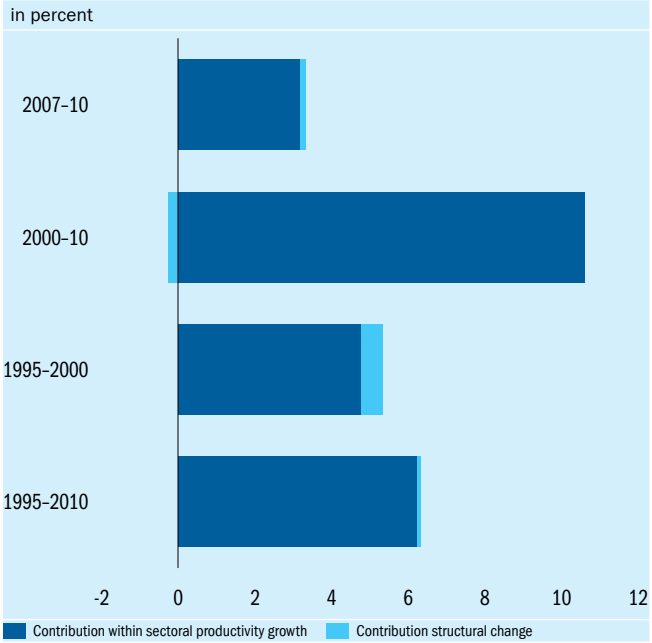
- *The high rates of migration,* particularly to Russia, also suggest that workers look elsewhere for higher returns to their skills.

Misallocation of Labor and Structural Shifts in the Economy

Strong productivity growth in Belarus has come from within sectors rather than from the reallocation of labor to more productive segments of the economy. Figure 2.9 shows the decomposition of productivity growth over the period 1995–2010 in Belarus. It is decomposed into two factors: (1) the contribution to overall productivity growth coming from within-sector productivity growth and (2) the contribution arising from structural change, that is, the reallocation of labor across sectors. The overall period 1995–2010 saw high productivity growth in Belarus, especially between 2000 and 2005. While productivity grew by over 6 percent annually beginning in 1995, close to 99 percent of this growth stemmed from within-sector productivity growth (figure 2.8). As a result, the overall contribution of structural change was negligible. The period 1995 to 2000 saw the largest contribution of structural transformation to productivity growth (10 percent) coming from the reallocation of labor from agriculture to more productive sectors (figure 2.9). This finding is in line with the share shift analysis presented in chapter 1.

23 A mail-in competitiveness survey among Belarusian industrial enterprises was conducted by the Center for Systemic Analysis and Strategic Studies of the National Academy of Science in November 2011. The sample included 1,500 industrial enterprises, 559 of which responded to the survey (Gotovsky et alia (2012).

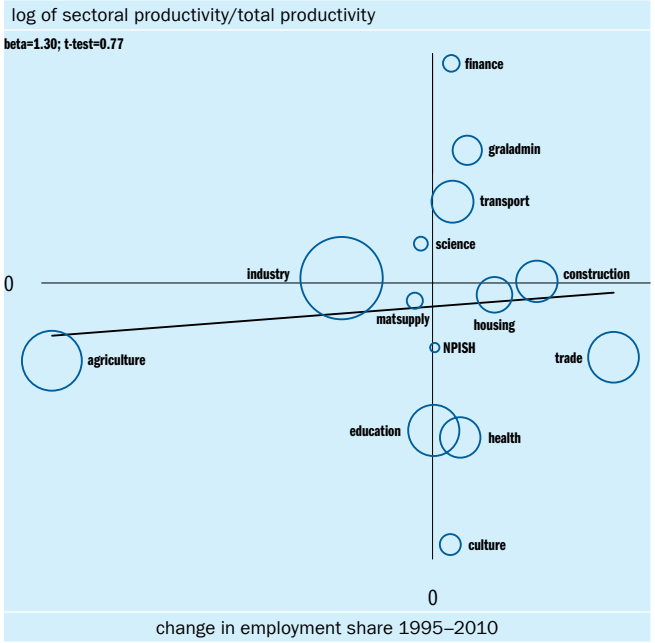
Figure 2.8. Labor Productivity Growth Decomposition 1995–2010, Compounded Annual Growth Rates



Source: World Bank calculations based on Belstat data: methodology based on Rodrik (2011).

Note: Labor productivity is measured as value added per worker. It depicts the change in the share of employment in a sector in total employment during the last 15 years (if to the right of zero, then the employment share of the sector has increased) against the (natural logarithm of) relative labor productivity of each sector compared with the average for the economy as a whole.

Figure 2.9. Correlation between Sectoral Productivity and Change in Employment Share, 1995–2010



Source: World Bank based on data of Belstat.

Note: Labor productivity is measured as the value added per worker.

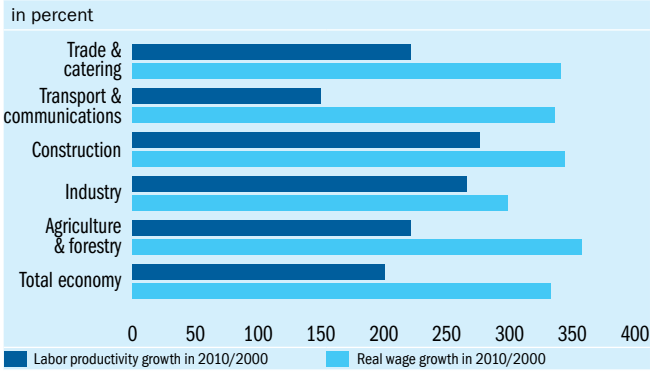
In the boom years (2000–07), labor was, on average, moving toward less productive sectors, and, as a result, the overall contribution of structural change was negative. Although labor (and value added) continued to move out of agriculture and into industry and services, albeit at a much slower pace than in the 1990s, it has not always gone to the most productive sectors of the economy. Some of this surplus labor has gone into high-productivity sectors such as finance, general administration, and transport (figure 2.9). However, a large share of it went into low-productivity sectors: mostly in traditional public sectors such as culture, education, health, and housing. Given falling employment rates in Belarus over this period, part of the released labor also went into inactivity, unemployment, or the informal economy.

Overall, Belarus has not gained the full potential arising from across-sector productivity growth. Within-sector productivity growth will continue to contribute to overall productivity, especially through enterprise restructuring (see chapter 3), labor movement toward private sector jobs, and institutional strengthening (see chapter 4). The country now needs to tap the potential productivity gains associated with the cross-sectoral reallocation of labor from less-productive to more-productive sectors. In the medium term, there is large growth potential in accelerating shifts of labor toward segments of the economy with higher-than-average productivity such as the private sector, but also finance and business services.

Real Wage Growth and Implications for Competitiveness

Not only has labor not moved to the most productive segments of the economy in Belarus, but also average real wages have consistently outgrown productivity. Real wages in local currency have increased by a factor of 3.3 since 2000, while labor productivity has only doubled (figure 2.10). Since 2000, real wage growth has outpaced labor productivity growth in all economic sectors. In general, the correlation between wage and labor productivity growth across sectors is weak, at 0.59 (1 being perfect correlation), meaning that those sectors that experienced higher productivity growth were not necessarily the same sectors that experienced more rapid wage growth (figure 2.10). The largest productivity wage gap has been recorded in agriculture and transport.

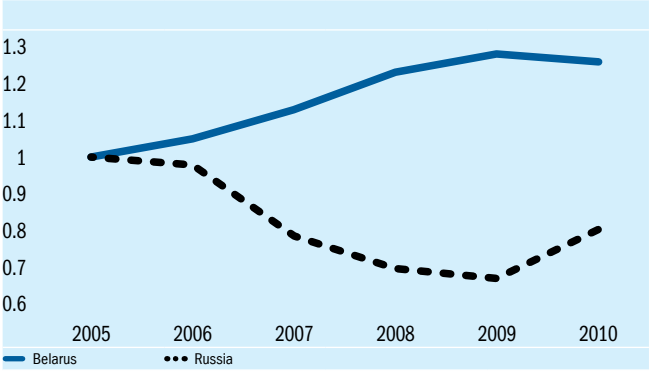
Figure 2.10. Real Wage and Labor Productivity Growth (2000=100)



Source: World Bank calculations based on Belstat data.

Note: Labor productivity is measured as value added (in constant 2005 prices) per employed worker.

Figure 2.11. Unit Labor Cost Dynamics: Russian Manufacturing and Belarusian Industry (2005=1)



Source: World Bank calculations based on Belstat and Rosstat data.

Note: Based on the producer price index as a wage deflator.

Real wage growth in excess of productivity growth has implications for competitiveness. For instance, in manufacturing, unit labor costs (ULC) have tended to diverge in the last five years between Belarus and its key trade partner for manufacturing goods, Russia (figure 2.11.).[24] This resulted in the erosion of competitiveness of Belarusian industrial goods at the Russian market (see, Chapter 3).

Policy Recommendations

Belarus can exploit the significant productivity differences that persist across sectors and firms and foster the reallocation of labor from less productive to more productive sectors and firms. This will be increasingly important for the country because labor productivity gaps across sectors are likely to widen as the economy liberalizes and the private sector (including foreign firms) takes on a larger role. Since the reallocation of labor across sectors has contributed to declines in productivity in Belarus, understanding and improving the ability of workers to move from less productive to more productive sectors and firms is critical.

24 ULC are measured as average labor costs (that is, average wages) per unit of output.

The reallocation of labor toward more productive sectors and the creation of new productive jobs in the private sector are essential for achieving the objective of inclusive and sustainable growth in Belarus. The transition path will require policy interventions to mitigate the negative social impact of significantly higher unemployment and inactivity rate. Currently, the lack of appropriate unemployment insurance and poorly targeted social assistance undermine the effectiveness of the existing policy instruments.

The key policy actions to address the misallocation of resources in Belarus are summarized as follows:

- *Liberalize labor markets by removing administrative controls on wages and employment levels.* Wages should be fully liberalized for all economic agents, including SOEs in which the government has a controlling stake and in enterprises that receive state support. To achieve this, Belarus may consider bringing secondary regulation in line with the presidential decree on wage liberalization (article 1 of Decree 181) to stop the enforcement of wage grids in all firms. In addition, SOEs should have full discretion on decisions related to the levels of employment. To facilitate this, any guidelines on employment-level targets among enterprises should be eliminated.

- *Strengthen unemployment benefits and safety nets to mitigate risks associated with more dynamic labor markets.* Simplify the requirements for unemployment registration and eliminate the obligation to participate in paid public works to receive unemployment benefits. The unemployment benefit should be extended to workers without employment for no longer than the first six months. In the short term, the cap for the unemployment benefit should be redefined to provide a minimum level of income for the unemployed. In the medium term, establish a proper unemployment insurance mechanism. In terms of social assistance, efforts need to be made to improve targeting and reduce leakage. Belarus spends around 2 percent of GDP on social assistance benefits. Coverage of the poor is fairly high (close to 60 percent), but targeting accuracy is weak because most benefits are categorical or universal. This is due to the poor targeting of privileges, where leakages to non-poor households tend to be most pronounced. Since 2008, there have been significant efforts to reform these benefits (privileges were revised and partially eliminated, a new targeted last resort social assistance program was introduced, and a poorly performing housing subsidy abolished), but more action needed. An effective unemployment insurance scheme is needed to facilitate labor mobility and to provide adequate protection from the risks associated with dynamic labor markets.

- *Reform active labor market policies to support skill development and job creation in the private sector.* Belarus may consider using the funding of active labor market policies (for example, for training in government organizations) to fund on-the-job training in private enterprises for newly hired workers and alternative schemes based on international experience. In addition, incentives for firms to hire new workers through temporary wage and hiring assistance should be in place. The design of such policy measures should be aimed at avoiding abuse and minimizing fiscal cost.

B. Reducing Distortions in the Capital Allocation

The transition from export to investment-driven growth in Belarus was supported by a rapid expansion in credit. As discussed in chapter 1 a high pace in investment growth has become a major source of economic growth since 2005. This high investment growth was financed by a rapid expansion in credit going to the economy. Fueled by loose monetary policies, bank assets grew at an average rate of 21 percent annually between 2005 and 2010. By boosting domestic demand, the rapid expansion in credit has not only exacerbated external imbalances, but also undermined investment efficiency. Stagnating returns on capital and growing rates of nonperforming loans are worrying signs of deteriorating asset quality and associated banking system risks, especially in the context of hardening budget constraints.

The pattern of capital allocation is heavily distorted due to the widespread state interference in the financial system. Belarus's financial sector channels a predominant share of financing to less-productive parts of the economy, including SOEs, which enjoy privileged access to and lower costs of financing. This lending pattern is the result of heavy state influence in the financial sector. The banking system, the primary channel of financial intermediation, is highly concentrated and controlled by large state-owned banks. In addition, the government exerts direct influence on credit allocation through GDL programs, which direct funds toward the government's priority sectors. This practice has led to softening budget constraints and delayed restructuring in the enterprise sector.

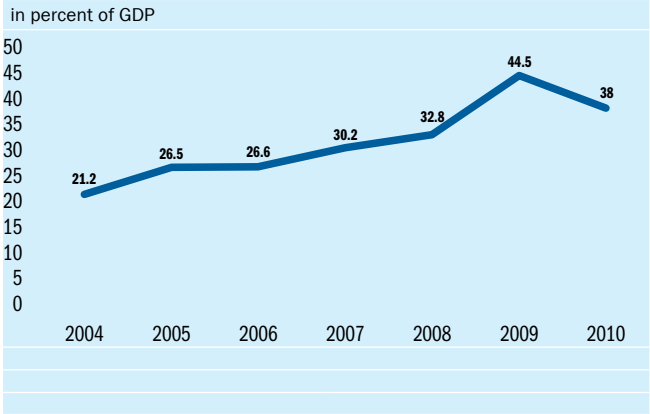
Comprehensive financial system reforms are needed to improve efficiency in the allocation of capital and to support the structural transformation of the economy. These reforms would comprise a set of interrelated measures to reduce state interference in the financial system, enabling capital allocation to respond to market signals. This would require a significant reduction in GDL programs and the lifting of restrictions on credit allocation. In the medium to longer term, divestiture from direct majority ownership could be pursued to foster competition and enhance corporate governance in the banking system. Those banks that would remain under state ownership should be required to meet international standards of corporate governance, including clear lines of accountability, greater focus on performance throughout management, and independent boards. This would not only contain the sovereign risk associated with the banking system, but also improve risk management practices and the operational efficiency of the banking system, thereby lowering the cost of financing for borrowers. Finally, the development and deepening of capital markets can play an important role in opening up low-cost and long-term financing options, especially for large corporate entities.

The Allocation of Capital

Over the second half of the last decade, Belarus experienced high and growing investment rates. Investment grew on the back of strong credit growth as the banking system expanded rapidly. As analyzed in chapter 1, loose monetary policies led to a rapid expansion of credit during the second half of the last decade (figure 2.12). Bank assets grew at an average rate of 21 percent annually between

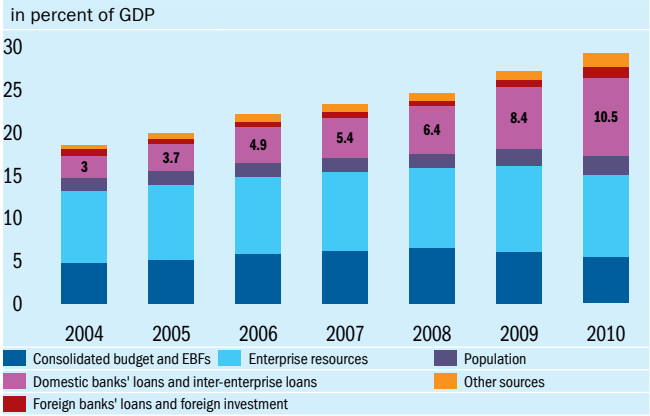
2005 and 2010, reaching 78 percent of GDP by the end of 2010, double its level five years previously. As a result, commercial bank loans became a major source of investment (together with budgetary capital expenditures and enterprise resources) (figure 2.13).

Figure 2.12. Domestic Credit to the Economy



Source: World Bank calculations based on National Bank of the Republic of Belarus data.

Figure 2.13. Sources of Investment Financing



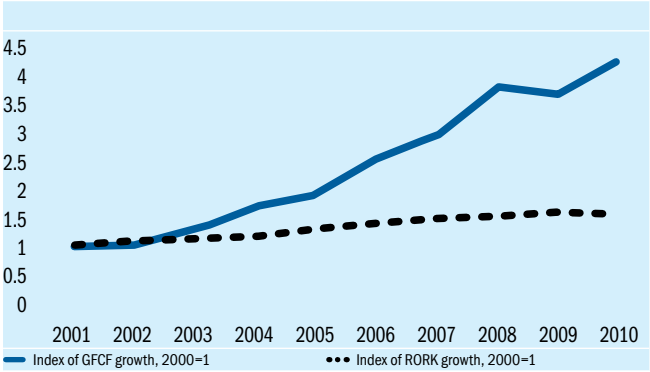
Source: World Bank calculations based on Belstat data.

Despite high and rising investment rates, returns on capital have reached a plateau. Gross fixed capital formation (GFCF) grew at an average rate of 18.6 percent (in real terms) annually, outpacing the already high GDP growth rates during that period (7.7 percent). In 2010, GFCF accounted for almost 40 percent of GDP, becoming the major contributor to economic growth (figures 2.14 and 1.11). While investment expanded, economy-wide returns on capital have stagnated and even declined in recent years (figure 2.15). This trend indicates that investment growth was associated with inefficiencies in the allocation of capital across the economy.

Figure 2.14. Gross Fixed Capital Formation

Sources: World Bank calculations based on Belstat data.

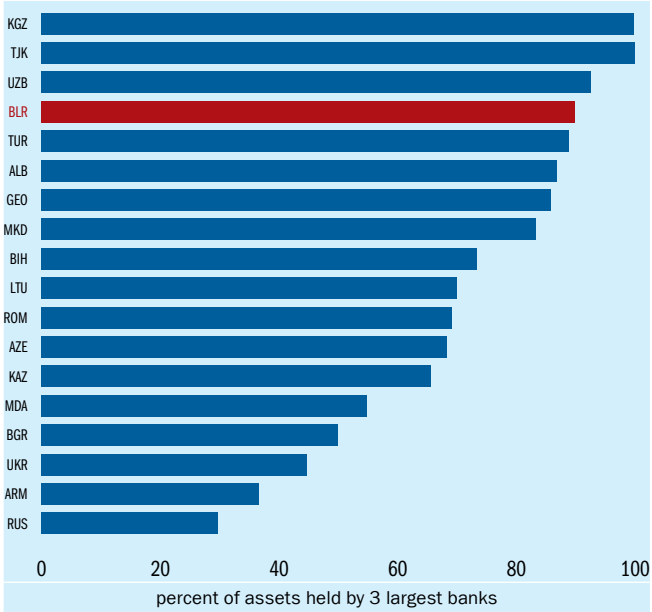
Figure 2.15. Gross Fixed Capital Formation and Rates of Return on Capital, 2001–10



Source: World Bank calculations based on Belstat data.
Note: Based on the producer price index as a wage deflator.

In Belarus, credit is channeled through a highly concentrated state-owned banking sector (figure 2.16). Commercial banks control 96 percent of the total assets in the financial sector and perform virtually all core financial intermediation functions, including those related to the accumulation of savings, the extension of loans, the execution of operations in domestic and foreign financial markets, and so on.

Figure 2.16. Bank Asset Concentration



Source: World Bank FinStats database 2011.

Corporate bond and equity markets, which have become a major source of investment financing in many other middle-income economies, as well as nonbank financial institutions, are at a nascent stage of development. The banking sector is dominated by state-owned banks. While there are 31 licensed commercial banks, the two largest state-owned banks—Belarusbank and Belagroprombank—have a combined market share of about 70 percent of total assets.

The market share of privately owned and foreign banks remains limited. Private investment in the banking system has increased significantly since the government removed foreign ownership restrictions. Today, foreign investors participate in the authorized capital of 26 banks, and foreign capital accounts for 25.1 percent of the authorized capital in the banking system. However, the market share of privately owned and foreign banks remains limited.[25] The largest of these, BPS, which was acquired by Russian Sberbank in 2009, has a market share of only around 6 percent of total banking system assets. Foreign and privately owned banks have thus not had sufficient market power to challenge the dominance of state-owned banks or produce a significant change in their level of efficiency.

The dominance of state ownership has undermined market signals and discipline. The largest state owned Banks—Belarusbank and Belagropombank—are under pressure to respond to government objectives rather than improving their efficiency in financial intermediation. This is particularly so because the government has injected on average 1 percent of GDP annually to recapitalize banks during 2005–10 and 5.3 percent of GDP in 2011, relieving pressures to operate on a commercial, profit-oriented basis.

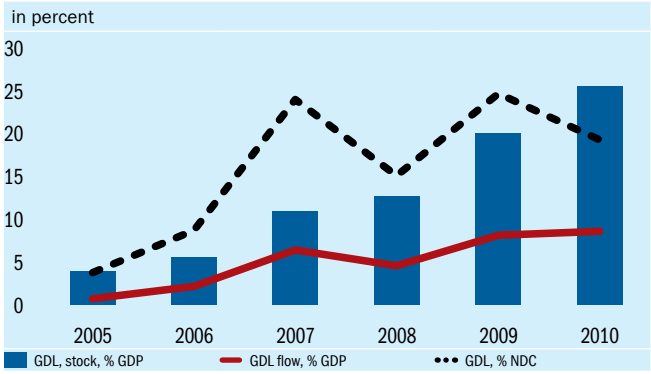
Heavy state intervention in the banking system has distorted the allocation of capital, lowering investment efficiency and exposing the financial system to growing risk. State intervention has also helped soften budget constraints and delay restructuring in the economy. The expansion of credit was driven by growing dominance of the GDL programs, under which large state-owned banks allocate credit to priority sectors, projects, and individual companies at subsidized interest rates, often with explicit government guarantees.

25 In 23 banks, the share of foreign investors in authorized capital exceeded 50 percent (nine of which were wholly foreign owned) (National Bank of Republic of Belarus Annual Report 2010).

Government Directed Lending

In 2010, GDL accounted for close to 20 percent of the credit to the economy. In six years, GDL flow in relation to net domestic credit (NDC) has increased fivefold: from 4 percent in 2005 to 20 percent in 2010 (figure 2.17). These GDL programs, which are typically stipulated by presidential decrees or by government decisions, have become the dominant form of lending extended through the banking system. In 2009–10 alone, GDL grew by 60 percent on average per year. In 2010, off-budget GDL financing (gross flow) accounted for 8.5 percent of GDP, while the stock of GDL ballooned from 4 percent of GDP in 2005 to 25.5 percent of GDP in 2010. About 70 percent of all directed credit supports the commercial and investment activities of the enterprise sector, mostly in the agricultural sector, while the rest provides financing for new housing construction and thus largely benefits households.

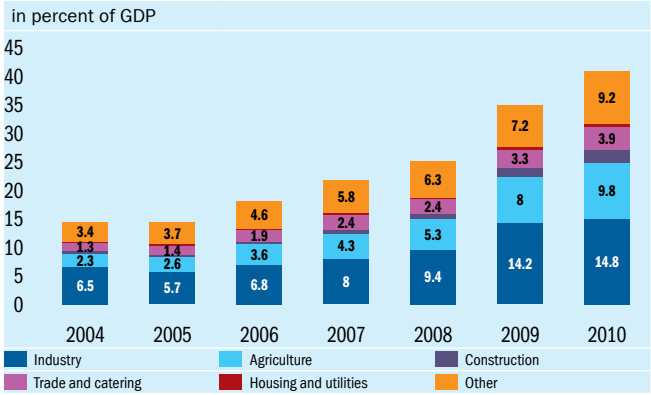
Figure 2.17. Government Directed Lending



Source: National Bank of the Republic of Belarus.

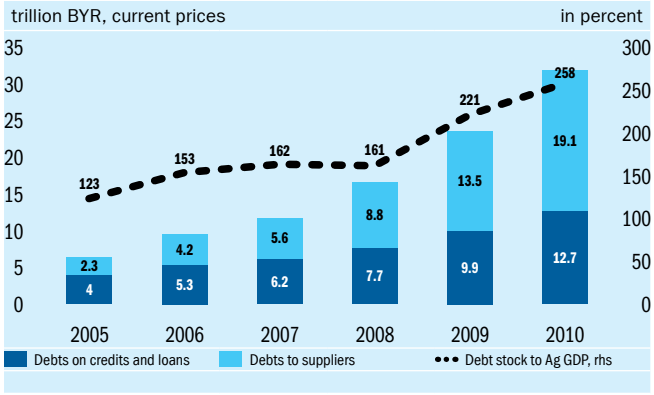
GDL programs channel credit to government priority sectors, but distort the allocation of capital in the economy. GDL programs support agriculture and housing construction, but do not necessarily fund the most productive investments. Industry and agriculture are the sectors that absorb the largest share of bank lending (figure 2.18). Credit has expanded across all sectors of the economy; however, the agriculture and construction sectors—the main recipient sectors of GDL—have seen disproportionate increases (see box 2.1). The state intervention in the allocation of credit in the financial system distorts the effective functioning of market signals and risk management that would channel capital effectively to the most productive investments in the economy, maximizing risk adjusted returns.

Figure 2.18. Credit to Sectors of the Economy



Source: National Bank of the Republic of Belarus.

Figure 2.19. Debt of Agricultural Enterprises



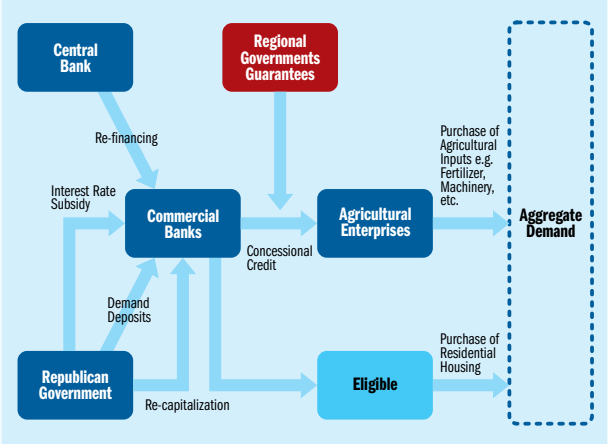
Source: Belstat.

Box 2.1. State Directed Lending Programs Distort the Allocation of Credit

There is a large number of state-directed lending programs aimed at different sectors and extended at varying terms of credit. These programs are typically stipulated by presidential Decree or Council of Minister Resolutions. While these regulations do not typically contain legally binding provisions on the allocation of bank credit, especially state-owned banks comply with the recommended lending targets. If credit is extended at concessional terms, banks receive a subsidy from the republican budget compensating them for the difference in the recommended lending rate and the refinancing rate. The central bank (the National Bank of the Republic of Belarus) is directed to facilitate the mobilization of funds to refinance these credit programs. In some cases, regional governments are required to provide guarantees to commercial banks. Lending programs in agriculture and housing construction—the two sectors that are the main recipients of GDL—are presented in figure B2.3.1 and described in more detail below.

Credit for residential housing: The financing of housing construction is heavily influenced by GDL programs. Resolution 1749/2009 "On Measures for the Achievement 2010 Residential Housing Targets" sets specific lending targets for the two largest state-owned banks, Belarusbank and Belagroprombank, for credits to finance housing purchases for eligible households broken down by oblast. Lending is to be financed from the banks' own resources, but the NBRB is encouraged to provide the refinancing as necessary. The republican budget provides interest rate subsidies to compensate banks for the difference in lending rates and the refinancing rate, plus a margin of 300 basis points (bp).

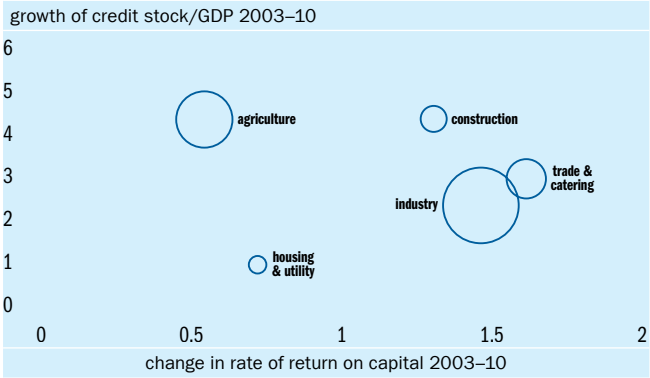
Figure B2.3.1. Schematic Representation of the GDL Program in Housing and Agriculture



Credit to agricultural enterprises: Agriculture has become the second largest recipient of GDL after steep increases in credit growth experienced over the past five years. There are several programs directing credit to agricultural enterprises, including for the purchase of inputs, leasing, and the purchase of agricultural machinery and investment in farm infrastructure. Loans under these programs are extended at regulated interest rates. For example, Resolution 1699/2009 "On Measures related to Agricultural Enterprises' 2010 Production and Harvest Campaign" requires commercial banks to provide credit to farms in domestic currency at the refinancing rate, plus a 300 bp, while the interest rate for foreign currency lending is capped at a maximum rate of 12 percent per year. While banks are required to extend credit from their own resources, the NBRB is encouraged to provide refinancing, while the republican government supports the lending activities through liquidity support in the form of demand deposits placed with commercial banks, through interest rate subsidies, and the recurrent recapitalization of state-owned commercial banks. The Resolution recommends that the regional authorities (oblast executive committees) issue guarantees on these credits as needed and in accordance with the regulation on the issuance of guarantees. The Resolution specifies that credit is to be used for the purchase of agricultural machinery, seeds, mineral fertilizers, and other required production inputs, thereby boosting demand, including, for example, for machinery produced by SOEs in Belarus.

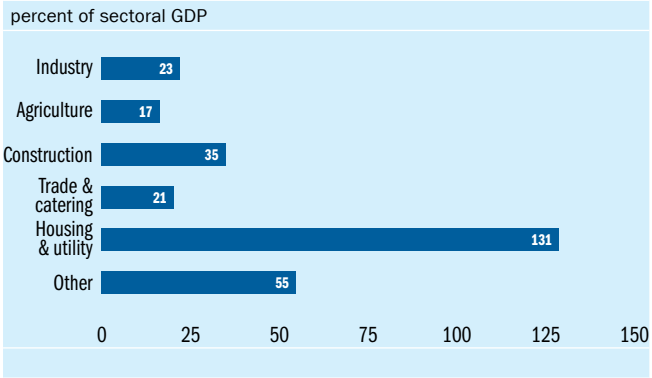
Lending to agriculture has increased steeply in recent years, despite the sharply declining rates of return on capital in the sector. While the debt stock of the agricultural sector increased more than fourfold in real terms between 2004 and 2010 (figure 2.19), the rate of return on capital in the sector halved over the same period (figure 2.20). These soft loans have cushioned the impact of depressed farm revenues and also serve as a stimulus for other sectors (for example, in the case of programs directed to the purchase or leasing of agricultural machinery). These are, however, likely to be supported by large subsidies in the future. Most strikingly, the liabilities of farms to banks increased to more than 130 percent of value added in the sector, a level of indebtedness that is unlikely to be sustainable (figure 2.19).[26]

Figure 2.20. Efficiency of Credit Allocation



Sources: National Bank of the Republic of Belarus, Belstat, World Bank estimates.

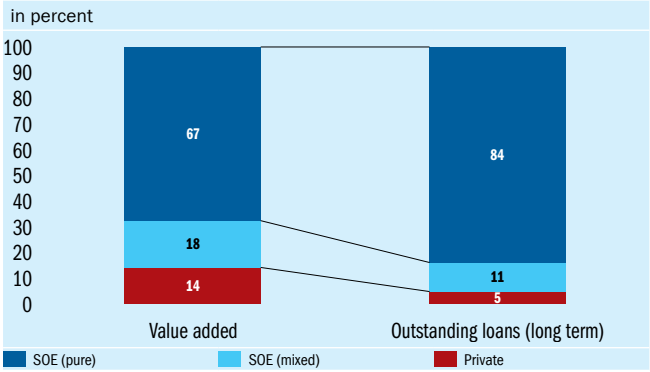
Figure 2.21. Credit by sector, 2010



Sources: National Bank of the Republic of Belarus, Belstat, World Bank estimates.

The banking system channels credit primarily to SOEs, crowding out the financial resources available to private firms. Given the country's low FDI and underdeveloped capital markets, firms are largely dependent on bank loans for investment. However, the banking system channels a disproportionately large part of savings to SOEs. In the machine-building sector, for example, SOEs absorb 85 percent

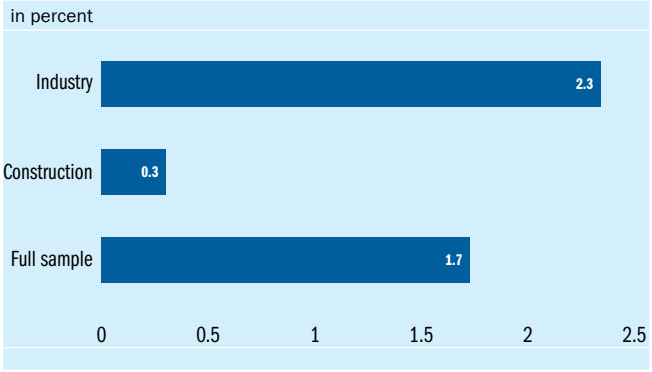
Figure 2.22. SOEs Absorption of Bank Lending, 2005–10



Source: National Bank of the Republic of Belarus firm survey.

Note: Based on firm-level data of enterprises in the machine-building sector.

Figure 2.23. Average Differences in Long Term Borrowing to Total assets in SOEs compared to Private Firms



Source: National Bank of the Republic of Belarus firm survey.

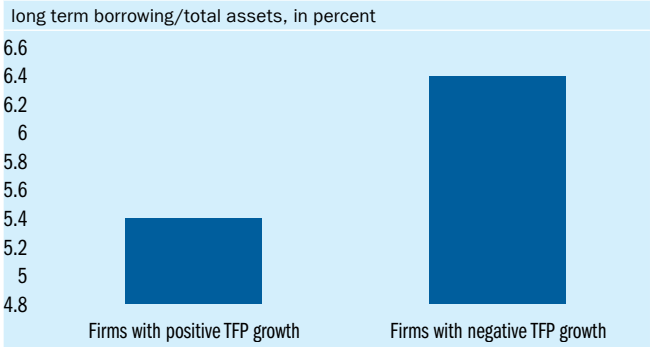
Note: Right panel figure represents the difference from matching estimators for long-term borrowing/total assets in SOE compared with private firms.

26 See also World Bank (2011_b).

of the long-term lending from the banking system, while accounting for only 67 percent of the output (figure 2.22). SOEs also tend to have higher ratios of long-term debt to assets than comparable private enterprises (figure 2.23). Even under market-based lending, commercial banks may be biased toward lending to SOEs, which they perceive to have implicit guarantees by the government. Consequently, some of the most productive parts of the economy and potential future growth engines—private sector enterprises—tend to have been deprived of capital (see also chapter 3).

The skewed pattern in favor of lending to SOEs is an inefficient way to use capital. While some SOEs are undoubtedly highly profitable, the productivity levels and growth of SOEs as a group is lagging. The TFP at SOEs is only about 80 percent of that at private firms, and the productivity growth at private firms was increasing at a much more rapid pace (about five times more rapidly than at SOEs) between 2005 and 2010 (see chapter 3). In addition, the ratios of long-term debt to assets tend to be higher in enterprises with negative productivity growth (figure 2.24). This poor allocation of capital not only lowers productivity and investment efficiency, but also poses an impediment to the structural transformation of the economy, which would depend on a reallocation of resources to sectors and enterprises with high productivity growth.

Figure 2.24. Credit to Firms



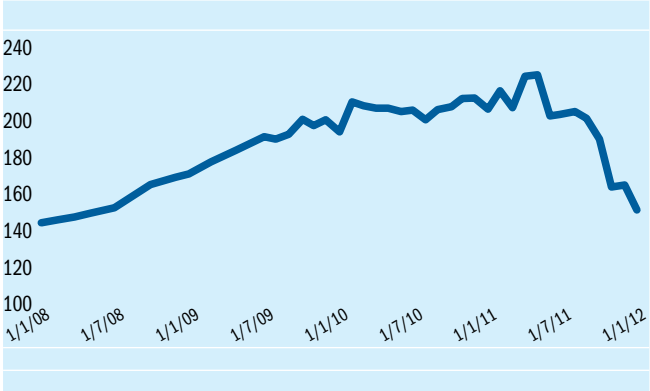
Source: National Bank of the Republic of Belarus firm survey.

Financial Sector Risks

Central bank funds and liquidity from the increase in government deposits support the credit expansion in the economy in Belarus. The two state banks that witnessed the largest nominal loan growth of 37 percent, Belarusbank and Belagroprombank, received substantial funding from the NBRB both directly and through the purchase of bank-issued securities. The central bank thus continued to be one of the key providers of finance to the economy. The NBRB claims on the banking system rose sharply beginning in 2008 and accounted for 39 percent of net domestic credit and for 53 percent of the total banking system assets at the end of 2010 (figure 2.26). Such central bank-facilitated credit growth not only fuels inflationary pressures and exchange rate devaluation risks, but also exposes the central bank balance sheet to default risks, thereby effectively shifting the banking sector risks to the public sector. At the same time, the loan-to-deposit ratio increased by more than 60 percent, to over 225 percent, between January 2008 and May 2010 as the growth in deposits slowed, while bank assets kept expanding rapidly (figure 2.25). The ratio had declined to 160 percent by the end of 2011 because of credit tightening in the last quarter of 2011.

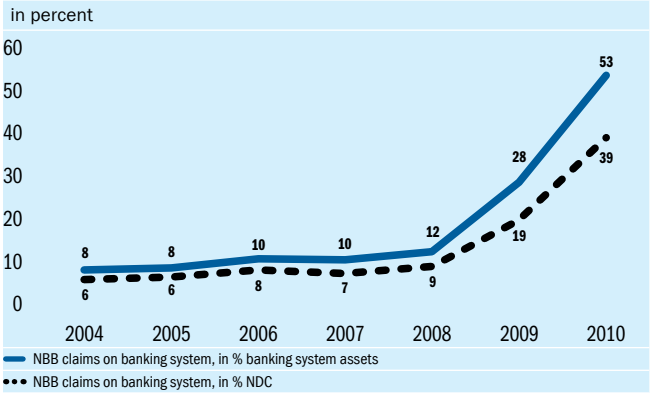
While still at a low level, nonperforming loans continue to increase, exposing the underlying deterioration in asset quality. System-wide NPLs rose in the context of the ongoing financial crisis and

Figure 2.25. Loan-to-Deposit Ratio



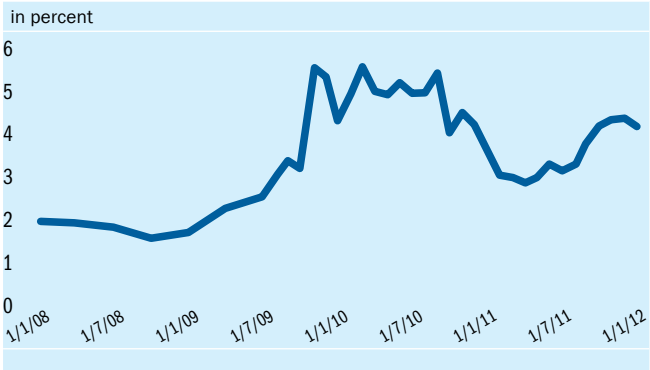
Source: National Bank of the Republic of Belarus.

Figure 2.26. NBRB Claims on the Banking System



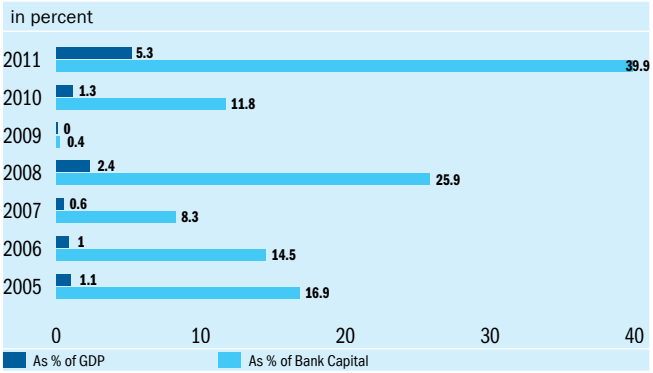
Source: National Bank of the Republic of Belarus.

Figure 2.27. Ratio of Nonperforming Loans to Outstanding Loans



Source: National Bank of the Republic of Belarus.

Figure 2.28. Bank Recapitalization Expenditures



Sources: World Bank estimates based on data of National Bank of the Republic of Belarus, and Ministry of Finance.

more than doubled, from 1.6 percent in October 2008 to 4.3 percent in October 2011 (figure 2.27). NPLs are still low, but reported levels do not take into account the full scope of asset quality and the risk in the financial positions of borrowers. The impact of the exchange rate devaluation and the likely adjustment in the economy has not yet been fully passed through. The treatment of distressed loans by financially weak or unviable SOEs receiving state subsidies is also of concern. Enterprise arrears (mostly SOEs) to commercial banks have increased rapidly since 2006 and accounted for over 15 percent of GDP at the end of 2010, suggesting liquidity constraints in the enterprise sector. There is a substantial risk of deterioration in the quality of assets. NPLs may go up rapidly, especially in the construction, agriculture, and machine-building (for agriculture) sectors, as well as among the loans to importers, as government support under the GDL programs shrinks.

The capitalization of the financial sector—a key ingredient in financial stability—depends on the government's support of its largest banks. Given the role of these state-owned institutions in the overall management of the economy by the state, it is expected that the state will continue to support the largest banks and insurers with capital injections as needed. Between 2005 and 2011, the state budget injected on average 1.0 percent of GDP annually to recapitalize major state-owned banks,

effectively compensating them for the losses incurred in directed lending programs (figure 2.28). In 2011, bank recapitalization expenditures accounted for about BYR 14.6 trillion, or 5.3 percent of GDP.[27] These regular capital injections indicate significant write downs of bank equity, equaling, on average, 13 percent of banking capital during 2005–10 and up to 40 percent in 2011.

C. Policy Recommendations

The analysis of the financial market structure in Belarus reveals several key structural and institutional impediments to the efficient allocation of capital in Belarus. The following are among the most severe ones:

- *Underdevelopment of the financial system.* Despite the recent expansion, the depth of Belarus's financial system remains low relative to the level of income. The absence of a developed capital market means that enterprises rely on their own resources (retained profits) and bank lending to finance investment.

- *Bank-based financial intermediation with high market concentration and the dominance of state-owned banks.* The dominance of state ownership undermines market-based lending because state-owned banks may be under immediate pressure to meet government objectives rather than perceiving market signals. Moreover, foreign and privately owned banks have thus not had sufficient market power to challenge the dominance of state-owned banks or produce significant change in their level of efficiency.

- *Pervasive state intervention in credit allocation and the crowding out effect of the GDL programs at the expense of market-based lending.* Bank credit is flowing to less-productive sectors rather than to more productive ones, while leaving firms that are outside the directed credit programs with little alternative to financing productive investments.

- *Significant financial sector risks.* While still at low levels, a rising share of the nonperforming loans signals underlying deterioration in the quality of assets. The worsening in asset quality is likely to intensify with hardening budget constraints. The persistent need for bank recapitalization is a worrying sign of these risks being shifted to the government budget.

Comprehensive financial system reforms aimed at improving efficiency in the allocation of capital is needed to unleash the structural transformation of the economy. These reforms would comprise a set of interrelated measures to reduce state interference in the financial system, enabling capital allocation to respond to market signals.

27 Belarusbank (BYR 12.9 trillion), Belagroprombank (BYR 1.6 trillion) according to the Presidential Decree #608 from December 29, 2011. Belinvestbank (BYR 85 billion) according to the Council of Ministers Resolution #1800 from December 30, 2011.

- *Curtail GDL programs.* In the short term, significantly reduce the share of GDL programs and move existing loans granted under GDL to the new Development Bank. Any new GDL should be done through this bank and registered above the line in fiscal accounts. Any other directed or recommended lending though the state-owned commercial banks should be discontinued. Commercial banks should have full autonomy to decide on their lending portfolio and credit terms. Lifting restrictions on credit allocation would immediately release capital to flow to other more productive parts of the economy, but these reforms entail difficult decisions. If the borrower of these lending programs will have to compete to attract financing, the liquidity constraints of some borrowers may tighten and interest rates would likely increase with an unavoidable impact on the real sector.

- *Reduce government ownership, foster competition, and enhance corporate governance in the banking system.* In addition to curtailing direct state interventions in credit allocation, reforms to stimulate competition among banks will be needed to increase market-based lending. Competition is largely relaxed because of the dominance of state-owned banks. State-owned banks are not subject to market signals and discipline, but, instead, they are under more immediate pressure to respond to government objectives rather than improving productivity. The government has to separate policy-making, regulatory, and direct ownership functions, attach specific objectives to them, and only then it could move toward arms-length performance of the state-owned banks, provided that the latter are tasked with pursuing purely profit objectives and not be burdened with any social ones. Divestiture from direct majority ownership could therefore be pursued over the medium term. Easing entry for the foreign ownership of banks could be an effective means to bring skilled private operators to the sector. Those banks that would remain under state ownership should be required to meet international standards of corporate governance, including clear lines of accountability, a greater focus on performance throughout management, and an independent board. This would not only contain sovereign risk associated with the banking system, but also improve risk management practices and the operational efficiency of the banking system, thereby lowering the cost of financing for borrowers.

- *Actively expand the channels for nonbank funding in the economy.* The development and deepening of capital markets can play an important role in opening up low-cost and long-term financing options, especially for large corporate entities. This would entail strengthening regulatory frameworks and market infrastructure for cooperate bond and stock markets. In addition, the role of non-depository financial institutions (such as microfinance and housing finance) could be expanded.

These reforms of the financial system are integral part of the broader structural reform and liberalization agenda proposed in other chapters of this report. Unless a true market liberalization and a switch to private-sector led growth is achieved, and the government starts pursuing social objectives through policies which do not rely on credit allocations and management of a large enterprise sector, these financial system reforms will not deliver the intended increase in the efficiency of capital allocation. Also, hard budget constraints for most of the SOEs, including removal of explicit and implicit government guarantees, have to come first, in order to incentivize the banking sector to start assessing risks differently and fund most efficient investments rather than most-guaranteed investments.

Chapter 3. Transforming the State Owned Enterprise Sector

As argued in the previous chapters, the sources of Belarus's economic growth originated in policy decisions that preserved the functioning of a state driven economy. The abundance of economic rents arising from preferential commercial access to the market of the Russian Federation and to its energy resources at preferential prices allowed the state to maintain soft budget constraints on poorly performing SOEs[28].

After 20 years of independence, SOEs continue to dominate the economic structure in Belarus. The majority of SOEs operate in one of three sectors: (1) industry, (2) transport and communication, and (3) agriculture and forestry. In industry, most SOEs are organized as vertical conglomerates that comprise a large final output assembly plant and include many smaller producers of intermediary goods. Such organization allows well-performing enterprises to take over loss makers to avoid divestiture, labor shedding, or the closure of chronically unprofitable ventures. However, as demonstrated in chapters 2 and 3, the chosen strategy also slowed the reallocation of resources away from inefficient sectors. This has been an obstacle to the introduction of organizational and technical innovations to adapt the SOEs to compete in the world market.

However, in recent years, favorable conditions on the supply and demand side have changed. The slowdown in production and exports in 2009–10 revealed the more permanent market forces at play: a steady increase in competition in the same traditional markets resulting from low-price Chinese- and Russian-produced capital goods and a shift in demand from low-quality, low-price demand to high-quality, high-price demand in Russia and other CIS markets.

The success of Belarus's economic transformation will largely depend on the success in transforming the enterprise sector. The core objective of this transformation is to reform the incentive structure toward the efficient deployment of industrial assets, both capital and labor. This will require tightening the budget constraints, restructuring vertically integrated conglomerates and strengthening incentives for managers.

28 See annex 3.2 for a definition of SOEs in Belarus and data sources.

A. Key Characteristics of the SOE sector

SOEs remain the main engine of employment, value added, and exports in Belarus.[29] The importance of SOEs is clear: SOEs account for 55 percent of Belarus's output and two-thirds of overall employment (table 3.1). On average, a typical SOE has more than 500 employees, while a private company employs, on average, 18. An average SOE's export value exceeds US$2.5 million per year, or 22.2 times more than an average private company.

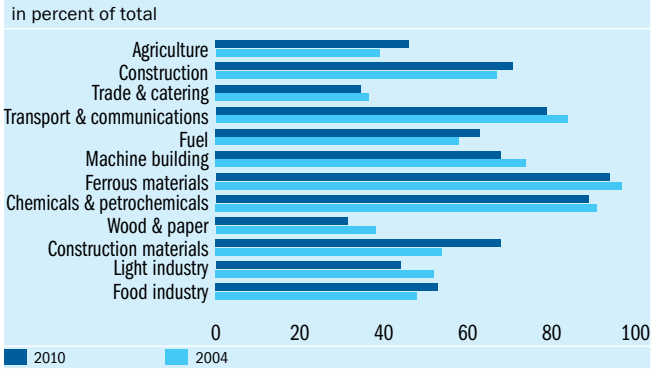
Table 3.1. Share of SOEs in Output, Export, and Inputs of production, 2004–10, % of total

Indicator	2004	2005	2006	2007	2008	2009	2010
Output	59.1	59.6	57.5	56.7	56.0	55.4	54.1
Value added	57.0	57.8	57.3	55.9	54.9	54.7	53.3
Production volumes	68.0	67.7	66.4	66.9	66.9	66.3	68.6
Merchandise Exports	—	—	52.0	55.1	54.2	41.5	45.8
Employment	68.9	68.8	68.4	67.7	66.0	66.3	65.6
Fixed capital investment	61.5	61.3	60.1	59.5	59.5	66.1	66.2

Sources: Belstat; World Bank estimates.
Note: SOEs are defined as enterprises in which state ownership is equal or exceeds 50 percent. — = not available.

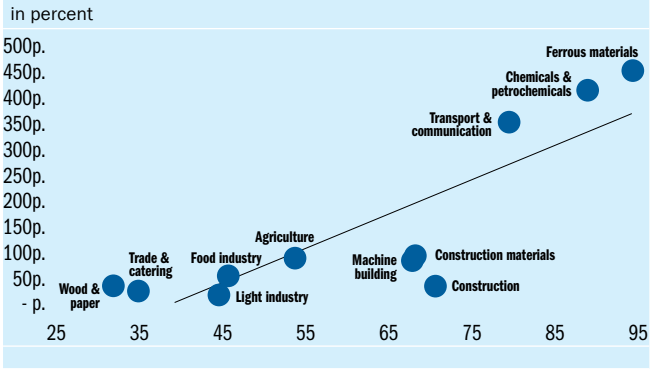
The importance of SOEs has not diminished, following the initial opening of the economy to the private sector (table 3.1; figures 3.1 and 3.2). This is especially the case in capital intensive sectors such as ferrous metals, and production of chemicals and petrochemicals and sectors where SOEs account for more than 90 percent of output.

Figure 3.1. Share of SOEs in Production Volumes by Economic Sectors



Sources: Belstat; World Bank estimates.
Note: Based on the production volume of goods (works, services) in current prices, less calculated taxes and collections from sales proceeds, BYR, billions.

Figure 3.2. Average Size of Assets and Share of SOEs in Production Volumes, by Sector, 2010



Sources: Belstat; World Bank estimates.
Note: Based on the production volume of goods (works, services) in current prices, less calculated taxes and collections from sales proceeds, BYR, billions.

29 For details on the analysis of SOEs characteristics and performance see Favaro, E., K. Smits, and M. Bakanova (2012).

Box 3.1. Characteristics of the SMEs sector in Belarus

Small and medium-sized enterprises (SMEs) are an integral part of the private sector and play a vital role in any economic system where production decisions are decentralized. In the EU27 countries, enterprises with up to 249 employees (SMEs) play a key role across all classifications of economic activity. Many countries in Eastern Europe rely on the innovative, adaptive SME sector for private sector development, job creation, economic recovery and growth. They account for more than two thirds of value added in construction, trade and catering and production of textiles, footwear, fabricated metal products and furniture.

The share of SMEs in Belarus has steadily increased over the last decade; however, it remains significantly lower than in other countries. In recent years reforms aimed to improve the business environment by easing administrative constraints (including regulations related to licensing, permits, inspections) were introduced (IFC 2010). As a result, between 2007 and 2010, the SME's share in GDP increased by almost 3 percentage points to 20 percent of GDP, while the SMEs share in fixed capital investments over the same time period increased even more (table B3.1.1). SMEs employment growth was slower than their output growth, implying that the increasing productivity of the sector.

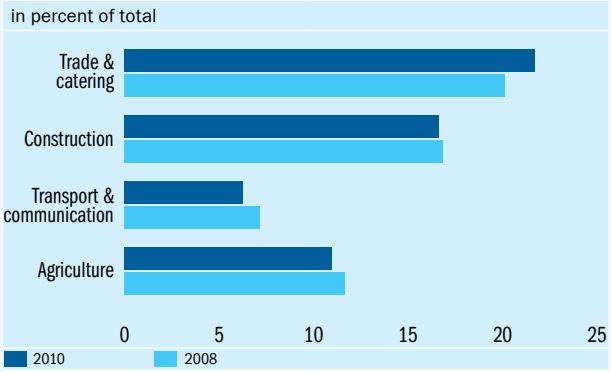
The largest increase was observed in the trade and catering sector. However, even in this sector, the share of SMEs in total output remains below 40 percent (figure B3.1.1). Moreover, in sectors such as construction, transport and communications and agriculture, the importance of SMEs either remained unchanged or fell during the last three years.

Table B3.1.1. Belarus's SMEs (not including IEs) share in main economic indicators, percent of total

	2007	2008	2009	2010
GDP	17.3	18	18.8	20
Production of goods	18.3	19	20	20.7
Average number of employees	26.7	28.5	28.1	28
Capital investments	34.7	35.5	38	39.7

Source: Belstat.

Figure B3.1.1. Share of SMEs in total output



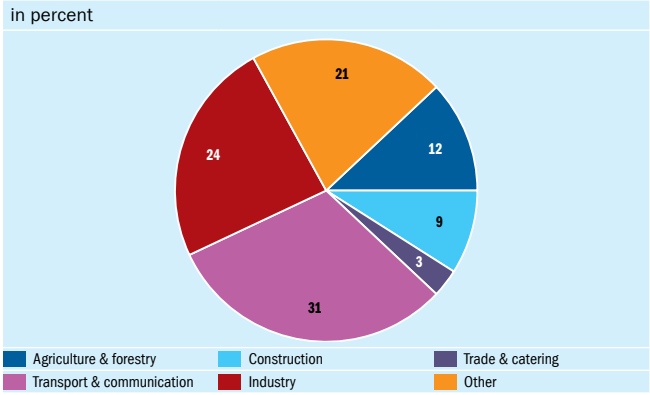
Source: Belstat.

The industry sector encompasses more than a third of the combined asset value of all SOEs (figure 3.3). The machine-building subsector accounts for about a quarter of industrial production.[30] It comprises SOEs producing heavy trucks and tractors, including Belarus's most well-known large industrial enterprises MAZ, MTW, and Belaz (box 3.2). From 2000 to 2008, the machine-building subsector grew at an impressive rate of 12 percent per year. The sector was hit hard in 2009 as a result of the collapsed external demand during the global economic crisis and contracted by 26.5 percent, but recovered in 2010 and grew at a rate of 17.1 percent.

30 The machine-building subsector includes automotive industry, production of agriculture equipment, electronic equipment and white consumer goods.

SOEs managed to capture the growth dividends arising from a unique situation after the collapse of the Soviet Union in the early 1990s. SOEs inherited several unique Soviet economic assets in the manufacturing sector, the utilization of which was an important source of growth for the next decade. For instance, the manufacturing capacity of the automobile and tractor industries proved to be competitive in the Russian market, and the manufacturing capacity of the chemical and oil processing industries proved to be competitive in the European market.[31] Moreover, SOEs maintained traditional economic ties with their main trading partners, which helped mitigate a collapse in output at the beginning of the transition. The breakdown of these economic ties within the FSU—disorganization—is often seen as one of the main reason explaining the collapse of output in industries during the transition from planned economy

Figure 3.3. Distribution of Cumulative SOE Assets, by Sector, 2010



Sources: Belstat; World Bank estimates.

Box 3.2. History of Machine-Building in Belarus

The origins of the Belarus automotive industry can be traced to the postwar economic reconstruction and recovery efforts. In the first postwar years, two automotive enterprises were established in the city of Minsk: Minsk Automobile Plant (MAZ) and Minsk Tractor Works (MTW).

Over the next decades, MAZ, with nearly 15,000 employees, became one of the largest producers of heavy trucks, buses, and trolley buses in Eastern Europe. Although MAZ specializes in two product lines, heavy trucks and buses, the range of products offered is broad: 250 different trucks and 50 different buses and trolley buses. Its key markets remain the FSU states.

MTW, with nearly 20,000 employees, became one of the world's largest manufacturers of agricultural equipment. Over the last 50 years, it has produced over 3 million tractors and exported them to more than 100 countries; currently, it produces 62 models of different vehicles, with more than 100 assembly options for all climates and operating conditions.

A second wave of industrialization started in the late 1950s. In 1958, Belarusian Autoworks (BELAZ), a producer of mining dump trucks, was established. The development of big mineral deposits in the Soviet Union demanded large and powerful mining dump trucks. BELAZ developed more than 600 versions of mining dump trucks of payload capacity from 27 to 320 tons and sold more than 130,000 units of mining dump trucks in more than 60 countries.

Similarly, Minsk Motor Plant (MMP), a producer of diesel engines, was established in 1963 as a spinoff of MTW. After five decades, it is the leading manufacturer of diesel engines not only in Belarus, but in FSU countries; currently, MMP manufactures engines with over 250 specifications.

31 In the period between 1970 and 1989, the value of capital assets in real terms in Belarus grew 4.1 times, compared with the average growth in other FSU republics (3.4 times). In 1990, the ratio of Belarus's total exports to GDP amounted to 50 percent, far higher than in other FSU republics (neighboring Lithuania, 37 percent; Ukraine, 30 percent; and Russia, 28 percent).

to decentralized market conditions.[32] These linkages were especially beneficial to large SOEs such as MAZ, Belaz, MTW, and other, similar enterprises.

SOEs benefited from preferential trade access to the Russian market. The major beneficiaries were mainly low–value added subsectors of the machine-building and agriculture. In 1995, Russia, together with Belarus and Kazakhstan, took first steps in forming a customs union. The common external tariff under the recently (re)created customs union of the three countries protected the less-competitive Russian manufacturing sectors, including the producers of transport equipment (table 3.2); but the umbrella also protected several Belarusian manufacturing activities. As a result, a host of Belarusian goods, including transport equipment, entered the Russian market free of tariffs and thus had a preference with respect to similar goods manufactured in the rest of the world.[33]

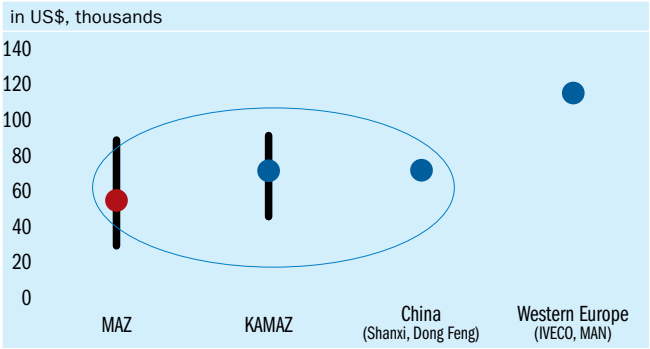
Table 3.2. Selected Unified Tariff Rates, Belarus, Kazakhstan, and Russian Federation Customs Union

Product category	Tariff rate
Tractor trailers [Euro 2 and Euro 3]	25
Tractor trailers [Euro 4 and above]	5
Tractors (small)	5
Tractors	15
Busses (diesel) > 120 pl	10
Busses > 120 pl	20
Spare parts, components	0–5

Source: Unified tariff in effect as of July 1, 2011.

Belarusian SOEs have specialized in the production of unsophisticated low-price products to a captive market, mainly other CIS countries. Producing for a captive market permeates the business culture of these firms, most notably, low competition, poor-quality services supporting final product sales, and little attention to innovation and cost-cutting. In broad terms, this market specialization persisted in a majority of sectors. For example, in the machine-building subsector, MAZ, a Belarusian heavy truck and bus producer, is positioned in a relatively unsophisticated low-cost truck market niche, where it competes with KAMAZ, a leading truck producer in Russia, and Shanxi, a Chinese truck producer (figure 3.4). MAZ and other Belarusian transport equipment producers occasionally venture into the production of higher-quality products, but these production lines require

Figure 3.4. Product Positioning Relative to Competitors



Sources: MAZ, Kamaz.

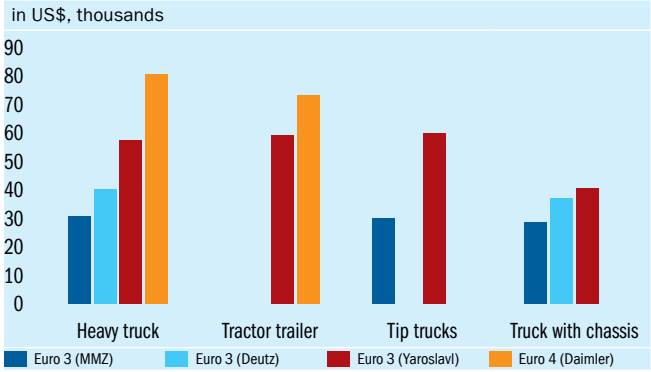
Note: Prices reflect average prices on the Russian market without value added tax, converted to U.S. dollars.

32 The term disorganization is used by Blanchard and Kremer to explain the loss of output resulting from the breakdown of relations between producers and users of specialized intermediate inputs that followed the collapse of the Soviet Union. See Blanchard, Olivier, and Michael Kremer (1997).

33 Instead, Kazakhstan, with a much lower manufacturing base, was harmed by the common external tariff because it had to divert trade from cheaper sources to Belarus and Russia. Whether Belarus's economy as a whole benefited from the customs union is a separate issue. Advantages in the transport sector were partially offset with trade diversion in other areas; tariffs within the transport sector varied depending on value added in the activity (table 3.2). For example, trucks with the Euro4 engine enjoyed lower tariff rates than trucks with the Euro3 engine (the main product lines of KAMAZ and MAZ trucks). A precise assessment of the cost and benefits of the overall arrangement can only be conducted by examining the effective protection implied by the input-output tariff structure. The concept of effective protection measures protection to the value added of an activity. For instance, a zero tariff rate on inputs, combined with a 10 percent final product tariff in an activity where value added is 10 percent of the final product cost, is equivalent to 100 percent protection on the value added of the activity.

the use of advanced strategic components (such as engines) produced by other suppliers, which considerably increases the final product price.[34] As a result, MAZ trucks with engines produced by Daimler are, on average, about two times more expensive than heavy trucks with engines produced by MMP (figure 3.5).[35] Despite these limitations, Belarusian SOEs tend to have well-established brands in the CIS countries. Belarus tractors, MAZ lorries and buses, and Belaz mining trucks are known around the CIS countries and are associated with low price and reliability.

Figure 3.5. Average Price of Selected Product Categories, MAZ Trucks



Sources: MAZ, Kamaz.

Note: Prices reflect average prices on the Russian market without value added tax, converted to U.S. dollars.

The governance structure of SOEs follows a decentralized management model, yet in practice, there is significant interference and overlap of responsibility among several institutional bodies. In formal terms, the SOEs are overseen and controlled by the respective line ministries. However, in the absence of a market information benchmark, all critical aspects of enterprise operation, including the choice of factors of production, output, and distribution, are directly and indirectly affected by government policies at the central, ministerial, and local levels. For example, the Ministry of Industry (MOI) is the main governmental body that coordinates and regulates the activities of industrial enterprises with a state share. In the machine-building subsector as of 2011, for example, some 164 joint stock companies (JSCs) and 85 unitary enterprises were under the economic jurisdiction of the MOI.[36] The MOI has a special commission that oversees the efficient use of energy and other material supplies used by enterprises under its jurisdiction. Another instruction specifies input norms for various production technologies, the purpose of which is to ensure the efficient use of resources in the production process. But additional numerous normative acts at the government and local levels specify other key aspects of enterprise operation outside the norms defined by the MOI, among which are quantitative targets (box 3.5) and price regulations (see chapter 4).

In recent years, SOEs have been transformed into JSCs, but have remained subject to state interference. In theory, corporatization implies that SOEs are subject to the same laws that govern private corporations and, thus, greatly improve transparency by separating the accounts of the enterprise from those of the ministry. In practice, however, the experience of Belarus and several other countries is that corporatization is not a sufficient condition to insulate the public enterprise from government interference (see box 3.3).

34 The higher product price reflects the low scale of production and the absence of skills to manufacture efficiently these product lines.

35 Trucks with Daimler engines are predominately aimed at potential customers in Western Europe, still a niche segment for MAZ.

36 According to the Article 113 of Belarus's Civil Code, unitary enterprises are business entities that have no ownership rights to the assets they use in their operations;, this form is only possible for the state, which operates state property (republican and communal unitary enterprises) and private firms or individuals (private unitary enterprise).

Box 3.3. China's experience in reforming SOEs: promoting private sector

The SOE reform has historically lagged behind other economic reforms in China. In part this was because of their paramount importance in the economy has requested a more gradual and cautious approach in reforming measures. Therefore, before the mid-1999s, SOE reform was focused on revitalization through giving incentives and increased autonomy to individual enterprises. But these measures were limited in that they neither modified corporate governance nor significantly restructured business.

It was not until the financial performance of SOEs had deteriorated considerably that a need for imminent SOE reform became apparent to policy makers. Since the mid-1990s, SOE reform has been a priority area, with most practical measures focused on improving efficiency and to catching up with market-oriented changes that have taken place in other areas of economy.

The major strategy of reforms was the principle of "attaining the larger, releasing the smaller"- which concentrated on revitalizing the larger SOEs, while smaller SOEs were dealt with aggressively through buy-outs or allowing restructuring. This diversification of ownership was also called "partial privatization" as private domestic and foreign shareholders were becoming shareholders of "corporatized" SOEs, along with the state and state-controlled bodies. Moreover, the corporate restructuring of SOEs was implemented along with the financial restructuring of state-owned commercial banks.

The proportion of SOEs in the industrial sector has been continuously decreasing as a result of restructuring policies and rapid growth of companies modeled in other forms of ownership. Between 1998 and 2006, the proportion of industrial output accounted by SOEs has decreased from 49.6 percent to 31.2 percent, proportion of value added—from 57 percent to 35.8 percent and the proportion of total assets from 68.8 percent to 46.4 percent.

Source: OECD (2002), China in the World Economy, The Domestic Policy Challenges.

B. Performance of SOEs during the Past Decade

While SOEs, on average, have been profitable, their performance has varied significantly across sectors.[37] The most profitable sectors are ones that have been able to capture rents arising from processing mineral resources such as oil refineries and the chemical sectors. These are sectors reliant on underpriced energy resources from Russia. Similarly, sectors with favorable export markets—such as food industry and the production of construction materials—have also performed well during the last five years. At the same time, nontradables sectors exhibit average returns on assets below other sectors.

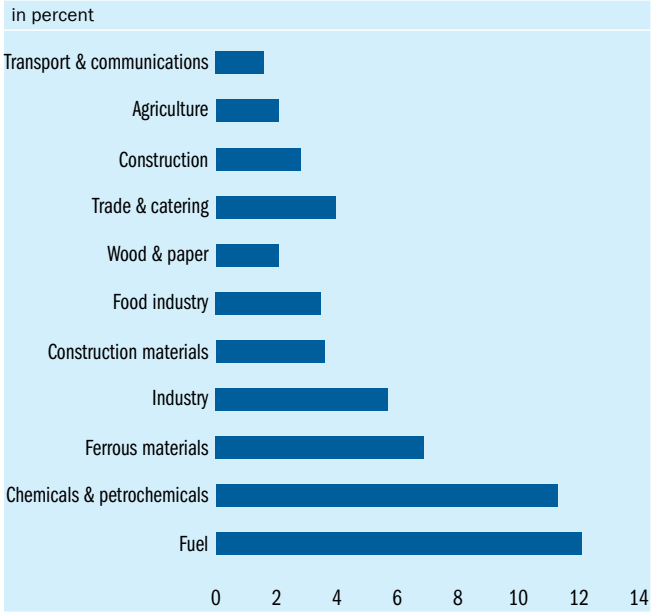
Notable variance in SOE performance exists among firms within vertically integrated enterprises. Most SOEs are organized as vertical conglomerates that comprise a large final output assembly plant and include many smaller producers of intermediary goods. Vertical integration has contributed to

37 The profitability of SOEs has to be interpreted with caution. Measures of performance based on net revenue (or profits) and value of assets refer to distorted prices and do not reflect true opportunity costs.

the improved reliability of the supply of critical components and has streamlined negotiations regarding the cost and price structure of these components. In recent years, this integration has helped maintain the continuity of the production process and preserve production capacity.[38] In the machine-building subsector, final goods assembly enterprises employ seven times more people than intermediate goods–producing enterprises; they are also more export oriented, pay higher wages, and employ more capital-intensive technologies (table 3.3).

Vertical integration has masked inefficiencies among SOEs. In the absence of direct market information on prices, significant information asymmetries arise regarding cost structure and technologies allowing for the representation of cost structures and shifting profit centers to be manipulated arbitrarily. This allows profit-making firms (at the top of vertically integrated chains) to cross-subsidize their less-efficient loss-making supplier firms.

Figure 3.6. Average Returns on Assets of SOEs, by Sector, 2004–10, weighted average



Sources: Belstat; World Bank estimates.

Table 3.3. Characteristics of Vertically Integrated Enterprises in the Machine-Building Subsector, 2005–10, annual weighted averages

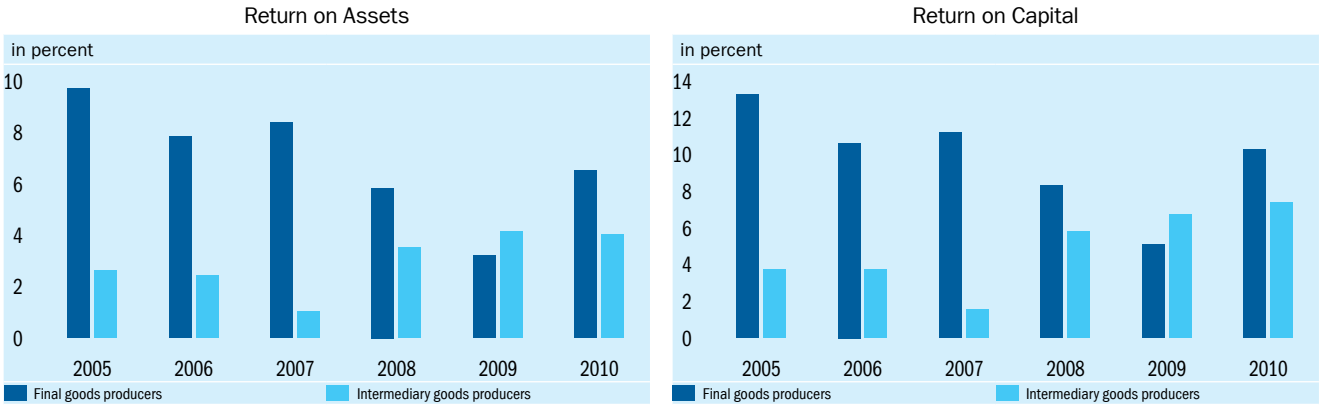
	Size (Average Employment)	Average Wage, million BYR per year (2010)	Labor Costs in Total Costs	Imported Materials in Total Costs	Exports in Output
SOEs (all enterprises)	1,428	13.80	15.6%	32.9%	58.3%
Vertically-integrated final assembly enterprises	7,305	16.19	12.8%	33.3%	71.3%
Vertically-integrated intermediary goods producing enterprises	1,033	12.38	21.9%	20.7%	21.2%

Source: World Bank estimates based on the dataset of the National Bank of the Republic of Belarus.

- *On average, finished goods producers outperform their suppliers* (figure 3.7). Final goods producers, at the top of vertically integrated chains, are strategically important enterprises selling predominantly on the external market. In the machine-building subsector, for example, such firms export more than two-thirds of their output. Exporting to external markets allows them to collect the economic

38 A similar solution arises in market economies in which transaction costs are high. See the study on determinants of vertical integration in the U.S. automobile industry by Monteverde, Kirk, and David J. Teece (1982).

Figure 3.7. Performance of Vertically Integrated SOEs in the Machine-Building Subsector



Source: World Bank estimates based on National Bank of the Republic of Belarus data.

rents associated with pricing final outputs at international market prices, while costing factors of production, including energy, at distorted domestic market prices.

- *Intermediary goods producers supply intermediate products to other members of the vertical chain at a price that is not subject to a clear market benchmark.* According to the procurement legislation, a tender is not required if the procurement of intermediate products is carried out within a vertically integrated chain. Similarly, according to normative acts, the prices of internally traded goods and services are based on rigid unit costs rather than on market reference prices. Prices cannot be lower than a predetermined unit cost estimate, which is typically based on the existing cost structure of the enterprise.

In comparison with private firms, SOEs face soft budget constraints. Soft budget constraints prevail in the form of preferential lending and other kinds of state support. SOEs continue to enjoy preferential access to financing and participation in public procurement tenders. In addition, in the machine-building subsector, SOEs maintain a debt-to-asset ratio twice as high as that of their private counterparts (table 3.4).

Table 3.4. Liabilities as a Share of Total Assets in the Machine Building Sector

	2005	2006	2007	2008	2009	2010
Private	5.3%	5.2%	4.5%	5.3%	8.3%	9.7%
SOEs	10.5%	10.8%	9.7%	14.1%	20.7%	19.8%

Source: World Bank estimates based on National Bank of the Republic of Belarus dataset.

The top-down direction of subsidies in the vertically integrated firms suggests that there are softer budget constraints on the integrated-supplier firms than on top-of-the-chain firms. Empirical evidence suggests that softer budget constraints prevail among supplier SOEs because they face favorable administrative prices and receive more favorable interest rates on their debt than top-of-the-chain SOEs. For example:

- *Average effective interest payments* on bank loans for SOE suppliers of the vertically integrated chains in the machine-building subsector was almost three times lower (about 1 percent, on average, for

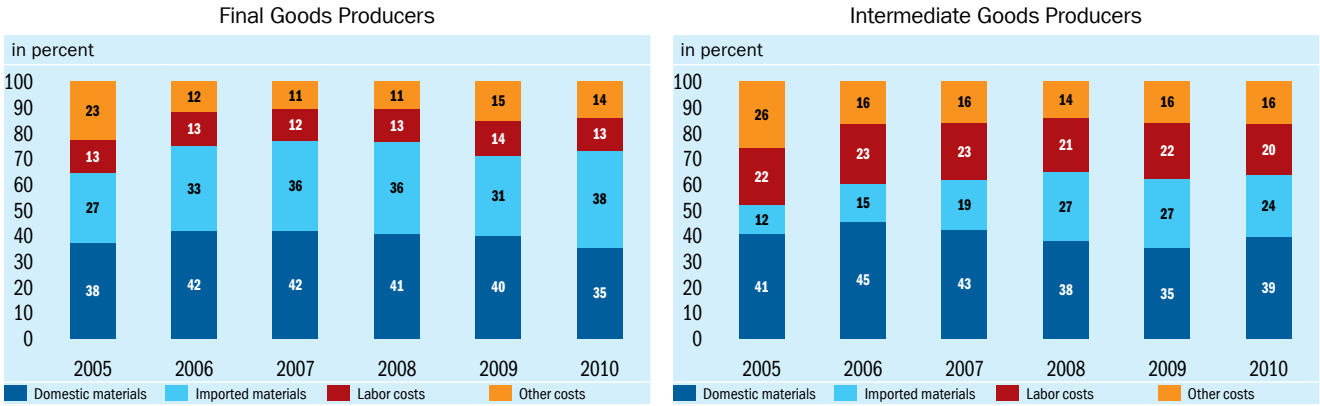
the last five years) compared with the interest payments for finished goods producers in vertically integrated chains (which stood at about 2.8 percent).

- Vertically integrated suppliers use the cost plus principle to *adjust prices of their output to costs*, effectively allowing them to push the cost of the inefficient allocation of recourses up along the supply chain. The vertically integrated intermediate goods producers generally face higher labor costs. These feeder SOEs are able to pass upward these excess labor costs and other inefficiencies along the vertically integrated supply chain (figure 3.8).

- Despite their poorer performance, the supplier firms tend to have higher *debt-to-equity ratios* compared with the top-of-the-chain firms (figure 3.9).

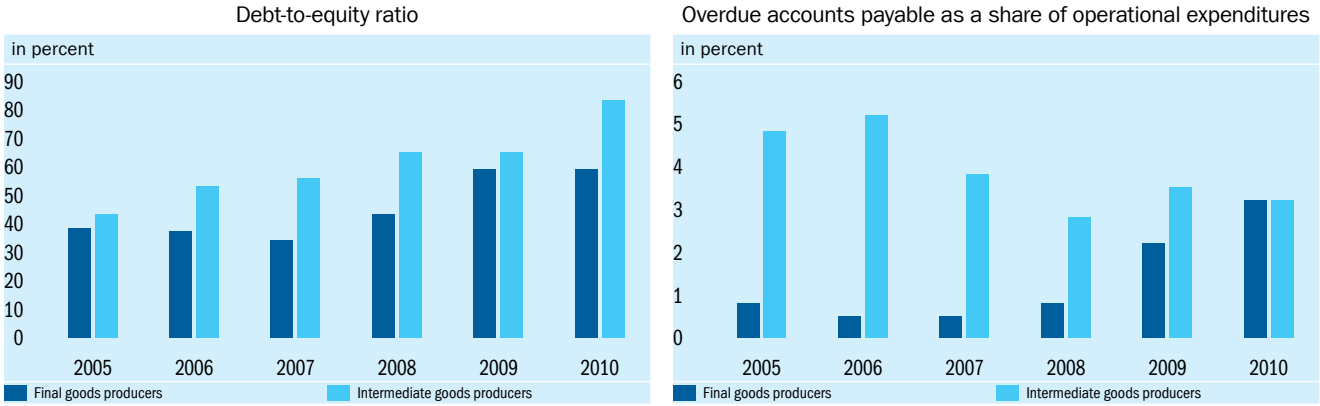
- In addition, the top-of-the-chain SOEs tend to have lower *arrears*, in general, than their feeder firms. Against this background, incentives to improve the performance of loss-making firms are considerably blurred.

Figure 3.8. Differences in the Cost Structure of Vertically Integrated SOEs in the Machine-Building Subsector



Source: World Bank estimates based on National Bank of the Republic of Belarus data.

Figure 3.9. Leverage and Accounts Overdue in the Machine-Building Subsector



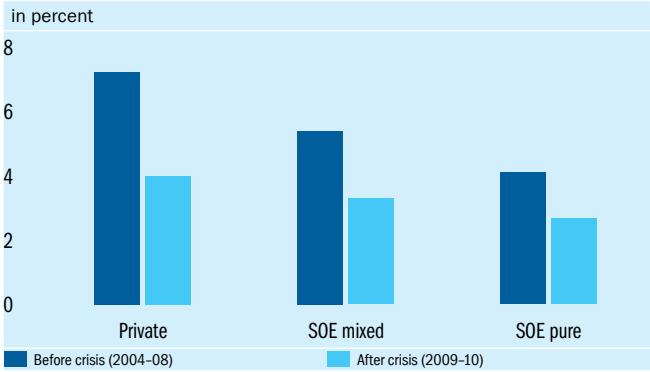
Source: World Bank estimates based on National Bank of the Republic of Belarus data.

Despite access to economic rents for SOEs, on average, private firms in Belarus outperform SOEs.

- *First, there is an inverse relationship between average return on assets and state ownership* (figure 3.10). This result suggests that private sector ownership is more efficient than government ownership. Even under mixed ownership, SOEs with state participation have, on average, higher returns on assets. During the crisis, the profitability of enterprises decreased, but the inverse relationship between returns and state ownership remained.

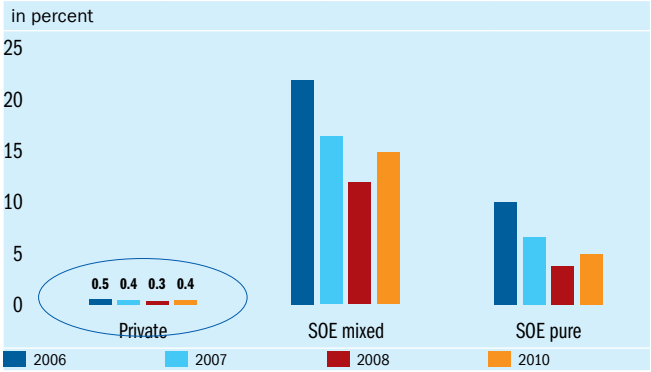
- *Second, the share of loss-making enterprises in the private sector is significantly lower than that among mixed-ownership or state-owned firms* (figure 3.11). This fact suggests that, if the resources allocated to the private sector do not generate income sufficient to recuperate the cost, firms do not survive. In contrast, the percentage of loss-making firms among mixed-property or state ownership is fairly large. Hence, the natural cleansing mechanism of a market economy may be working slowly or not at all in Belarus. Borrowing from parent companies within a conglomerate, borrowing from state-owned banks or under state guarantees are among the mechanisms that may be making this possible.

Figure 3.10. Average Returns on Assets by Ownership



Source: World Bank estimates based on National Bank of the Republic of Belarus dataset.
Note: Includes industry, trade, construction, and transport sectors.

Figure 3.11. Relative Shares of Loss-Making Enterprises, All Sectors

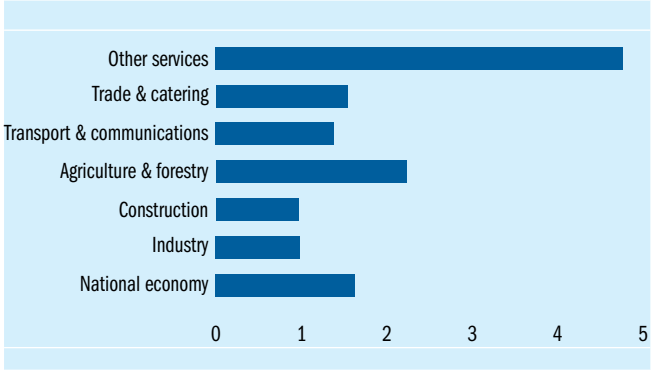


Source: World Bank estimates based on the Belstat dataset.
Note: Includes industry, trade, construction, and transport sectors.

Similarly, the level of productivity in private firms exceeds the corresponding level of productivity in SOEs. On average, during 2004–10, labor productivity in the state-owned sector was 40 percent lower compared with the private sector (figure 3.12). By sector, no substantial differences in labor productivity were recorded in industry and construction, while, in agriculture, private firms were more than twice as productive as SOEs, and, in "other services," about five times more productive.

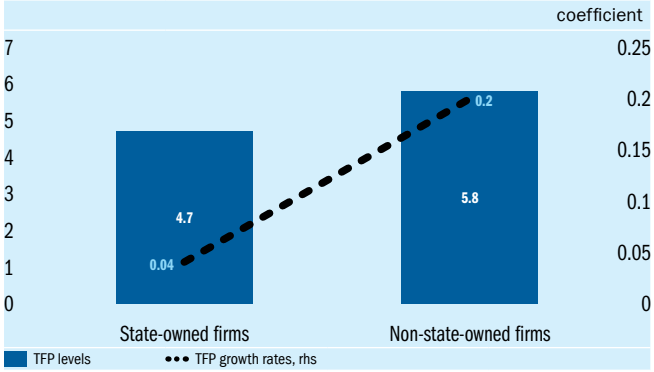
Moreover, state firms have evidently become relatively less productive during the last five years. Between 2005 and 2010, the growth in TFP in SOEs was significantly below the growth in private companies, resulting in the widening productivity gap. For example, based on econometric estimates for firms in the machine-building subsector, productivity growth was five times greater in private firms than in SOEs (figure 3.13).

Figure 3.12. Average Ratio of Labor Productivity in Private Firms to SOEs, 2004–10



Source: World Bank estimates based on Belstat data.
Note: Labor productivity is measured here as value added per worker.

Figure 3.13. Productivity Differences by Ownership in the Machine-Building Subsector



Source: World Bank estimates based on the National Bank of the Republic of Belarus dataset.
Note: For firm-level productivity estimates, see box 3.3.

Empirical evidence shows that differences in TFP between private firms and SOEs can be explained by differences in the accumulation of production factors. As demonstrated in chapter 2, labor hoarding in state-owned firms is likely to be a particularly important factor in explaining their poorer performance relative to their privately owned counterparts. SOEs have increased employment in a framework in which production was either decreasing or increasing at a lower rate than labor input. Similarly, at the same level and growth rate of productivity, the capital input of SOEs is significantly larger (roughly double) than that of private firms. This implies that the source of productivity differences between state and private enterprises stem from the unproductive use of the factors of production. Thus, the growth of the labor and capital factors of production at least partially explains the lower productivity growth rates in SOEs, an insight discussed in detail in chapter 2.

Fundamentally, productivity differentials between SOEs and private firms in Belarus are likely a result of structural differences rather than the temporary impact of exogenous factors. Empirical work in the machine-building subsector suggests that the long-run equilibrium toward which productivity levels converge is significantly lower among SOEs compared with privately owned firms (box 3.4). In fact, the long-run differences range between 11 and 16 percent for the TFP of SOEs in the machine-building subsector. As a consequence, SOEs in their current form are expected to remain less productive and consequently less competitive than private firms not only in the short term, but also in the long term.

C. Recent shifts in demand and supply

While SOEs were largely successful in supplying low–value added exports to traditional markets prior to 2008, recent shifts in supply and demand factors imply that the growth model they have followed may be exhausted. On the supply side, several warning signs have started to emerge in the past few years:

Box 3.4. Productivity in the Machine-Building Subsector in Belarus: Econometric Results

Result 1: *Large productivity differences exist between SOEs and private firms in the machine-building industry. Non-SOEs exhibit significantly higher TFP than SOEs. Moreover, the latter have evidently become relatively less productive during the last five years.*

Table B3.4.1. T-Test for Differences in TFP, by Type of Firm

	State-owned[a]	Non-State-owned[a]	Diff.	Privately-owned[b]	Non-Privately-owned[b]	Diff.	Ministry-reporting[c]	Non-Ministry-reporting[c]	Diff.
				Levels in TFP					
OLS	1.054	1.377	-0.323***	1.574	1.198	0.376*	0.988	1.494	-0.506***
FE	2.009	1.522	0.487***	1.225	1.791	-0.566***	2.065	1.389	0.676***
OP	17.232	20.784	-3.552***	22.014	18.941	3.073	16.937	21.641	-4.704***
LP	4.703	5.824	-1.121***	6.522	5.201	1.321*	4.513	6.189	-1.676***
				Growth in TFP					
OLS	0.032	0.173	-0.141**	0.268	0.096	0.172	0.124	0.104	0.020
FE	0.029	0.170	-0.141**	0.276	0.092	0.184	0.119	0.104	0.015
OP	0.082	0.247	-0.165**	0.326	0.161	0.165	0.193	0.164	0.029
LP	0.043	0.201	-0.158**	0.287	0.117	0.170	0.150	0.122	0.028

Notes: *(*)[***] stands for significance at the 10%(5%)[1%] level.

[a] The groups of state-owned and non-state-owned firms comprise 369 and 512 firm-year observations, respectively.

[b] The groups of privately-owned and non-privately-owned firms comprise 102 and 779 firm-year observations, respectively.

[c] The group of firms directly reporting to the ministry of industry and the group of non-reporting firms comprise 439 and 442 firm-year observations, respectively.

- *TFP Levels: TFP in non–state-owned industrial firms exceeds the corresponding level of productivity in SOEs. In comparison with privately owned firms, state-owned and mixed-owned firms exhibit lower levels of TFP.*
- *TFP Growth Rates: The average TFP growth rate for private firms always exceeds TFP growth in mixed-owned and state-owned firms. Between 2005 and 2010, the average annual TFP growth rate of SOEs was only around 4 percent, while the other firms grew by approximately 20 percent annually.*

Result 2: *The long-run equilibrium toward which productivity levels converge is significantly lower for SOEs than for privately owned firms (a negative and significant coefficient estimate is attached to the dummy variable that identifies state firms). The long-run differences range between 11 and 16 percent for the TFP data based on the estimation method (fixed effects for within-firm changes in productivity and standard ordinary least squares for between-firm differences).*

Table B3.4.2. TFP Convergence Equations

	OLS	FE	OP	LP
Lagged TFP	-0.099**	-0.025***	-0.008**	-0.027**
	(0.042)	(0.009)	(0.003)	(0.011)
State-owned	-0.159**	-0.113*	-0.159**	-0.160**
	(0.068)	(0.063)	(0.072)	(0.070)
Intercept	0.377*	0.297	0.552**	0.483**
	(0.224)	(0.212)	(0.260)	(0.246)
R^2	0.015	0.008	0.023	0.020
Obs.	727	727	727	727

Notes: Each column refers to a different TFP estimate, abbreviations as in preceding section. Robust standard errors in parenthesis. *(*)[***] stands for significance at the 10%(5%)[1%] level.

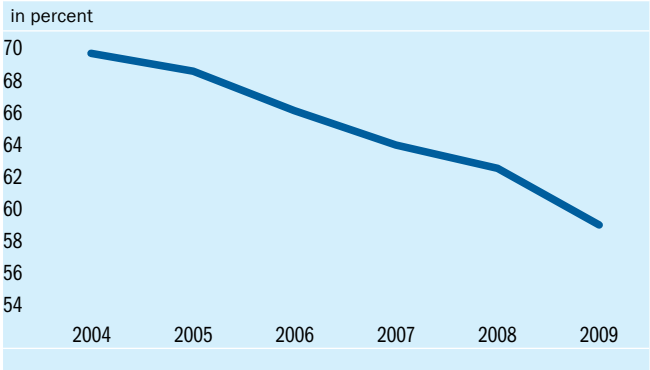
Source: Crespo Cuaresma, J., H. Oberhofer, and G.A.Vincelette (2012).

- First, the post-Soviet industrial structure has not been renovated at a sufficiently rapid pace, given the accumulated *depreciation levels* at over 60 percent (figure 3.14). This has hurt the competitiveness of Belarusian products. Excess production capacity in several of the main sectors of the economy was almost exhausted already in around 2006.

- Second, the absence of *new investment* and the introduction of *modern production methods* have limited the capacity of Belarusian firms to respond to the increase in external demand. For example, there has been a rapid growth in transport equipment production in Russia and in the penetration of Chinese products in the Russian market (figure 3.15). Clearly, the twofold increase in heavy truck and bus production in China in the past five years (figure A3.1.2 A3.1.3) dwarfs the relevance of Belarus's transport equipment production. (Also table A3.1.1)

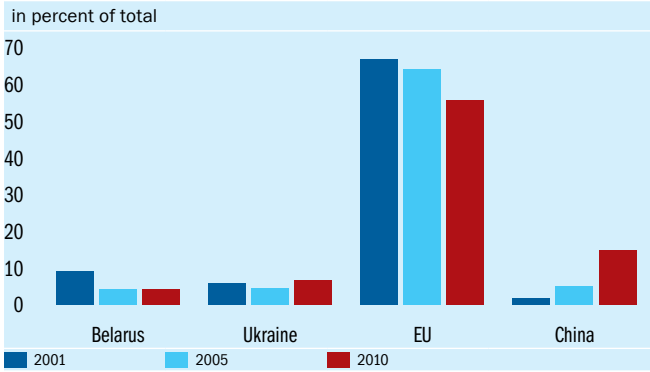
- Third, the increase in *input prices* (such as electricity, wages) has also contributed to the erosion of the cost advantages of Belarusian enterprises (table 3.5; figure 2.13 in chapter 2).

Figure 3.14. Accumulated Depreciation of Fixed Assets, Machine-Building Subsector



Source: Belstat.

Figure 3.15. Share of Trade Partners in the Global Machinery Exports to the Russian Federation



Source: World Bank calculations based on WITS/UN COMTRADE data.

On the demand side, there has been an increase in demand for more sophisticated products in traditional export markets (see chapter 4). The evolution of the Russian market suggests that there is a high income elasticity of demand for quality products. To the extent that Belarus does not compete in these higher-value market segments, the industry of Belarus is bound to lose market share.

Table 3.5. Average Cost of Electricity for Industry, US$ per kilowatt hour

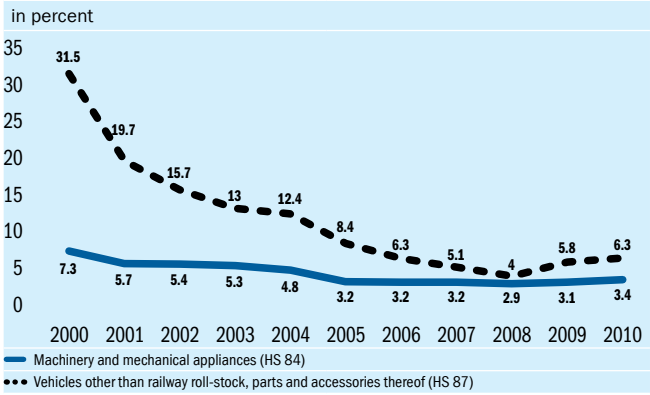
	2005	2006	2007	2008	2009	2010
Russian Federation	0.03	0.03	0.04	0.05	0.05	0.05
Belarus	0.05	0.07	0.09	0.11	0.11	0.13

Sources: Russian Federation: – Rosstat; Belarus: Ministry of Energy. Note: Converted using average local currency unit–US$ exchange rates.

The combined effect of supply and demand shifts has been a sharp decline in the market share of Belarusian products in the country's traditional export markets in the past decade. For example, global machinery exports to Russia have halved since 2001 in terms of the ratio of machinery and transport imports in total imports of Russia during the last years (figure 3.16). The decline in market

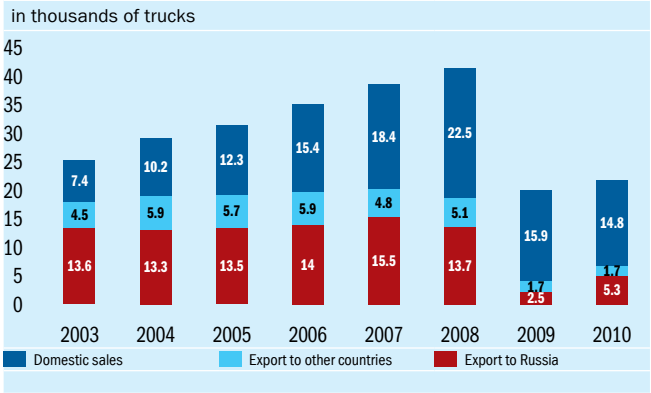
share illustrates the difficulties faced by Belarusian companies in maintaining their participation in the expanding Russian market. In the heavy truck segment, Belarus's sales to Russia were stagnant for the second part of the 2000s despite the fact that Russia's market for heavy trucks was growing, on average, by 11 percent per year between 2000 and 2008. The demand for more sophisticated products in Russia has increased. This demand cannot be served by the more traditional product lines of Belarus, and, instead, has been filled by imports of higher-quality Western-made trucks. Similar dynamics are observed in the food export segment.[39]

Figure 3.16. Belarus's Market Share in Total Imports to the Russian Federation



Source: World Bank calculations based on WITS/UN COMTRADE data.

Figure 3.17. Sales of Trucks (including tractors trailers), 2003–10



Sources: Belstat; World Bank estimates.

In contrast, there has been a rapid increase in the importance of the domestic market (figure 3.17). Between 2003 and 2007, domestic sales more than doubled, while exports of trucks to Russia and other countries stayed broadly constant. In addition, during the global financial crisis of 2008–09, the domestic market became the main sales channel for Belarus's trucks. Public procurement, as a part of the agricultural modernization program, contributed to the increase in domestic demand. Even after substantial recovery in track sales to Russia in 2010, domestic market sales continued to dominate and accounted for two-thirds of total sales compared with only one-third in 2003.

The increased reliance on domestic market is not sustainable. The rapid expansion of domestic demand has been driven by loose monetary and fiscal policies (see chapter 1). It has also been based on protectionism, which limits competition with other possible sources and has been financed by spending policies followed by the government of Belarus that are not sustainable given the current macroeconomic situation (box 2.1).

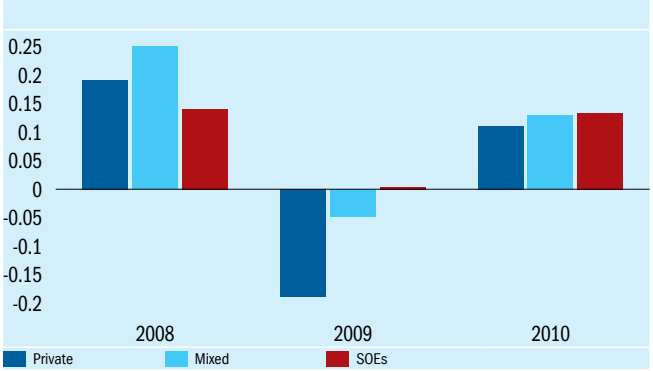
In sum, high growth may not be sustained unless SOEs adapt to the radical changes in the external and domestic environment. Excess capacity, which easily contributed to the rapid growth in productivity, is already exhausted; low investment in improving the quality of products, along with rapidly increasing real wages, has reduced competitiveness. The biggest challenge looking forward is to respond to the changes that will result from Russia's accession into the World Trade Organization (WTO) and from the gradual increase in consumer sophistication in that market.

39 World Bank (2010_b).

D. Capacity of SOEs to Adapt to Structural Changes

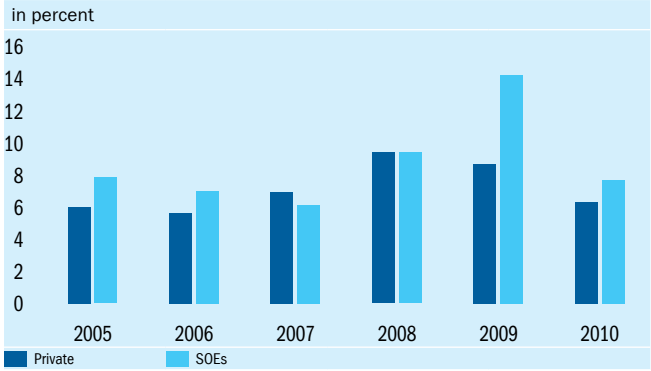
The crisis of 2008 may serve as a natural experiment to assess the ability of the Belarusian real sector to respond to shocks. In fact, the response of private firm production to the fall in demand in 2009 was markedly different to that of SOE production. For private firms, there is a negative correlation between profits and productivity; for SOEs, this correlation is positive (figure 3.18). While a fall in demand results in lower sales and a fall in profits for either of the two groups, private firms shed labor and capital resources and cut production, thereby raising productivity (hence, the profitability and changes in productivity will tend to move in opposite directions).[40] At the same time, SOEs do not shed labor, and, hence, productivity falls at the same time that profits fall.

Figure 3.18. Correlation between Changes in Productivity and Profitability in Industry



Source: World Bank estimates based on National Bank of the Republic of Belarus dataset.

Figure 3.19. Average Inventory Levels, Machine-Building Subsector, 2005–10



Source: World Bank estimates based on National Bank of the Republic of Belarus dataset.

The delayed response to the fall in demand of 2008 is partly related to the management incentives to meet quantitative targets rather than only a financial bottom line (box 3.5).[41] As a result, SOEs did not cut supply sufficiently or cut accumulated inventories (which increased about 50 percent between 2008 and 2009 (figure 3.19); and increased their debt to banks. This was especially the case for those SOEs in which exports represent a high share of sales. Government policy aimed to mitigate the negative consequences of enterprise adjustment during the crisis, but such policies may have merely postponed the adjustment in production.

Moreover, the capacity to adapt is severely constrained because SOEs have been under enormous pressure to minimize the negative social impact of macroeconomic shocks. The adjustment in employment was significantly smaller in SOEs than in private enterprises, which shed about 10 percent of their employment in 2009. Instead, SOEs reduced the number of hours of work, cut bonuses, and imposed wage cuts about three times larger than the ones in private firms (figure 3.20). As discussed in chapter 2, in the absence of an independent social safety net, SOEs perform the role of social insurers

40 This is so because there are decreasing returns to scale in production. This implies that shedding labor results in an increase in productivity among those who are employed.

41 While it is admittedly simplistic to assume that managers of private firms only pay attention to the bottom line or financial result before they adopt employment decisions, it is clear that the room for maneuver they have is smaller than that available to a firm less constrained by its financial supporters.

Box 3.5. Quantitative Targets

Ensuring growth in quantitative output indicators (targets) is at the heart of the economic model of Belarus. Phasing out quantitative targets implies a shift from a centrally planned system with a focus on quantity to a system in which efficiency and quality lead economic decisions. This shift is yet to happen in Belarus.

Planning and monitoring to meet quantitative targets take place top-down and could be briefly described as follows:

- *Based on the five-year plan (Program of Socio-Economic Development), a one-year forecast (plan) is elaborated by the government and approved by presidential decree. For example, the 2012 forecast is based on the five-year plan for 2011–15 and includes 12 parameters of the social and economic development of the country; about two-thirds are of a quantitative nature (GDP, industrial and agricultural production volumes, exports, FDI), and one-third are of a qualitative nature (profitability, labor productivity, reduction in energy and material intensity). Some of the quantitative targets (such as the FDI attraction target) are also broken down by ministry and administrative territory. Prior to 2011, macroeconomic forecasts included more indicators (19), only three of which were qualitative or efficiency indicators.*
- *The government, by resolution, approves the set of indicators, with a breakdown by the ministry concerns, by region, and by type of economic activity.*
- *Every territory prepares its own plan containing similar targets.*
- *The targets are compulsory for SOEs and JSCs that have a public sector stake of equal or more than 50 percent and are to be monitored by either line the ministries concern (in the case of republican enterprises) or by local authorities (in the case of communal enterprises). These targets become part of a business plan, which, in the case of SOEs and JSCs that have a public sector stake of equal or more than 50 percent must be approved by the line ministry concerned or local authorities.*

Despite recent attempts to introduce performance-based contracts, officials at all levels and SOE directors continue to be focused on meeting quantitative targets. Bonuses will be paid for meeting efficiency indicators (profitability, labor productivity, reduction in material intensity), while not meeting quantitative targets may result in dismissal. In addition, many government agencies took a formal approach to the introduction of performance-based contracts, which remain, in fact, oriented to meeting all targets.

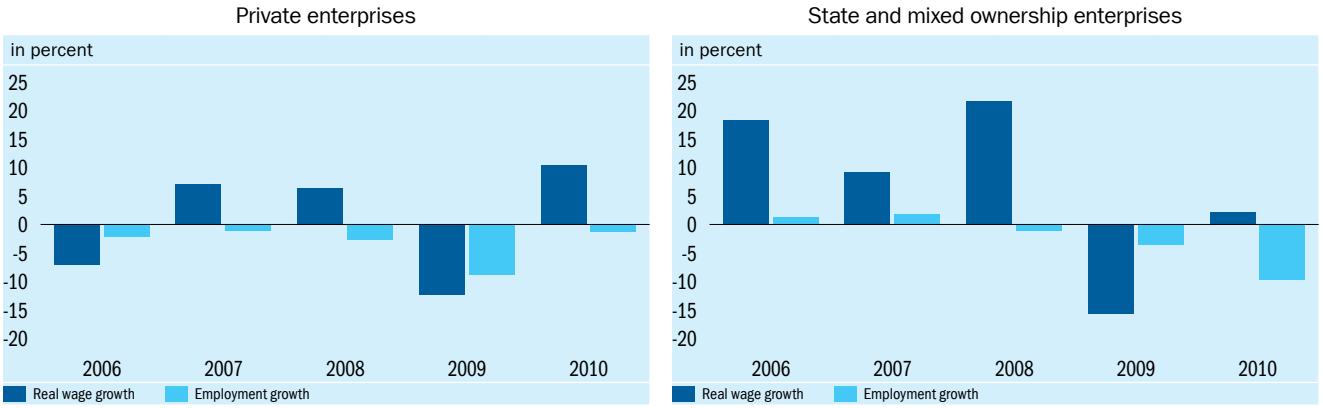
In addition to the list of targets, the last Council of Ministers resolution (for 2012) contains the list and volumes of import-substituting goods (81 categories, primarily consumer goods), the volumes of the collection of paper and glass waste, and the commissioning of forestry roads (in kilometers).

The Ministry of Economy, relevant line ministries, and local authorities carry out monthly and quarterly progress monitoring in meeting the targets and report to the Council of Ministers.

Source: World Bank assessment based on the review of the legislature, including presidential decree 590 of December 23, 2011; Council of Ministers Resolution 1779 of December 30, 2011; other decisions and regulations.

of the last resort providing de facto income transfers to their employees during a recession. Such a system is costly and suboptimal. An alternative would be to design an appropriate unemployment insurance scheme to support the unemployed and save in operating costs (raw materials and intermediate products used in production).

Figure 3.20. Real Wage and Employment Growth in Private and State Enterprises, Machine-Building Subsector, 2006–10



Source: World Bank estimates based on National Bank of the Republic of Belarus data.

E. Policy Recommendations

Belarus is facing two intertwined challenges regarding its SOE sector. On the one hand, it needs to establish the state as a full or part-owner of enterprises rather than as a manager. On the other hand, it needs to improve the incentive structure of SOEs in order to ensure efficient employment of industrial assets, both capital and labor. Loss of competitiveness (especially in the Russian market), a governance structure based on rigidly planned targets which do not reflect true economic scarcities, low capacity to adapt to changes in demand and supply call for reform. Limited resources to finance the restructuring of the sector and reluctance to abandon planning processes are clear constraints to the medium-term growth in Belarus.

The core objective of reforming the incentive structure is to restore efficient deployment of industrial assets, both capital and labor. This would include a set of measures to expand the role of the private sector. Reforms that have short-term costs as a result of downsizing are easier to adopt and implement if the private sector is thriving and can absorb released labor. The experience of China in this respect is important (see box 3.3).

- *Introduce a time-bound plan to phase out soft budget constraints.* More competition is critical to increasing discipline in the operations of SOEs, de facto requiring them to harden their budget constraints. SOEs should face the same credit, tax, energy, raw material, labor pricing, and procurement norms faced by private corporations. Recognize that resources have alternative uses and, therefore, should be priced accordingly, regardless of who is the owner of the enterprise.

- *Restructure vertically integrated SOEs by bringing strategic investors to the top-of-the-chain companies and privatize the feeder companies.* Review critically to determine when vertical integration is economically justified and when it is used to hide inefficiency. While vertical integration may govern the sourcing of several inputs in the manufacturing production process, it is also difficult to justify why other inputs and services are not outsourced. Detailed analysis of production costs is necessary to identify the lines to be discontinued and the necessary restructuring in others. This will lead to a cut in the inefficient product segments of SOEs and thus reduce the cost of cross-subsidization. It will also mean that non-core activities are taken from state firms (see chapter 4). In fact, outsourcing or divesting such non-core activities of SOEs will contribute to the development and the strength of the private sector. Inviting FDI in SOEs may also contribute to disciplining their performance, as well as providing access to new technology and resources.

- *Enhance incentives for managers.* Managers of SOEs should be empowered to make decisions regarding the appropriate mixes of inputs (labor, capital, raw materials, and so on) in production, as well as the level of prices of all outputs. This will require the elimination of the system of quantitative targets in the economy. The phasing out of quantitative targets implies a shift from a centrally planned system with a focus on quantity to a system in which efficiency and quality lead economic decisions. The introduction of true performance-based contracts, delinked from the quantitative targets system, will admittedly also reduce the control over the performance of managers, but will put the right incentives in place and may simplify considerably the design of the reforms ahead (see also annex 3.5).

Chapter 4. Igniting New Engines of Growth

The analysis in the previous chapters suggests that the existing growth model has reached its limits and cannot ensure growth sustainability without structural reforms. The weaknesses of the current growth model became evident even prior to the international financial crisis of 2008/09. Concerned with sustaining high growth rates and further delivering on social commitments, the government began to adjust economic policy with the objective of attracting FDI and increasing private domestic investments. Notwithstanding the importance of these efforts, they, however, failed to engender the development of a vibrant private sector and to ignite new growth engine. Moreover, missed opportunities to pursue structural transformation of the economy in the boom years of transitory advantages (underpriced energy and positive terms of trade) narrowed Belarus's possibilities to find new sources of growth. Declining productivity and competitiveness indicate that Belarus failed to structurally modernize its economy, increase its competitiveness, and find alternative sources of income.

A new economic model for Belarus is needed which would reduce the footprint of the state in the economy and unveil new sources of growth. Looking at comparable countries by level of development, Belarus is an outlier along three fronts: (1) the small size of the private sector in the economy, (2) the small contribution of the services sector to the growth of the economy, and (3) the increasing concentration of energy-dependent exports and markets. A new growth strategy is needed to embrace these three closely linked elements to develop the private sector, grow the services sector, and diversify exports and markets to raise productivity and improve the allocation of resources. This chapter suggests a three-pronged strategy as follows.

First, obstacles to entry, exit, and operation of all enterprises need to be eased for a vibrant private sector to emerge. The share of the private sector in GDP remains low, at mere 30 percent in 2010.[42] Small- and medium-size enterprises, and especially in the services sector, have so far made only a modest contribution to economic growth. Increasing the role of the private sector in Belarus through both encouraging private sector growth and the restructuring and

42 EBRD (2011).

privatization of state-owned enterprises have to become key elements of any medium-term structural reform program aimed at stimulating efficiency improvements and innovation. Privatization can become an important instrument for enhancing the productivity of SOEs, increasing market competition, generating benefits for consumers and providing incentives for the modernization of Belarus's economy.

Second, the development of services sector could become a major growth area and an incubator for new jobs. Services sector remains nascent in Belarus. The underdevelopment of services poses a serious problem for Belarus's long-term growth prospects. Belarus's favored segments in industry and agriculture as well as its exports are losing competitiveness even in their traditional markets at a time when the recovery of global demand is bound to be very gradual. If the regulatory and administrative barriers are reduced, growth in the services sector could act as a potent engine of growth, both through increased productivity and through synergies with manufacturing growth.

Third, expanding export capabilities is a key lever for change. Modernizing the production base and removing barriers to entry, investment, operation, and exit of business is pertinent for improving existing and exploring new sources of growth in the economy. Without a sizeable influx of FDI, Belarus may find it difficult to expand its exports, promote product diversification and sophistication to enable the economy to climb the value chain ladder.

A. Developing a Vibrant Private Sector

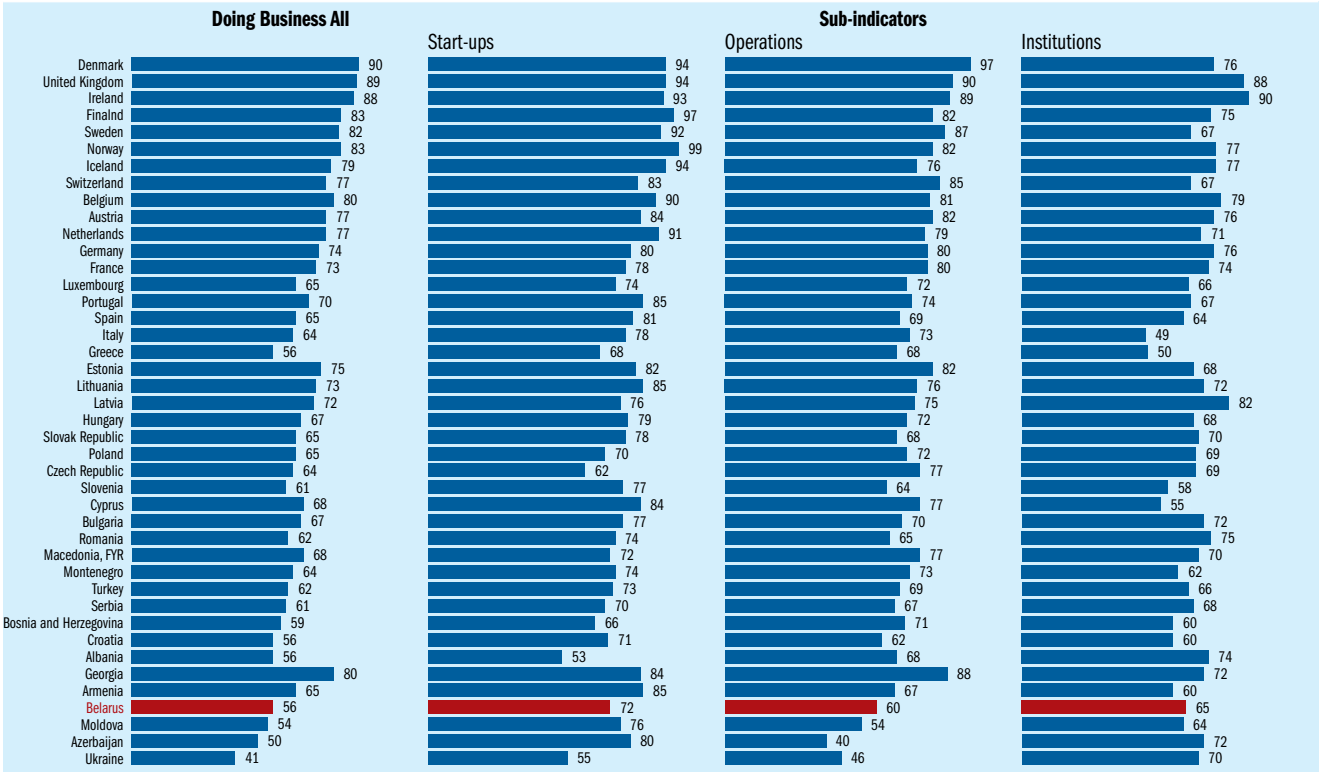
Institutional Quality of the Business Environment

The quality of the business environment is a key determinant of economic growth, private sector development, and FDI attraction. Evidence confirms that reducing regulatory burden on firms increases their productivity.[43] Well functioning business environment enables a healthy reallocation of resources in the economy from declining sectors and firms to more resilient sectors and new firms. This, in turn, contributes to generating employment and growth. In addition, overcoming key obstacles to business operation attracts FDI and encourages domestic investors with resources to start new ventures.

Despite some gradual economic liberalization in Belarus, regulation remains pervasive compared to most of the European countries (figure 4.1). Using principal component analysis of Doing Business (DB) indicators, Belarus is at the bottom on the overall quality of the business environment index, 39th in 42 European economies. The performance by sub-indices (business entry and exit; business operation and institutional environment) varies, with key progress in business start up and property registration and major weaknesses found in the area of cumbersome regulatory environment for business operation as well as poor protection of property rights.

43 Bastos, F., and J. Nasir (2004); Escribano, A., and J. L. Guasch (2005); Scarpetta et al. (2002); Dollar, D., M. Hallward-Driemeier, and T. Mengistae (2005).

Figure 4.1. Quality of Regulation Index Based on Doing Business Indicators

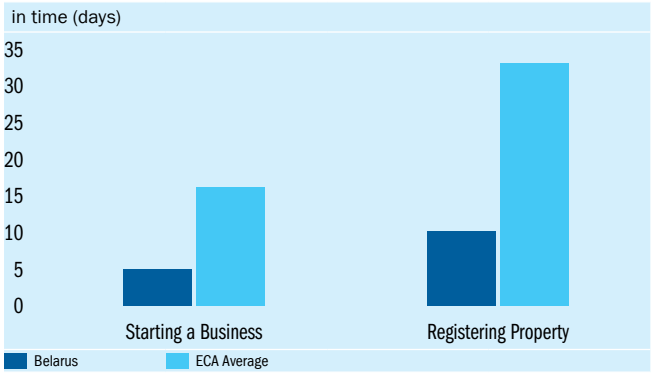


Source: World Bank (2012).

Belarus has made a notable progress in easing business entry. Over the last five years, Belarus made a stride in improving various aspects of business regulatory environment. This has been reflected in the improvement of the overall country ranking from 115th in DB 2008 to 69th in DB 2012.[44] The most notable reforms took place in regulatory simplification in starting a business and registering property. The time needed to register a business was cut from 79 days in 2006 to 5 days in 2010 and to register property—from 231 to 15 days. As a result, by 2011, Belarus had outperformed most of its regional peers on these two dimensions (figure 4.2).

The licensing regime has also been improved recently. In 2007, the number of activities requiring licenses was reduced from 150 to 53 along with some simplification of licensing procedures. In 2011, the number of economic activities subject to licensing requirements was reduced further to 37, the licensing procedures and requirements simplified, the time required for license acquisition shortened by half (from 30 to 15 days) and for extension/renewal of licenses by 1/3 (from 15 to 10 days), and the

Figure 4.2. Business and Property Registration, Belarus and Regional Average, 2012



Source: Doing Business 2012.

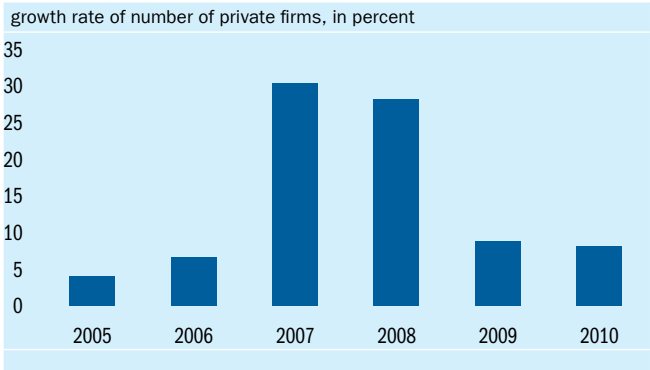
44 Due to changes in methodology, pre-DB 2011 rankings are not fully comparable.

list of documents required for obtaining a license was reduced.[45] Removal of licensing requirements for retail trade and catering is one of the most notable changes.

However, licensing still remains a serious obstacle for business entry and operation. First, the list of activities subject to licensing requirements remains extensive; many activities are divided in sub-groups, totaling around 220. Second, many activities, such as printing and publishing services, legal services, not posing public concerns (health, safety, security) remain on the list. Third, in many instances, the licenses were replaced by burdensome certification procedures. And, finally, there is no proper appeal mechanism in case of license is revoked.

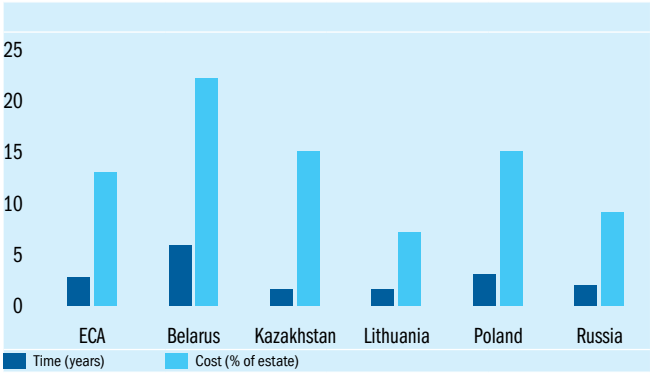
Notwithstanding the significance of the regulatory improvements related to business entry, they have not translated into a vibrant private sector creation. With eased regulatory requirements for entry, the number of new private firms increased by some 30 percent in 2007 and 2008, albeit from a very small basis. The rate of private firm growth decelerated greatly in 2009 and did not recovered in 2010. Low private firm growth in 2009 could be explained by the global financial crisis of 2008/09 (and overall economic contraction in Belarus, when GDP growth decelerated from 10 percent in 2008 to 0.2 percent in 2009). However, high reported economic growth in 2010 (7.6 percent), continued liberalization rhetoric and also some concrete steps to improve business environment did not spur private business creation; in fact, it was even lower than in the previous crisis year (figure 4.3.).

Figure 4.3. Private Sector Firm Creation, 2005–10



Source: Belstat.

Figure 4.4. Resolving Insolvency: Belarus and Regional Comparators



Source: Doing Business in 2012.

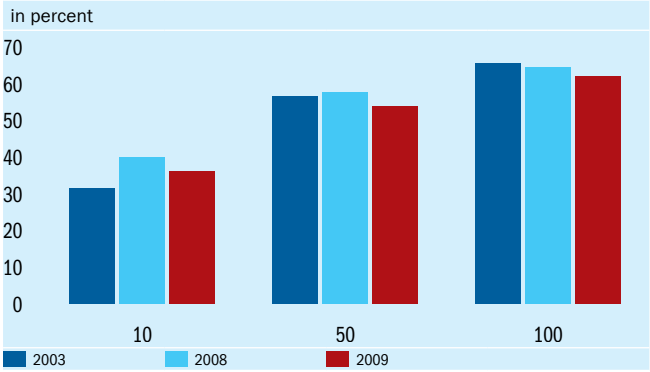
The exit process is cumbersome, holding back business entry and restructuring of SOEs. Effective exit mechanisms and efficacious enterprise rehabilitation procedures are important to preserve the value of distressed but viable businesses, thus reducing unnecessary job losses and other misallocations of productive resources. According to DB 2012, the Belarusian business closure mechanism ranks 82nd (of 183) globally (figure 4.4). Regionally, Belarus is 13th of 24 countries, but insolvency procedures in Belarus are among the costliest and the lengthiest ones in ECA. Moreover, unlike other DB dimensions, there were no changes in this area since 2003 (the first year of assessment).

45 Presidential Decree #450 from September 1st 2010.

In addition, the enterprise rehabilitation framework is deficient. There is no mechanism for an independent assessment of a proposed rehabilitation plan; no obligation for the debtor to provide the information needed by creditors to assess the plan; no restrictions on voting on the plan by parties connected to the debtor; no mechanism for binding dissenting minority creditors; and no provision for post-commencement financing. As a result, many enterprises (especially SOEs, benefiting from substantial state support and subsidies) have become subject to soft budget constraints, which prevent firm exit and competition and distort resource allocation in the economy (as discussed in chapter 2 and chapter 3). In recognition of these factors, a new Law on Economic Insolvency (Bankruptcy) aiming to streamline procedures and shorten the time for market exit has been drafted. The draft Law will be considered by the Parliament in 2012.

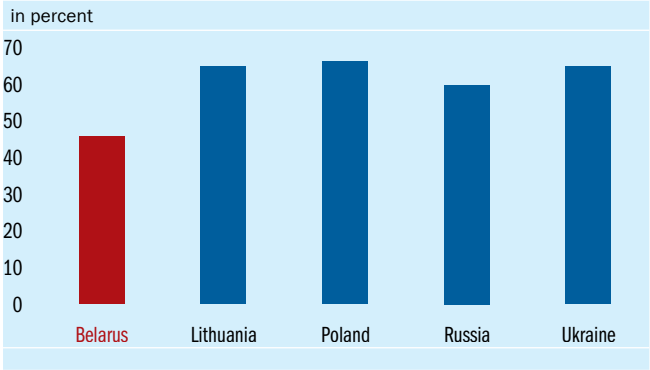
The burden of regulations faced by an enterprise in managing recurrent operations remains high. Business operations cover an array of aspects, including the degree and fairness of competition, access to resources, taxation. Private companies in Belarus operate at highly concentrated markets (see, figures 4.5 and 4.6). Government support of SOEs, including through GDL programs, makes the competitive landscape very difficult for private companies, highly distorting a playing field between SOEs and private companies, especially with respect to access to capital (box 2.1). Not surprisingly, the country ranks at the bottom of the EBRD competition policy index (figure 4.7).

Figure 4.5. Belarus: Share of Largest Enterprises in Total Industrial Output



Source: Belstat.

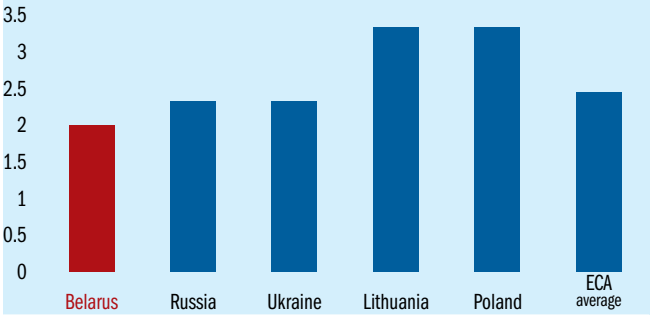
Figure 4.6. Firms with More than Five Competitors in the Main Market



Source: Business Environment and Enterprise Performance Survey.

Belarus has traditionally kept tight control over product and factor markets with business activities being subject to significant price controls. After 2007, the gradual removal of price controls became a part of the government's agenda for improving the business environment. Between 2008 and early 2011, a number of price liberalization measures were implemented, which significantly reduced the application of price regulations, particularly for

Figure 4.7. Competition Policy, EBRD Scores, 2011



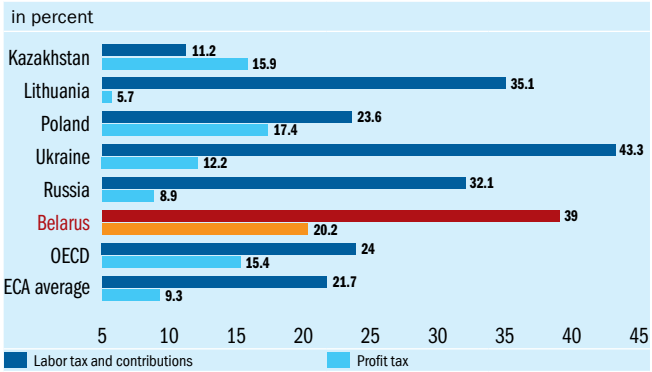
Source: EBRD Transition Report 2011.

producers.[46] Despite these important steps toward price liberalization, the scope of price controls remained large with price-controlled products and services representing over 4o percent of households' consumption in 2010 and the list of goods and services subject to administrative price regulation still remained excessive with 41 broad categories in place.[47]

Some price controls were (re)introduced in 2011 in response to the macroeconomic crisis. With the aim to contain price increases for essential goods, especially food, the list of socially-important goods was expanded both through the inclusion of new categories and expanding the existing ones.[48] Now the list of socially important goods and services, which prices are regulated either by the Ministry of Economy or by local authorities includes 27 food categories, 5 non-food categories and 5 services categories. In addition, regulation of retail trade margins was strengthened and additional administrative controls to limit price increases of imported products were introduced.

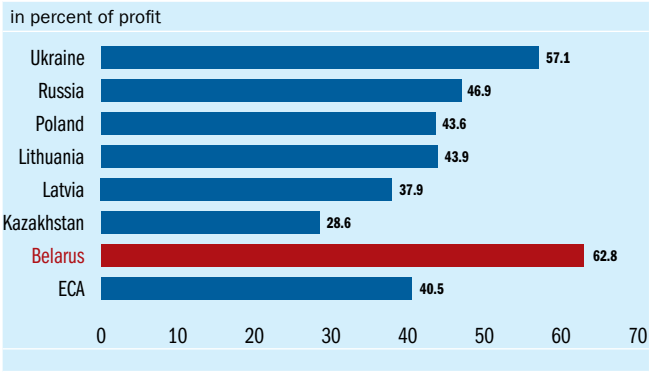
Despite recent improvements, the tax burden on the business sector remains high. Since 2005, Belarus has made significant progress in simplifying the tax system and reducing the tax burden on businesses.[49] Yet, profit and labor taxes remains high (figure 4.8). Overall tax burden on medium-sized companies in Belarus at almost 63 percent of profit is one of the highest in the ECA region (figure 4.9). High corporate taxation adversely affects competitiveness and incentives to engage in business. Statutory tax rates in Belarus are also higher than in most countries in the region.[50] Some further improvements in tax policy and tax administration are envisaged for 2012, among which is the reduction in the statutory profit tax rate from 24 percent to 18 percent, the introduction of a system of accelerated depreciation for taxation purposes, as well as a mechanism of loss carry-forward to future profits without any restrictions. These are positive and important initiatives which if implemented will reduce the tax burden on businesses in Belarus.

Figure 4.8. Labor Tax and Contributions



Source: World Bank various country reports.

Figure 4.9. Total Tax Rate



Source: Doing Business in 2012.

46 The price liberalization was implemented through (i) eliminating the requirements for price registration (including for new goods) and removing administrative limits on increases in prices, (ii) removal of retail trade margins for domestic and imported goods (excluding a limited list of socially important goods and goods subject to monopoly power), and (iii) reducing the list of socially-important goods and services subject to administrative price controls. See also, World Bank (2011_a).

47 Presidential Decree 72 of February 25, 2011.

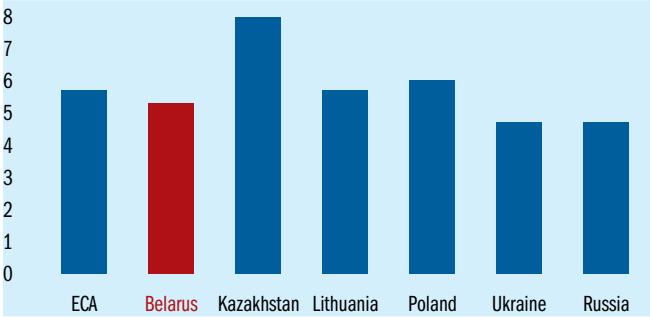
48 While initially these measures were seen as temporary (valid for 90 days), they received a permanent status with the enactment of the Government Resolution #1655 from December 7, 2011, which further expanded the list of socially important goods and services and abolished the reference to the time frame of the application of these measures.

49 See World Bank(2011_b).

50 Ibid.

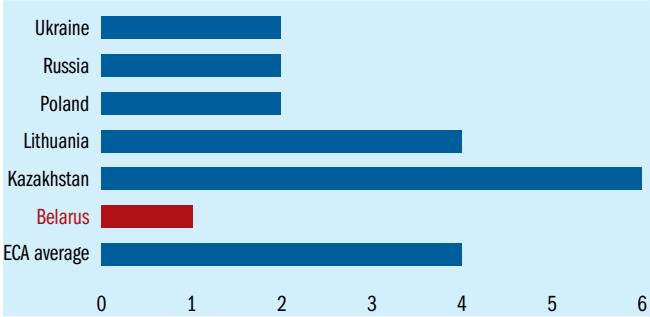
Property rights protection, including IPRs, legislation and enforcement, remains weak. A strong property rights regime reduces the risks of expropriation of investments that, once sunk, cannot be easily transferred. Belarus ranks 79th globally in DB 2012 Investor protection index.[51] The recent improvement (from 108 in DB 2011) is related to the introduction the requirement for a greater corporate disclosure to the board of directors and to the public. Belarus outperforms its eastern neighbors (Russia and Ukraine), but lags behind its Western neighbors (Poland and Lithuania) and Kazakhstan—its Customs Union partner (figure 4.10). A relatively satisfactory for the region overall index, however, masks the pitfalls of minority investors protection. In particular, in such area as extent of director liability index[52], Belarus scores the worst in the region (figure 4.11.). Moreover, over time the situation has worsened. Investor protections matter for the ability of companies to raise capital they need to grow, innovate, diversify and compete. If the laws do not provide such protections, as is in the case of Belarus, investors may be reluctant to invest unless they become the controlling shareholders.

Figure 4.10. Investor Protection Index



Source: Doing Business in 2012.

Figure 4.11. Director Liability Index



Source: Doing Business in 2012.

Insecure property rights intensify concerns of appropriability.[53] The seriousness of the appropriability issue is illustrated well with respect to the reversibility of privatization deals: while the privatization law is reasonably adequate, there exist a 10-year period for nullifying a privatization transaction on procedural or substantive grounds. This has several potential adverse consequences, including: (1) investors are discouraged from investment based on the risk of transaction reversal within 10 years; (2) investors may lower the purchase price to compensate for the risk; and (3) investors may decide not to invest in significant capital expenditures in view of the risk of a reversal of the deal. Reversal of transactions should be done on very narrowly prescribed grounds linked to fraud and transaction materiality, intentional non-disclosures or other major intentional failures by either party.

51 Doing Business measures the strength of minority shareholders protection against directors' misuse of corporate assets for personal gain. Rankings are based on three indicators with equal weight: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index) and shareholders' ability to sue officers and directors for misconduct (ease of shareholder suits index). For more details on the methodology: http://www.doingbusiness.org/methodology/protecting-investors#directorLiability.

52 Extent of director liability index measures: (1) the ability of shareholders to hold the interested party and approval body liable in case of related-party transactions; (2) available legal remedies (damages, repayment of profits, fines and imprisonment), and (3) ability of shareholders to sue directly or derivatively. The index ranges from 0 to 10, with higher values indicating greater liability of directors.

53 Appropriability refers to the environmental factors governing the investor's ability to capture profits generated from its investment/innovation. Appropriability problems arise mainly from poor governance in the interactions of the public sector with private agents, including through an overwhelming and complicated regulatory system as is the case in Belarus.

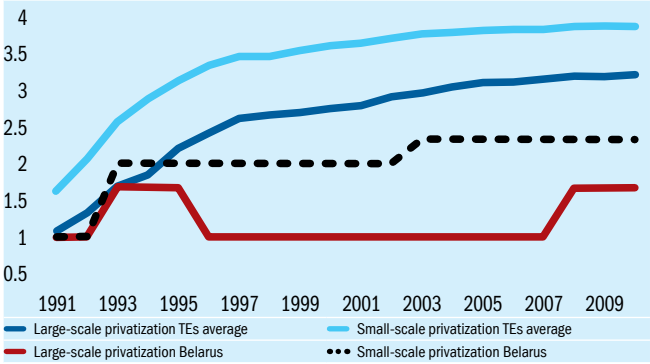
The Role of Privatization

As in most ECA countries, privatization in Belarus could become an important element of the creation of a vibrant private sector. As argued in chapter 3 and in the previous section of this chapter, the dominance of SOEs creates an uneven playing field for existing and potential competitors as SOEs can take advantage of their access to government funding and, in many cases, preferential regulation. Transparent privatization of SOEs can level the playing field for all firms in Belarus. Well functioning private enterprises will compete on price or quality with incumbents, generating benefits not only for consumers, but also for companies along the value chain. They will also spur beneficial market competition as firms will need to innovate in order to maintain their market share.

In addition, privatization could be a catalyst of economic modernization. In particular, restructuring and privatization by strategic investors could be productivity-enhancing for SOEs. By replacing state owners with strategic investors who have stronger incentives to lower costs and take risks by investing in innovation and technology absorption, corporate governance of a company would improve. Moreover, by incorporating the acquired company in its supply chains, technology transfers from the new foreign owner and its international operations to the local managers could happen with ease.

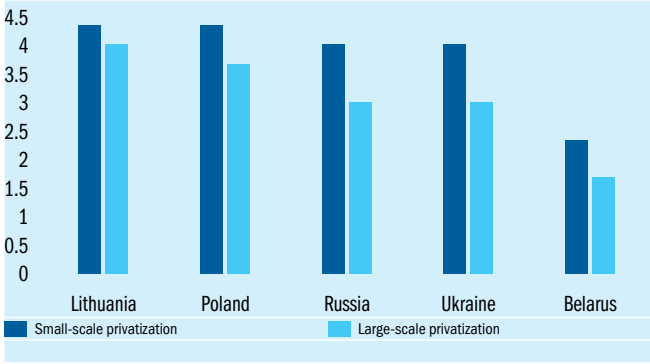
However, Belarus has yet to reap the benefits of privatization. Restructuring and privatization of SOEs have been very slow. After some initial efforts, no progress was achieved in small-scale privatization between 1993 and 2002. Large-scale privatizations were reversed in 1995 and virtually stalled till 2007 (figure 4.12.). In 2011, the EBRD privatization reform indices for Belarus are as low as 2.33 and 1.67 for small- and large-scale privatization, respectively and well below the ones of its regional peers (figure 4.13).[54] Slow and erratic privatization is a primary reason for the lack of a critical mass of diversified owners powerful enough to pressure the government to provide a friendlier, more transparent and equalizing business environment. Moreover, the existing state of the business climate in Belarus undermines the attractiveness of investments in privatized and new private enterprises, depressing their growth and settling the economy into low quality equilibrium (chapter 3).

Figure 4.12. Progress in privatization over time



Source: EBRD Transition Report.

Figure 4.13. The EBRD privatization reform index: Belarus and its peers, 2010



Source: EBRD Transition Report.

54 The EBRD scale reflects "1" as the pre-transition level.

In 2008, the Government tried to reinvigorate its privatization efforts. The importance of private (mostly foreign) investment for modernization of the ailing Belarusian enterprises has been proclaimed in all major strategic documents. Yet, large enterprises have always been considered an important instrument for direct control of the economy and providers of employment and social services. As such, their restructuring and privatization kept being postponed. Mounting competitive pressures from emerging market suppliers in external markets as well as widening current account deficit led the authorities to begin recalibrating their approach to large-scale privatization. Among the measures taken were a number of asset sales involving foreign investors, the abolishment of the golden share rule, lifting the moratorium on the sale of individual shares and the requirement to sell shares to workers.

The privatization program implementation, however, neither led to significant reduction of state ownership nor did it bring a notable inflow of FDI. Of 649 transformed enterprises, only about ¼ were privatized, and the shares of only 7 medium-sized JSCs in which the state held 100 percent of stakes were sold (figure A4.1.1). As of November 1st 2011, the state's share in 2/3 of the corporatized ("transformed" into JSC) SOEs exceeded 75 percent. Only in 10 percent of JSCs, the state stake was less than 25 percent.[55] JSCs with state stake of above 75 percent employ 73 percent of total employed at the corporatized SOEs, whilst the JSCs with state stake of less than 25 percent employ only 8.5 percent of total.[56]

The widening of external imbalances has increased the role of privatization as a potential source of budgetary income and foreign exchange. Privatization revenues used to play a secondary role in the privatization process and privatization proceeds accounted for 0.1 percent of GDP on average during 2001-2006. They increased to 1.6 percent of GDP on average during 2007-2010, largely due to the few large asset "fire" sales (see, table A4.1). In 2011, in the face of on-going macroeconomic crisis, large privatization deals brought much needed foreign exchange with the remaining 50 percent stake of Beltransgas sold to Gazprom (see box 1.1).[57]

Only recently, has the government re-launched broad privatization efforts. The government adopted a new three year privatization program (2011–13), which includes 245 fully or partially SOEs from a variety of sectors such as construction, transport, food production, garments, and mechanical equipment. These are mostly medium size enterprises requiring major restructuring and injection of capital and know-how due to obsolete technologies, outdated products, and disappearing or dependent on public orders markets. The prevailing methods of privatization are auctions and tenders. While the approach to privatization of medium size enterprises has been more pragmatic than for large SOEs, until now, privatization auctions have had minimal success with only about 20 percent of the companies put up for auction sold, and a limited number of bids resulting in sales at a significant discount.

The disappointing results of privatization, both, in terms of the scale and its impact on enterprises, have several reasons:

55 The privatization process starts with SOEs' "transformation", i.e. corporatization of SOEs in JSCs with 100 percent of state stake with a potential possibility further incremental sales of shares to non-state investors.

56 Source: State Property Committee. Information on employment refers to republican property only.

57 The Eurasian Economic Community ACF policy package conditions Belarus to US$7.5 billion in privatization proceeds over the three-year period.

- *First, there are very strong disincentives to privatize.* All main stakeholders are interested in avoiding privatization, even when it is mandated by high level policies and decisions. State bureaucracy would not like to lose control over the enterprises, as SOEs are still perceived as an important provider of public goods - employment and subsidized consumer products—and also give bureaucrats control over an important source of rents. The workers dislike the idea of privatization as they rightly expect that the new owners would rationalize employment and dispose of non-core assets and activities. The directors of state enterprises resist privatization as they are afraid that a new owner would likely replace them. As a result, the authorities are preemptively lobbied to remove enterprises from the privatization list outright or, if it is not possible, to impose privatization conditions (starting price, employment, mandatory investment) which makes enterprises unattractive to investors.

- *Second, the process of privatization and investment in privatized companies is cumbersome and lengthy.* While the State Property Committee is the primary governmental body assigned with the task of privatizations, the local and central authorities, industrial associations and line ministries remain heavily involved in the process. Ultimately, the President approves every transaction. It remains unclear to a potential investor who is its main counterpart in any given transaction.

- *Third, information about the assets to be sold is incomplete, difficult to obtain, and of limited reliability, not least because of the incompatibility of financial statements with International Financial Reporting Standards.* The valuation of the assets to be sold is unreliable due to the fact that the appraisers who are employees of the state owned Belarusian Institute of Valuation are under pressure to reflect valuations that are close to or exceed book value. The book value of SOEs overstates usually the market value of the company.

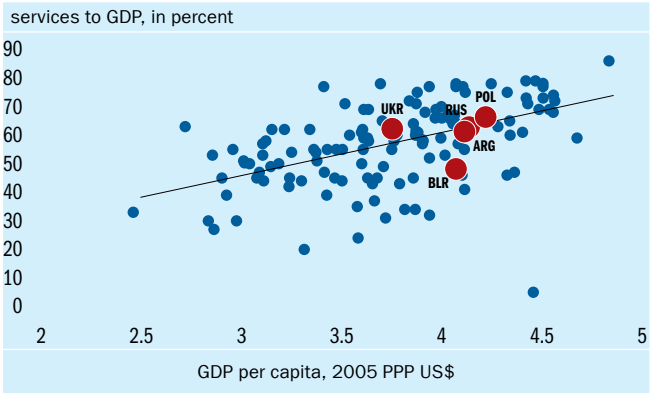
Thus far, the privatization practices invariably have reduced the pool of potential investors. As a result, the investors in Belarus are the few that are more familiar with the country and with ties to authorities. Faced with the tough choices, the government opted for delayed privatization through offering shares as a collateral for the commercial banks loans of the most attractive companies, Belaruskalii (producer of potash fertilizers) and Naftan (refinery), which would be converted into shares if not paid back on time. Continued politicization of privatization and the fire sale conditions do not bode well for privatization as an instrument for improving productivity and competitiveness of privatized companies. Potential investors are not sourced from the broad pool of international markets and cannot ensure that they would provide the needed new technologies and know-how to improve Belarus' competitiveness globally.

The recent privatization efforts would bring positive results only when implemented in a stable macroeconomic environment and in the context of the broad, complex and well-sequenced medium-term structural reform agenda. This agenda has to address the linkages between private sector development and the environment, management and incentives for efficiency improvements in SOEs. In 2009, the World Bank established a dialogue with the Belarus government to help the country toward "quality" privatization deals (annex 4.2). If the project is successful in attracting strategic investors and in gaining the Government's confidence in the privatization process, it should open the door to a more expansive structural reform effort of the enterprise sector in Belarus. This is confirmed by the lessons learnt from the extensive global experience in undertaking privatization of state owned assets (see, annex 4.3).

B. Developing the Services Sector

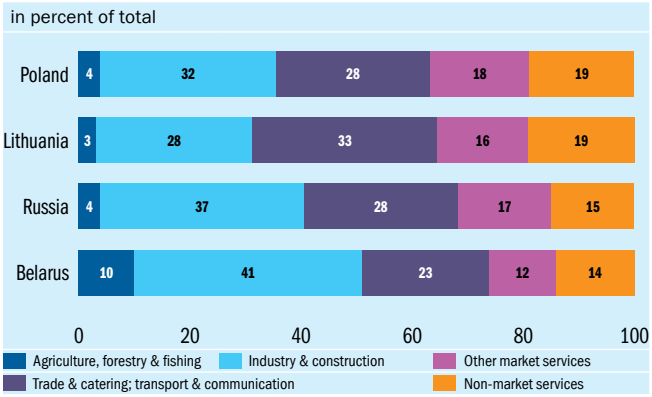
The share of services in GDP in Belarus is significantly lower than what would be expected, given its income level. Belarus is below the trend line of services-to-GDP ratio compared to the other economies at its level of income (figure 4.14). After two decades of independence, Belarus's value added structure still resembles the one of a planned economy–with large manufacturing and agricultural sector and underdeveloped services sector and differs substantially from the one of its neighboring countries (figure 4.15.). In contrast with international experience, the contribution of services to GDP growth in Belarus declined from over 60 percent in 2001 to just above ¼ in 2010 (figure A4.1.2).[58]

Figure 4.14. GDP Per Capita and Share of Services in GDP in 2009



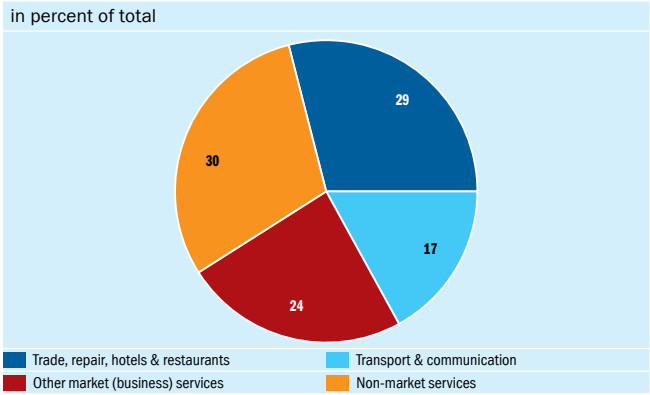
Source: World Bank calculations based on WDI data.

Figure 4.15. Value Added Structure: Belarus and Comparators, 2010



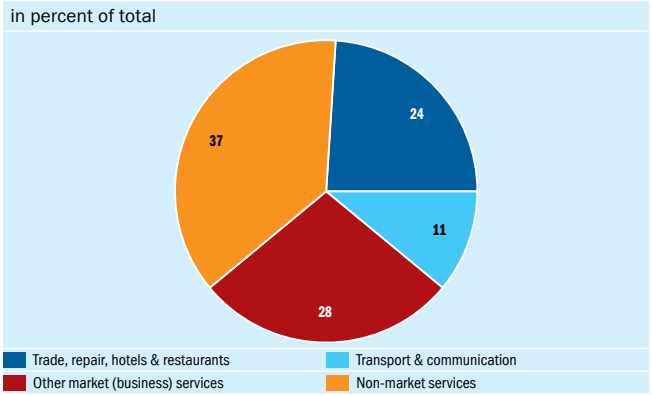
Source: World Bank calculations based on Belstat (using OKED classification), Rosstat, and Eurostat data.

Figure 4.16. Services Sector Value Added Structure, 2010



Source: World Bank calculations based on Belstat data (using OKED classification).

Figure 4.17. Services Sector Employment Structure, 2010



Source: World Bank calculations based on Belstat data (using OKED classification).

Within services, non-market services continue to dominate. In 2010, non–market-oriented services accounted for 30 percent of services value added and 37 percent of total employment in services sector

58 The services sector contributed over 50 percent to growth in middle-income countries and almost 90 percent in high-income countries between 1995 and 2005, and the trend is expected to continue (McKinsey 2010).

(figures 4.16 and 4.17; figure A4.1.3).[59] This is significantly higher than would be expected in market economies of similar income, with potentially significant implications for Belarus's public finances. Transport and communications and trade and catering are the two largest services sub-sectors, accounting for about half of total services value added and more than one third of employment.

Business services development could be both a driver and a consequence of the modernization of manufacturing sector. Modern market services (most of business services) account for less than a quarter of total services value added. Yet, they provide almost 30 percent of services sector employment. In a modern economy, manufacturing requires complementary jobs in related business services fields such as logistics, marketing or legal advice. For example, in 2010, in the EU for every manufacturing job there was at least one job in related business services.[60]

However, the development of business services market in Belarus has been slow. As evidenced from survey results, most firms do use business services, but the intensity of use of business services varies greatly by type of services.[61] Importantly, in Belarus, 2/3 of surveyed industrial enterprises in 2009 conducted all business services in house.[62] At the same time, almost 70 percent of surveyed industrial enterprises reported an unsatisfied demand for services directly affecting the competitiveness of industrial output, including those that require high and specialized skills, including upgrading information systems, modern management systems, and personnel training. Recent competitiveness survey of Belarusian industrial enterprises shows, that 40 percent of respondents consider low quality or unavailability of business services as a major impediment for their competitiveness both at domestic and external markets.[63]

The development of business services market is inhibited by the limited demand of SOEs, which continue to perform service functions in-house rather than focusing on their core business. Rapid growth in business services is typically an outcome of specialization in a market economy. As companies focus increasingly on their core functions, they buy more non-core services from third parties (i.e. outsource). Demand for business services is likely to come from larger companies, which in Belarus are either state-owned or with a significant stake of the state. Managerial inertia stemming from the absence of a real competitive pressure on these enterprises and the delay in restructuring are major factors of preserving the provision of business services in-house. Even when businesses contract services outside of their organization, private providers are not at par with state organizations: SOEs tend to outsource business services to SOEs.[64] The suppressed competition, in turn, affects adversely quality and availability of the services provided as well as their prices. With the overall changes in the

59 Non–market-oriented or non-market services include government administration, education, health, social, personal and communal services.

60 Of the 74 million jobs in manufacturing and related to manufacturing services, 30 percent were in other business services, 12 percent were in transport and storage, 7 percent in media and communications, 1 percent in renting and leasing, and 1 percent in R&D. See Europe's Sources of Growth. Presentation of J. M. Barroso, President of the European Commission to the European Council of 23 October 2011. http://ec.europa.eu/commission_2010-2014/president/pdf/sources_of_growwth_en.pdf.

61 A business services survey of 516 industrial enterprises representing eight major industrial sub-sectors was conducted in August 2009 for Belarus Economic Policy Note on Services (World Bank, 2010_c). The main objectives of the survey were to (i) look at the demand-side of market for business services in Belarus, i.e. to identify factors, affecting the use of different business services, and their outsourcing; (ii) access major constrains for business services development and a link between the use of business services and enterprise performance.

62 Business services survey *op. cit.*

63 November 2011 Competitiveness survey *op.cit.*

64 Business services survey *op. cit.*

incentives structure from meeting quantitative targets toward efficiency and innovation, demand for high-quality specialized business services is expected to increase.

Restrictions on foreign equity ownership in the services sector prevent its modernization and FDI attraction. Belarus is the least open country to foreign equity ownership among the 20 East European and Central Asian economies.[65] Sectors such as fixed-line telecommunications services, electricity transmission and distribution, and railway freight transportation are completely closed to foreign ownership. In several other sectors, including media and insurance, foreign ownership is limited to a less-than-50 percent stake. In addition, numerous subsectors are dominated by government monopolies, including, but not limited, to those mentioned above. Those monopolies, together with a high perceived difficulty of obtaining required operating licenses, make it difficult for foreign companies to invest and enter in the services sector of Belarus.[66]

Going forward, the development of modern services, especially business support services, is an untapped source for jobs and economic growth for Belarus. Access to high-quality business services has a positive effect on all sectors of economy—users of these services. Empirical studies have found a significant positive productivity effect of the use of business services.[67] Liberalization of services has a strong positive effect on manufacturing productivity.[68]

By opening the services sector, Belarus could position itself well for attracting quality FDI. Availability of high quality and wide variety of business services impacts investors' decisions about FDI location. The attractiveness of FDI in services is because of their role not only as a channel of technology diffusion, but also as an enhancer of a competitive pressure allowing for reduction of prices and/or increase in the quality and the variety of services. Availability of high-quality, sufficient variety, and relatively low-cost domestic services, in turn, will impact decisions on further FDI, not only in services, but also in manufacturing.

C. Restoring Competitiveness

Belarus is a small open economy with a high trade openness, but highly concentrated export markets.[69] Despite some decline in trade openness in 2010 as compared to 2001, at 140 percent of trade in goods and services to GDP, Belarus has still one of the highest in the region openness ratio (figure A4.1.4). By markets, measured by merchandise trade-to-GDP ratio, Belarus is twice more open to trade with CIS than to trade with EU-27 (figure 4.18.). Belarus is heavily dependent on trade with a single

65 See *Investing Across Borders 2010* indicators for the Eastern Europe and Central Asia region. http://iab.worldbank.org/

66 Investment Climate Advisory Services of the World Bank Group (2010).

67 For instance, one percent increase in the use of business services in the period 1988-90 has resulted in VA growth of 2.6–4.2 percent in four EU countries—Italy, France, Germany, and the United Kingdom. For more examples of empirical findings regarding a positive link between business services use and productivity, see Henk L. M.Kox (2004).

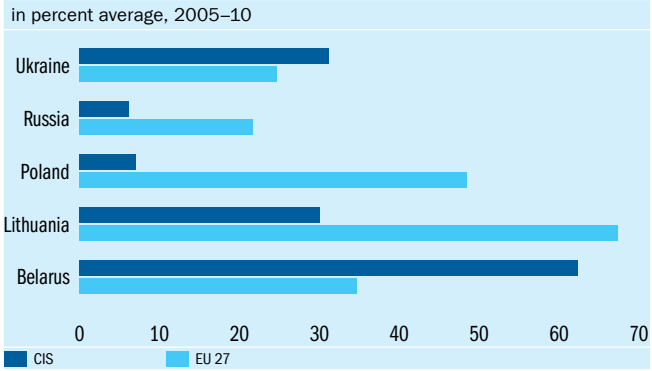
68 A strong systematic link between liberalization in services sectors and the performance of firms in downstream manufacturing industries was found in Czech Republic (Arnold, Javorcik and Mattoo (2007)) and in India (Arnold et al. (2010)).

69 For extensive discussion on trade performance see World Bank (2010_b).

partner, Russia, who accounts for about 80 percent on average trade with the CIS during 2005–10. However, with Russia not being at the frontier of technology transfer/diffusion or technological content of output, Belarus has lowered its opportunities to improve its competitiveness. Russia is also not at the frontier of institutional advances that shape incentives to develop or adopt new technologies.[70]

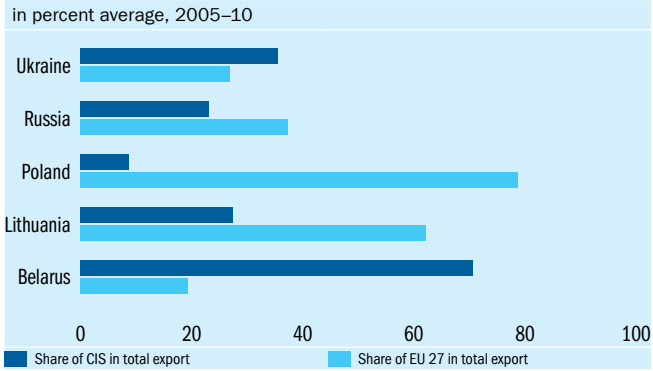
High export concentration limits Belarus's opportunities for growth. The integration with the rest of the world has been slow, leaving Belarus behind regional peers (figure 4.18). The share of the EU in Belarus non-energy/non-mineral trade remains stagnant (figure 4.19). And the increase of other markets (i.e. China, India, Brazil) in Belarus's export basket is almost entirely due to the export of fertilizers (potash). Export to non-CIS has been increasingly driven by mineral products and has become increasingly concentrated in terms of products and markets (see also chapter 1).

Figure 4.18. Openness to Trade with the EU-27 and with CIS



Source: World Bank calculations based on WDI and WITS/UN COMTRADE data.
Note: Trade (X+M) in goods in percent to GDP, current US$.

Figure 4.19. Share of CIS and EU-27 in Total Non-Mineral Export



Source: World Bank calculations based on WDI and WITS/UN COMTRADE data.
Note: Trade (X+M) in goods in percent to GDP, current US$.

Belarus's revealed comparative advantages have weakened in tandem with increased export concentration.[71] Revealed comparative advantage is an indicator of the degree to which a country specializes in a particular product. The products could be clustered by the relative intensity of use of different factors (raw materials, petroleum, capital, skilled and unskilled labor, land).[72] Since 2000, Belarus's export basket of products has shifted markedly away from machinery and capital intensive goods toward raw materials and petroleum. Belarus lost comparative advantages in the EU-27 market in the export of all categories but petroleum products (figure 4.20.). The picture is different, but also more worrisome with respect to Belarus's trade with Russia: Belarus gained RCA in export of raw materials, labor intensive and animal products, but lost it in machinery export (figure 4.21; see also chapter 3).

With respect to the export of services, there is a potential for Belarus to strengthen its competitiveness and explore the comparative advantage of its central transit location. Total services export increased almost 4.5 times in 2010 as compared to 2000, but imports of services grew faster by 5.5 times

70 Acemoglu, Johnson & Robinson (2005); Rodrik, Subramanian & Trebbi (2004).

71 The revealed comparative advantages (RCA) index shows how the country export composition has been changing vis-à-vis the rest of the world. One commonly employed RCA index is the so-called "Balassa measure," which compares a product's share in the country's exports to its share in world exports. When the index is calculated for specific markets or partners, it is often called the Export Specialization Index (ESI).

72 The classification was introduced by E. Leamer (1984).

Figure 4.20. RCA Index by Leamer Clusters, EU-27 Market

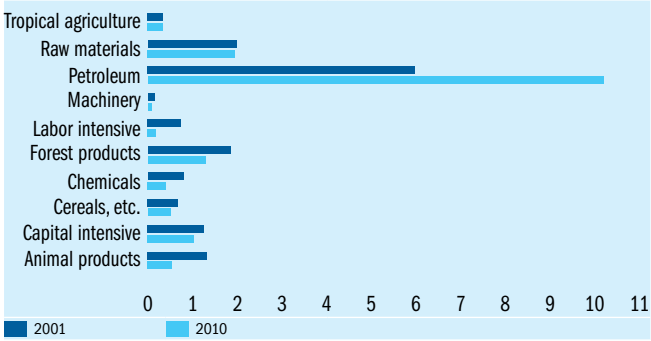
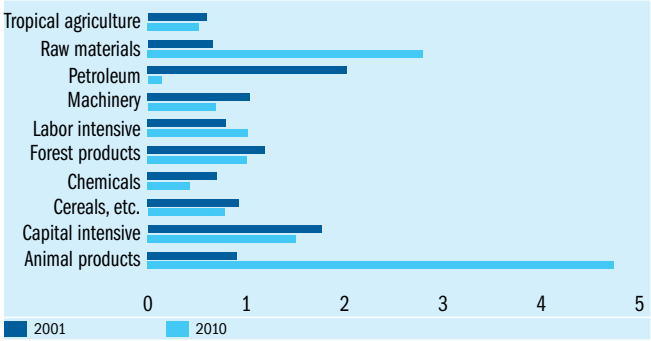


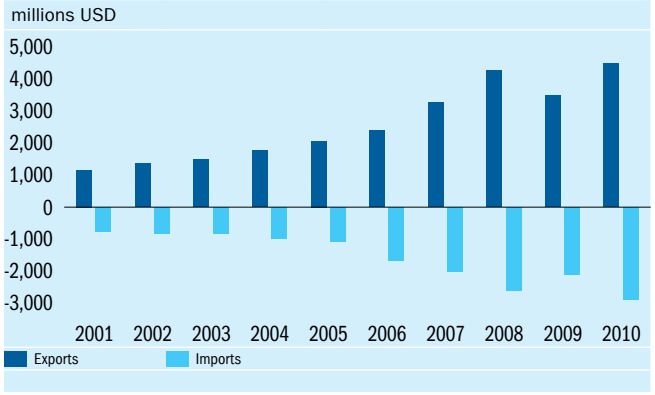
Figure 4.21. RCA Index by Leamer Clusters, Russian Market



Source: World Bank calculations based on WITS/UN COMTRADE data.
Note: Calculated at 6-digit HS. Followed Klinger (2010) we put all fertilizers (i.e. all HS3104 categories) in raw materials cluster.

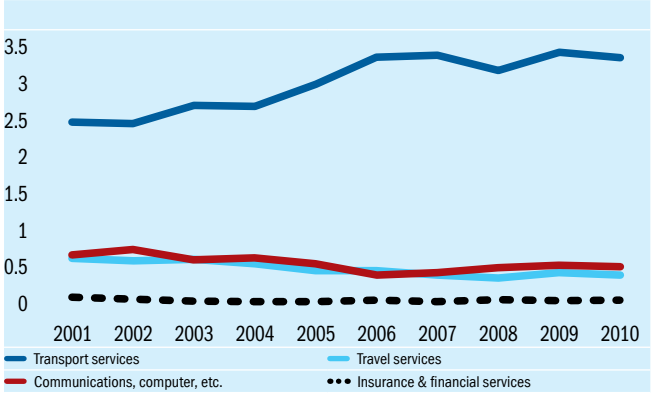
(figure 4.22). As a result, surplus in trade in services was offsetting a declining share of merchandise trade deficit (annex 4.1). Not surprisingly for a transit country, transport services play a dominant role, accounting for 2/3 of total Belarus's exports of services (annex 4.1). Export of computer and information services has grown the most, 33 times increase in the past decade, albeit from a very low base. The share of computer and information services in total export of services increased from a negligible 0.6 percent in 2001 to almost 5 percent in 2010. While the surplus in trade in services was maintained in the past decade, none of the services categories, except transport services, strengthened or gained comparative advantages (figure 4.23). Growth in Belarus's export of services, including modern business services, has lagged behind the global trend.

Figure 4.22. Trade in Services



Source: National Bank of the Republic of Belarus.

Figure 4.23. RCA in Services

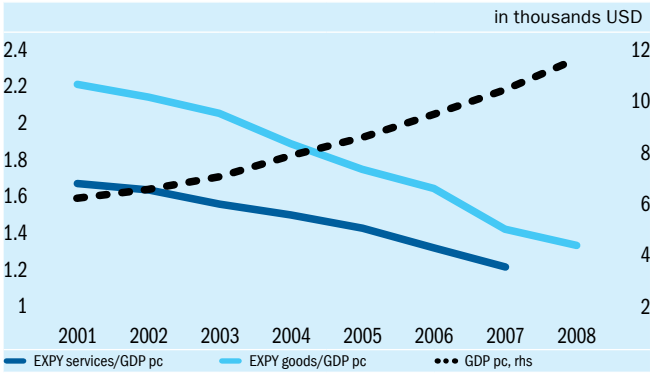


Sources: World Bank calculations; National Bank of the Republic of Belarus data.

Improving export sophistication in both goods and services can become a new source of income growth for Belarus. Significant income growth in Belarus has not been accompanied by the respective increase in export sophistication. As a result, the ratio of export income (both for merchandise export and for services export) to GDP per capita fell (figure 4.24).[73] In contrast, empirical evidence suggests

73 See Annex 4 for methodology on EXPY.

Figure 4.24. EXPY in Goods and Services, Belarus

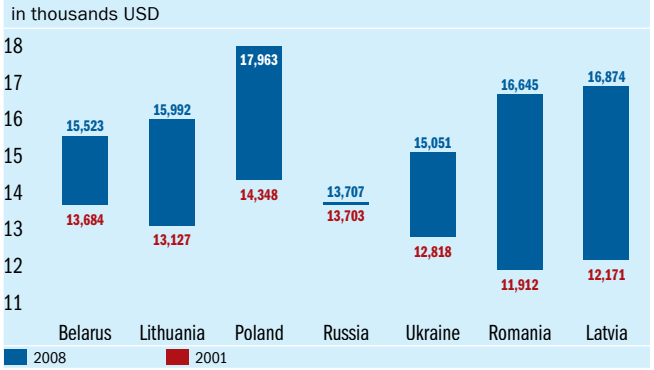


Source: World Bank calculations based on WITS/UN COMTRADE and WDI data, Mishra, Lundstrum and Anand (2011).

that the successful middle income countries of the world have vigorously moved up the ladder of product sophistication.[74]

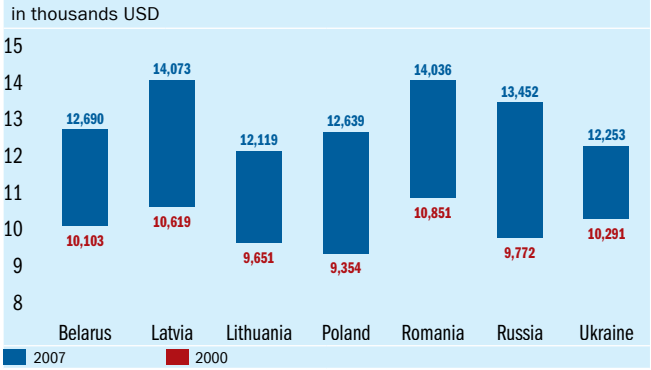
Hence, if this trend of narrowing the gap between export income and GDP per capita in Belarus continues, the long-term growth prospects of the country are likely to diminish. While other regional comparators like Poland, Romania, Latvia, and Lithuania shifted the composition of their export baskets toward new more sophisticated activities, Belarus increased its export concentration in raw materials and petroleum products between 2001 and 2010. For this reason, although Belarus started the present decade with approximately equal or higher EXPY than those countries, it has since been overtaken (figures 4.25 and 4.26). In other words, Belarus is increasingly competing with poorer countries rather than with richer more sophisticated supplier countries, and is steadily downgrading the sophistication of its export mix.

Figure 4.25. Goods EXPY: Belarus and Comparators, 2001 and 2008



Source: World Bank calculations based on WITS/UN COMTRADE and WDI data, Mishra, Lundstrum and Anand (2011).

Figure 4.26. Services EXPY: Belarus and Comparators, 2000 and 2007



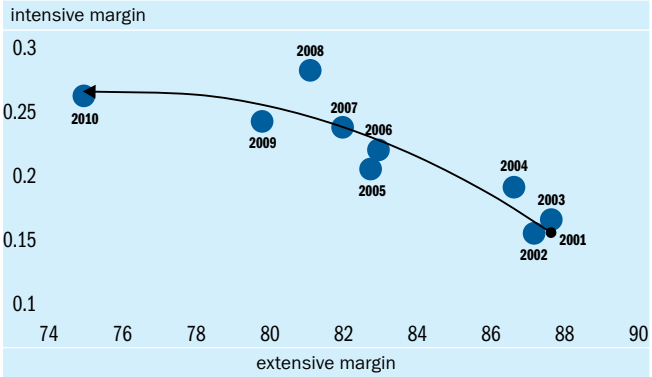
Source: World Bank calculations based on WITS/UN COMTRADE and WDI data, Mishra, Lundstrum and Anand (2011).

Belarus's economic growth prospects depend on the development of the country export capabilities. So far, Belarus's export growth has been largely based on the expansion of the same products to the same markets (i.e. the *intensive margin*) as opposed to *extensive-margin*-based growth, involving substantial increase in the range of products exported and discovery of new markets (figure 4.27.). This is, again, at odds with the results of empirical studies on a number of middle income countries, suggesting that as incomes grow export growth is increasingly explained by extensive margin growth.[75]

74 See UNIDO (2009).

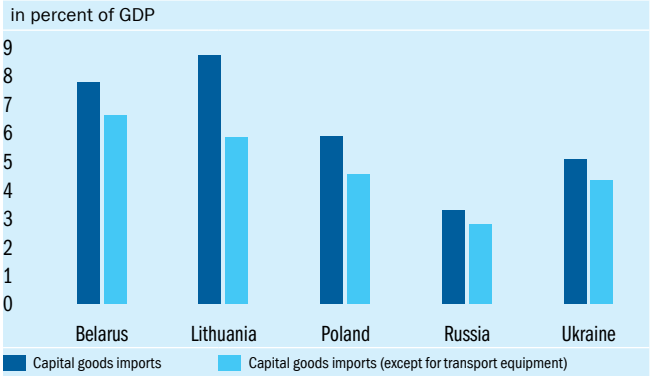
75 Hummels and Klenow (2005); Cong Pham and Will Martin (2007).

Figure 4.27. Intensive and Extensive Margin Growth



Source: World Bank calculations based on WITS/UN COMTRADE and WDI data.

Figure 4.28. Capital Goods Imports, average for 2001–10

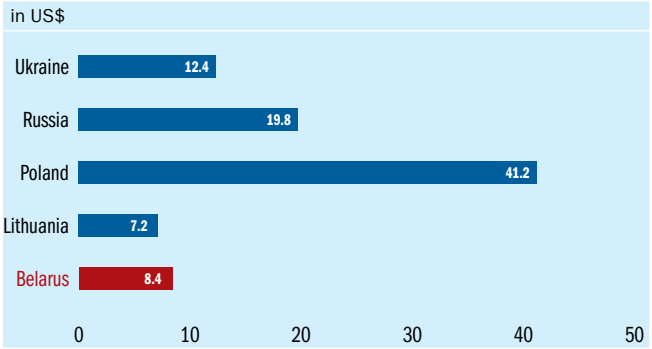


Source: World Bank calculations based on WITS/UN COMTRADE data.

Knowledge is the key to reverting the declining productivity trend and facilitating product development and sophistication in Belarus. There are several obstacles to boosting productivity of the Belarusian economy at present, including:

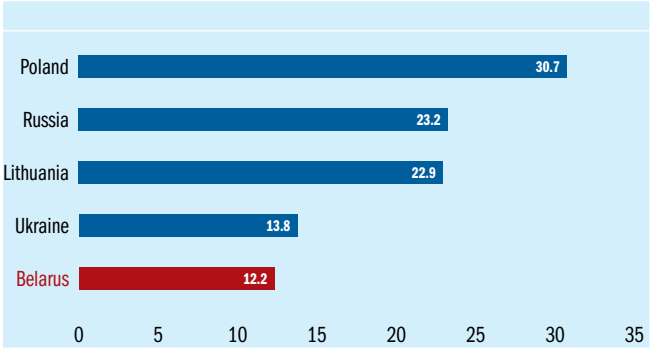
- *Technology adoption is slow and mainly through imports of capital goods.* Channels of technological diffusion are central to growth spillovers and include flows of knowledge through trade, finance, and migration, as well as more direct transfer of technology embedded in physical capital and technological knowledge embodied in human capital. In Belarus, most of the technology adoption comes through capital goods imports, however, while other vehicles for technology adoption remain underutilized (figures 4.28, 4.29, 4.30). For example, licensing—which is the contractual transfer of technology among firms—is a hardly exploited means of acquiring new technology in Belarus.

Figure 4.29. Royalty and License Fees Payments Per Capita, 2007



Source: World Bank KEI/KAM database.

Figure 4.30. Share of Firms with Recognized Quality Certification, 2008



Source: Business Environment and Enterprise Performance Survey 2008/09.

- *Enterprises are slow to adopt organizational practices similar to those introduced in other countries during the past decade.* Slow change has harmed capacity to meet increasing competition from China in traditional product lines on traditional markets. This has made it impossible for Belarus to move forward and compete in the higher quality market segment.

- *Moreover, SOEs massively engage in non-core business activities ineffectively utilizing resources.* Empirical evidence suggest that the use of soft technology in the ancillary stages of production process such as design, logistics, and marketing is an important source of productivity gains at the firm level.

- *The current incentive system does not foster innovation.* Research and development in advanced economies accounts for the bulk of innovative activities, with formal R&D taking only a part of the technology development process. Engineering, production, procurement, and quality management are the major source of innovation and comparative advantage in these countries.[76] In contrast, Belarusian firms, and especially SOEs, do not appropriate the results from innovation increasing their net revenue; their managers may benefit in part from successful innovations but bear the cost of unsuccessful ones. Against this background, the likelihood of the Innovation fund (box 4.1) to be the source of financing of cost reducing innovations is very low: as structured, it operates more as a tax on firms than as a source of financing of new technological and organizational innovations.

Box 4.1. Do the Innovation Funds engender innovations?

The practice of establishing Innovation Funds is rooted in Soviet times. The Innovation Funds existed as off-budget funds prior 2005 and were incorporated into the budget as an earmarked budget funds afterwards. At present, there are more than three dozen innovation funds in Belarus, managed by either line ministries/concerns or by local authorities.

Stipulated by the Presidential Decree #596 from December 7, 2009, the Innovation Funds are financed by levies at the rate of up to 0.25 percent from the costs of goods, works and services. All SOEs or companies with a state stake are taxed. The same Decree sets the right to establish increased norms of allocations to Innovation Funds for certain republican state bodies and other state organizations subordinated to the national and regional governments (up to 19 percent for Ministry of Energy and Ministry of Transport and Communications). In 2010, revenues of innovations funds accounted for 1.3 percent of GDP.

In addition to the general argument of budget integrity and the strategic prioritization of budget resources, which are undermined by the earmarking of budget resources, contributions to Innovation Funds remain the most distortionary and investment-unfriendly features of the tax system in Belarus. The innovation taxes are the last remaining turnover tax in Belarus. The innovation taxes, in particular their variable rates, distort the allocation of resources and the composition of final output.

The continued existence of the Innovation Funds is explained by the fact that line ministries and state organizations view the earmarking of these funds as a way to ensure a minimum level of investments and implement sectoral and regional innovation and energy efficiency programs. However, it is impossible to access whether the Innovation Funds indeed engender more innovation or are simply used as a tool for covering operational expenses of the respective government agency. Their spending is neither driven by the contributors' demand for a certain services, nor linked to particular development outcomes.

76 See UNIDO(2009).

In the absence of well-establish domestic incubator for innovation, quality FDI can become a carrier of know-how and technology transfers. FDI may lead to indirect technology transfer via the building of manufacturing plants and equipment, while there may also be a more direct transfer of know-how in the use of capital-intensive technology, through the training of operational line workers, back-office staff, alternative management practices and better organizational arrangements.

Net FDI inflow in Belarus, however, is low by emerging market standard. Belarus is lagging its regional peers in FDI performance (table 4.1.). The experience of other East European countries shows that they were able to upgrade their industrial enterprises through privatization and attracting FDI. For instance, in Czech Republic, the sale of Skoda to Volkswagen (VW) Group gave access to modern technologies and know-how. This has not been the case in Belarus, despite the fact that the country is strategically located between the EU and Russia. As a member of the Customs Union, it could serve as a gateway for trade to a market of over 165 million people to the East and of over 500 million people in the EU to the West. It has good infrastructure and educated and disciplined labor force. The objective of policy makers should not be simply to attract FDI, but to create conditions that would allow maximization of the benefits associated with FDI.

Table 4.1. Comparative FDI Performance of Belarus and Selected Countries, 2001–10

Economy	Average FDI Inflows				Average Inward FDI Stock			
	per capita		As % GFCF		per capita		As % GDP	
	2001–06	2007–10	2001–06	2007–10	2001–06	2007–10	2001–06	2007–10
Belarus	23	187	4.2%	10.2%	138	753	3.6%	13.2%
Lithuania	242	361	17.4%	12.2%	1463	1463	16.5%	11.3%
Poland	250	404	18.8%	15.8%	1498	1614	16.7%	13.2%
Russia	84	363	10.1%	16.6%	503	1453	7.3%	14.0%
Ukraine	64	175	17.8%	23.8%	387	707	16.7%	23.5%

Source: World Bank calculations based on WDI and UNCTAD data.

Last but not least, a WTO accession could provide an anchor for strengthening competitiveness through opening new opportunities for trade. Belarus has been involved in the process of WTO accession for more than 18 years but this process is far from completion.[77] WTO membership is expected to be beneficial to Belarus due to improved market access to WTO member countries, reduced tariff and non-tariff barriers to trade, harmonization of national legislation with the WTO rules and requirements.[78] Slow reform implementation and recent reversals will not help Belarus in its aspiration for WTO membership, which became even more topical in light of likeliness of Russia's WTO accession in 2012, exposing Belarus to higher competitive pressures on its major market and leaving much less time for too gradual adjustment.

77 Belarus submitted its application for WTO accession in September 1993; the Working Party was established a month later and held its first meeting in June 1997. Six more Working Party meetings were held since then, the last one—in May 2005. The goods offer has been under negotiation since 1998 and the services offer since 2000. The Factual Summary was drafted in 2004 and revised in 2007. To date, Belarus concluded 10 bilateral market access agreements.

78 Benefits from the WTO accession are estimated of GDP increase by 3.4 percent and welfare increase by 1.6 percent. See Pavel and Tochitskaya (2004).

D. Policy Recommendations

Belarus needs a new growth strategy to help the country revert the declining trend in productivity, improve the allocation of factors of production and find new sources of income. This chapter argues that to achieve these goals, the new growth strategy needs to embrace three closely linked elements of: (1) developing the private sector, (2) growing the services, (3) diversifying exports and markets in order to raise productivity and improve the allocation of factors of production.

The policy recommendations arising from the analysis above are broken down by thematic areas, analyzed in this chapter:

- *Improve the business environment.* Markets are insufficiently competitive in Belarus with too little firm entry, cumbersome exit and overregulated environment which creates little incentive for firms to increase its productivity, improve its product sophistication, and successfully complete at home and abroad. Effective exit mechanisms and efficacious enterprise rehabilitation procedures are needed to preserve the value of distressed but viable businesses, thus reducing unnecessary job losses and other misallocations of productive resources. Further streamlining of licensing regime will help business entry and operation. Reducing the burden of taxation, controls and inspections on businesses, strengthening the framework for competition; strengthening property and investor rights legal frameworks (land and real estate, IPR) and their enforcement in the courts will lower the costs of business operations and support structural transformation. Social concerns should be addressed by other instruments (targeted social assistance for the most needy), while price liberalization needs to be continued, so that prices can provide private investors' signals for the allocation of capital that would help develop the incipient service sector.

- *Establish a process and start implementing competitive and transparent privatization.* Privatization in Belarus could become an important element of the creation of a vibrant private sector. Privatization could be also strategically used as a tool to attract FDI and send a signal to investors. Privatization should be aimed at investors that bring advanced technology and modern management practices and has to be conducted in transparent and competitive manner. Non-core sectors such as agriculture, food processing, pharmaceuticals, and light manufacturing are suitable sectors to launch competitive and transparent privatizations. Core machine-building enterprises ("top of the chain") could also be sold to strategic investors in tandem with the sale or the restructuring of their "feeder companies". New owners/investors should be relieved from maintaining recommended levels of employment or carrying on any social responsibilities in privatized SOEs. NAIP should be the main vehicle for privatization and ensure a transparent process.

- *Support development of the services sector, including business services.* The services sector may hold the key to unlocking the new jobs and growth potential for Belarus. Development of services sector, especially, modern market (business) services could be an additional engine of growth, both through increased productivity of the sector itself and through synergies with manufacturing growth. Labor-intensive services could also provide an important social cushion by absorbing surplus labor and further structural reforms. The policy measures should include targeted improvement of the

business environment and the lowering of entry barriers for service companies and expanding private participation in utilities, banking, telecommunications, transport and logistics. Divesting non-core assets and non-core functions from SOEs would not only make the SOEs more attractive for potential investors but also support the development of business services market.

- *Enhance competitiveness.* A two-pronged strategy for Belarus would be to strengthen its current comparative advantages and to develop new sources of comparative advantage based on greater technological sophistication. Country's core competencies and factor endowments should drive the diversification process to avoid expensive mistakes. Belarus could continue to develop business areas where there is already a demonstrated ability to compete. At the same time, the country could invest in the development of related (to the areas of comparative advantages) segments of the economy. Importantly, such related segments need not be in the same sector. However, they should utilize the same endowment of factors of production (especially skills) to be internationally competitive.[79] For Belarus, potential areas could include: machinery, capital and labor intensive goods[80], development of business services, transport services. Specializing in product areas where factor endowments are present and capabilities could be developed would provide opportunities for Belarus to achieve global excellence.

- *Improve economic incentives.* The GOB efforts should be focused on changes in economic incentives and improvement of business climate for all economic agents—state and private, domestic and foreign—rather than on provision of individual privileges, benefits, and exemptions. With the dynamic changes in the country's comparative advantages, sector-specific impediments to growth in competitiveness and productivity should be lifted (in line with good international practice), and selected/prioritized horizontal measures can be applied, benefiting current and new potential exporters. This would allow Belarus to reap the benefits of international trade and specialization, to increase competitiveness based on true comparative advantages, thus, boosting productivity and, eventually, returning to a sustainable growth path.

- *Pursue further trade liberalization and advance WTO accession.* Belarus has to further pursue trade liberalization to expose local producers to and not shield them from international competition. Lifting sector-specific constraints for products/sub-sectors with export potential, advancing WTO accession and adoption of EU harmonized standards across the board, including sanitary and phyto sanitary standards would help to increase in the range of products exported and discovery of new markets and, ultimately, transit to extensive margin export growth.

In sum, successful economic rebalancing toward a more efficient economic structure could help Belarus restore and sustain medium- and long-term economic growth. Such a new structure would be more open to entry, operation, and growth of the private sector, including the services sector. Importantly, services could play a greater role in generation of jobs and incomes. Moreover, the new economic model would make Belarus's exports less dependent on energy-intensive production and would open opportunity for supplying competitive products to new market segments.

79 The idea is that products can be related in terms of the core comparative advantage that goes into their production. See Hidalgo, Klinger, Barabasi and Haussman (2007).

80 See for more details World Bank (2010_b).

List of References

Acemoglu, Daron, Simon Johnson and James Robinson (2005). The Rise of Europe: Atlantic Trade, Institutional Change, And Economic Growth, American Economic Review, 2005, v95 (2, May), 546–579.

Adams, Charles L and Chadha, Bankim (1992). Growth, Productivity, and the Rate of Return on Capital (May 1992). IMF Working Paper, Vol. , pp. 1–40.

Arnold, Jens, Beata Javorcik and Aaditya Mattoo (2007). Does Services Liberalization Benefit Manufacturing Firms? Evidence from the Czech Republic. World Bank Policy Research Working Paper, WPS 4109, January 2007.

Arnold, Jens, Beata Javorcik, Molly Lipscomb and Aaditya Mattoo (2010). Services Reform and Manufacturing Performance: Evidence from India. CEPR Discussion Paper no.8011, September 2010.

Bailey, Klinger (2010). Export Composition, Sophistication & Connectedness in Ukraine, Belarus and Moldova. Background paper for Ukraine and Moldova CEMs and Belarus Economic Policy Notes.

Bastos, F., and J. Nasir (2004). Productivity and the Investment Climate: What Matters Most? World Bank Policy Research Working Paper, WPS 3335.

Blanchard, Olivier, and Michael Kremer (1997). Disorganization. Quarterly Journal of Economics 112 (4): 1091–1126.

Cong Pham and Will Martin (2007). Extensive and Intensive Margin Growth and Developing Country Exports. DECRG World Bank.

Crespo Cuaresma, Jesus, Harald Oberhofer, and Gallina A. Vincelette (2012). Firm growth and productivity in Belarus: New empirical evidence from the machine building industry. World Bank Policy Research Working Paper, WPS 6005, March 2012.

Dollar, D., M. Hallward-Driemeier, and T. Mengistae (2005). Investment Climate and Firm Performance in Developing Economies, Economic Development and Cultural Change 54 (2005): 1–31.

EBRD (2011). Transition Report. Crisis in Transition: The People's Perspective. European Bank for Reconstruction and Development, London.

Escribano, A., and J. L. Guasch (2005). Assessing the Impact of Investment Climate on Productivity Using Firm Level Data: Methodology and the Cases of Guatemala, Honduras, and Nicaragua, World Bank Policy Research Working Paper, WPS 3621.

Favaro, Edgardo, Karlis Smits, and Marina Bakanova (2012). Structural Challenges for SOEs in belarus: A Case Study of the Machine Building Sector. World Bank Policy Research Working Paper, WPS 6010, March 2012.

Hausmann, R., and B. Klinger (2006). Structural Transformation and Patterns of Comparative Advantage in the Product Space. Harvard University Centre for International Development Working Paper #128.

Hausmann, R., and B. Klinger (2007). The Structure of the Product Space and Evolution of Comparative Advantage. Harvard University Centre for International Development Working Paper #146 (extended and revised version #128).

Hausmann, R., J., Hwang, and D. Rodrik (2006). What You Export Matters. Working Paper #11905. Cambridge, MA: National Bureau of Economic Research.

Henk L.M. Kox (2004). The contribution of business services to aggregate productivity growth, Industrial Organization 0402005, EconWPA.

Hidalgo, Klinger, Barabasi and Haussman (2007). The Product Space Conditions the Development of Nations, Science 317, 482.

Hummels, David, and Peter J. Klenow (2005). The Variety and Quality of a Nation's Exports. American Economic Review, 95(3): 704–723.

ILO (2009). Key Indicators of the Labour Market, 6th ed. http://www.ilo.org/public/german/region/eurpro/bonn/download/fly_kilm6thed.pdf.

IMF (2011). Republic of Belarus: Selected Issues Paper. *Inflation Targeting in Belarus – Challenges and Options*. IMF Country Report No.11/69, March 2011.

International Finance Corporation. 2010. Business environment in Belarus 2010 : survey of small and medium-sized businesses analytical report.

Izyumov, A., and Vahaly, J. (2008) Old Capital vs. New Investment in Post-Soviet Economies: Conceptual Issues and Estimates, Comparative Economic Studies, 50:79–110.

Kozik, Andrey L. (2011). Overview of Belarus's labor market regulations. Background paper for Belarus's Country Economic Memorandum.

McKinsey Global Institute (2010). How to compete and grow: A sector guide to policy. March.

Mishra, Saurabh, Susanna Lundstrom, and Rahul Anand (2011). Service Export Sophistication and Economic Growth. Policy Research Working Paper, WPS 5606.

Monteverde, Kirk, and David J. Teece (1982). Supplier Switching Costs and Vertical Integration in the Automobile Industry, Bell Journal of Economics 13 (1): 206–213.

National Bank of the Republic of Belarus (2010). Bulletin of banking Statistics, Yearbook. http://www.nbrb.by/statistics/bulletin/2010/Bulletin_Yearbook2010.pdf.

OECD (2002). China in the World Economy, the Domestic Policy Challenges.

Pavel, F., and I. Tochinskaya (2005). "The Economic Impact of Belarus' Accession to the WTO for the Domestic Industry." In Belarus WTO Accession: Problems and Perspectives. Proceedings of the International Conference held in Minsk on November 23, 2004. Minsk, 2005: 44–61.

Rodrik, Dani (2011). "The Future of Economic Convergence," paper prepared for the Federal Bank of Kansas City 2011 Jackson Hole Symposium. (mimeo)

Rodrik, Dani, Arvind Subramanian and Francesco Trebbi (2004). "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development," Journal of Economic Growth, Springer, vol. 9(2), pages 131–165, 06.

Scarpetta et al. (2002). The Role of Policy and Institutions for Productivity and Firm Dynamics: Evidence from Micro and Industry Data, OECD, Paris.

Tarr, David and Peter Thomson (2003). The Merits of Dual Pricing of Russian Natural Gas. World Bank. Washington, DC (mimeo).

UNCTAD (2009). Investment Policy Review: Republic of Belarus. United Nations, New York and Geneva.

UNIDO (2009). Breaking in and moving up: New industrial challenges for the bottom billion and the middle-income countries. Industrial Development Report, February.

World Bank (1998). Privatization and emerging equity markets/Ira W Lieberman and Christopher Kirkness, World Bank, Washington D.C.

World Bank (2008). Unleashing Prosperity: Productivity Growth in Eastern Europe and the Former Soviet Union. Washington, DC.

World Bank (2010_a). Belarus: Industrial Sector Performance and Trends Before and During Global Crisis. Economic Policy Note No.1. Report No. 54371-BY. June 25, 2010. Washington, DC.

World Bank (2010_b). Belarus: Trade Performance and Competitiveness. Economic Policy Note No.2. Report No. 54371-BY. June 25, 2010. Washington, DC.

World Bank (2010_c). Belarus: Trends and Issues in the Services Sector. Economic Policy Note No.3. Report No. 54371-BY. Washington, DC.

World Bank (2011). Doing business in a More Transparent World in 2012. Washington DC. http://www.doingbusiness.org/reports/global-reports/doing-business-2012.

World Bank (2011_a). Implementation completion and results report (ICR) on a 2009 Belarus Development Policy Loan. Report No: ICR00001769. August 29, 2011. Washington, DC.

World Bank (2011_b). Fiscal Reforms for a Sustainable Economic Recovery. Belarus Public Expenditure Review. Volume 1. Report No.63566-BY. August 15, 2011. Washington, DC.

World Bank (2011_c). Skills, Not Just Diplomas: Managing Education for Results in Eastern Europe and Central Asia, Washington D.C.

World Bank (2012_a). Global Economic Prospects: Uncertainties and Vulnerabilities, January 2012. Washington DC.

World Bank (2012_b). Restoring the Lustre of the European Economic Model. ECA Flagship Report, forthcoming. Washington, DC.

Демиденко, Михаил и Алексей Кузнецов (2010). Факторы и структура роста белорусской экономики. Банковский Вестник. Октябрь, стр.11–19.

Готовский, А.В. et alia (2012). Обобщение результатов научных исследований конкурентоспособности национальной экономики Республики Беларусь, разработка предложений по стратегии ее повышения до уровня экономически развитых стран. Национальная Академия Наук Республики Беларусь, мимео. Обобщение результатов научных исследований конкурентоспособности национальной экономики Республики Беларусь, разработка предложений по стратегии ее повышения до уровня экономически развитых стран.

Annexes

Annex 1.1. Complementary Table for Chapter 1

Table A1.1.1 Belarus: Selected Economic Indicators, 2001–10

Belarus	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Annual percentage change, unless otherwise indicated											
GDP (US$ million)	12,330	14,572	17,755	23,133	30,220	36,971	45,267	60,798	49,193	55,087	54,647
Real GDP growth	4.7	5.0	7.0	11.4	9.4	10.0	8.6	10.2	0.2	7.7	5.3
Household consumption growth	17.9	11.4	7.4	9.6	15.0	13.0	13.7	17.2	0.1	9.5	3.5
Public consumption growth	3.1	-1.0	0.1	0.0	0.5	-0.1	-0.5	0.3	-0.4	0.8	1.0
Gross fixed capital formation growth	-2.3	6.7	20.6	19.9	19.5	31.6	16.4	23.8	5.0	17.5	11.1
GDP deflator	79.5	45.0	30.8	22.8	19.0	10.7	12.9	21.2	5.7	11.1	58.4
Consumer prices, period average	61.1	42.6	28.4	18.1	10.3	7.0	8.4	14.8	13.0	7.8	53.2
Consumer prices, end-of-period	46.1	34.8	25.4	14.4	8.0	6.6	12.1	13.3	10.1	9.9	108.7
Producer prices, period average	71.8	40.4	37.5	24.1	12.1	8.3	16.3	14.7	14.5	13.6	71.4
Producer prices, end-of-period	39.1	42.6	28.1	18.8	10.0	9.0	16.8	16.4	11.1	19.3	149.4
BYR/USD, end-of-period (rubel per one dollar)	1,580	1,920	2,156	2,170	2,152	2,140	2,150	2,200	2,863	3,000	8,350
BYR/USD, period average (rubel per one dollar)	1,139	1,791.9	2,051.3	2,160	2,154	2,145	2,146	2,136	2,793	2,978	4,623
Revenue (percent of GDP)	33.5	33.0	33.4	44.1	47.4	48.4	49.5	50.6	45.7	42.0	41.9
Expenditure (percent of GDP)	35.1	33.2	35.0	44.1	48.0	47.0	49.0	49.2	46.4	43.8	38.9
General Government Balance (percent of GDP)	-1.6	-0.2	-1.6	0.0	-0.7	1.4	0.4	1.4	-0.7	-1.8	3.0
M2	100.2	59.6	71.0	58.1	59.5	44.5	35.0	22.5	1.0	27.4	64.1
Banking system net domestic credit	67.4	53.7	68.9	39.1	34.8	52.4	22.8	51.7	14.0	61.2	45.4
Exports of goods	10.4	8.6	26.5	38.4	15.5	23.1	22.8	34.7	-35.0	19.0	61.0
Imports of goods	8.4	9.2	27.4	42.3	3.3	32.0	28.5	37.5	-27.5	21.7	30.9
Current account balance (percent of GDP)	-3.3	-2.3	-2.4	-5.2	1.4	-3.9	-6.7	-8.7	-13.0	-15.0	-10.6
FDI, inflow (US$ million)	96	247	172	164	305	354	1,805	2,181	1,884	1,403	3,986
Gross official reserves (US$ million)	359	478	499	770	1,297	1,383	4,182	3,061	5,653	5,031	7,916
Gross official reserves (months of imports of G&S)	0.5	0.6	0.5	0.5	0.9	0.7	1.6	0.9	2.2	1.6	2.2
External Debt (in percent of GDP)	24.2	26.7	23.5	21.3	17.0	18.5	27.6	24.9	44.8	51.6	62.3
Short-term external debt (percent of GDP)	15.1	17.0	15.6	16.6	12.1	12.9	17.4	13.6	20.1	23.0	26.4
Gini (income), in percent	27.8	27.2	25.4	25.4	25.6	26.2	27.4	27.4	26.8	26.5	…
Poverty (% of population below national poverty line)	28.9	30.5	27.1	17.8	12.7	11.1	7.7	6.1	5.4	5.2	7.3

Sources: Belstat, NBB, Ministry of Finance.

Annex 1.2. Growth Accounting Assumptions

Growth accounting decomposes long run growth in output into three sources: labor growth, capital accumulation, and changes in total factor productivity (TFP). TFP captures the part of output growth which cannot be explained by observed changes in factors of production, and as such, it is a residual concept (thus it is also known as Solow residual). Technology and efficiency improvements are regarded as two of the chief reasons why TFP changes over time. The standard production relationship used in Growth Accounting is Cobb-Douglas production function:

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

where Y is real GDP, A is TFP, K is capital stock, and L is total employment. α is the measures of responsiveness (elasticity) of output to an increase in capital stock, and β is the responsiveness of output to an increase in labor employed. Constant returns to scale ("double the inputs, double the output") assumption in the Cobb Douglas production function implies that α+β=1. It is standard to express β as 1-α to make this assumption explicit.

To go from the production function to Growth Accounting, we express equation (1) in terms of growth rates. Taking logs of equation (1) we have:

(2) $y = a + \alpha k + (1 - \alpha)l$

where lower case letters are in logs. Taking difference with respect to time, we have the model in terms of growth rates:

(3) $dy_t/y_t = da_t/a_t + \alpha(dk_t/k_t) + (1 - \alpha)\, dl_t/l_t$

where dy/y is growth of real GDP, da/a is growth of TFP, dk/k is growth of capital stock (change in capital stock), and dl/l is growth of employment. Rearranging, we estimate productivity growth as a residual:

(4) $da_t/a_t = dy_t/y_t - \alpha(dk_t/k_t) - (1 - \alpha)\, dl_t/l_t$

The parameter α is not directly observed. Under the assumption of perfect competition, α equals the share of capital income in GDP. For Belarus, the value of α is assumed to be 0.35. Capital stock series are constructed using (a) the perpetual inventory method and data on annual investments (I), assuming a constant depreciation rate (δ) of 5 percent (as per annex 1.3); and (b) indices of physical capital. Both methods were discussed at the "Inclusive Growth Diagnostics" seminar organized jointly with the NBRB in October 2011 under the DFSG funding. In addition, the series were corrected for the capacity utilization. The results based on method (b) with adjustment on capital utilization are shown in Chapter 1.

Because TFP is a residual, it contains anything that is not captured by growth of labor and capital but still affects growth of output, such as weather conditions, market structures, political and economic climate both at home and abroad, in which an economy operates.[81] Regarding Belarus, the Russian energy subsidy is such an exogenous and irregular factor, affecting final output.[82] In particular, this is the difference in the price of imported crude oil and exported oil products. To arrive at a "true" measure of TFP, we make the following adjustments[83]:

$Y_t = \beta * X_t$

Where

Y_t—the share of TFP (in percent) from the difference in export-import oil prices

X_t —the share of revenues (in percent) from import-processing-export of oil and oil products, not related either to the use of factors of production in oil-processing sector or to transportation of oil. It is calculated as a percentage change in the difference between Belarus's import price and international price of URALs oil.

β —oil price elasticity of output. Coefficient β(0.069) is obtained from the econometric estimate of the Cobb-Douglas production function for Belarus, adjusted for "oil factor".

81 TFP is also a long-run concept and extracts from impact of demand fluctuations on growth (i.e., ignores business cycles). Finally, TFP is contains a number of simplifying neo-classical assumptions—including perfect competition, perfect mobility of labor and capital, perfect information, complete markets, no externalities, and so on—which may not be reasonable approximation for a number of countries, especially for those in a developing world.

82 See, Denison, E.F. (1974), *Accounting for United States economic growth: 1929-1969*, Brookings Institution Press, Washington, D.C.

83 The approach was used by Demidenko and Kuznetsov (2010). For the CEM, the series were extended to include 2010 data, as well as some adjustments in assumptions were done based on the discussion at October seminar.

Annex 1.3. Rates of Return on Capital Assumptions

Capital stock series are constructed using the perpetual inventory method and data on annual investments (I), assuming a constant depreciation rate (δ) of 5 percent:

$K_t = (1 - \delta)K_{t-1} + I_t$,

For aggregate and sub-industry level analyses, we use data from 1995 to 2009. For the sectoral level analysis, we use data from 2001 to 2009.

Based on the neoclassical growth model, we estimate the rate of return on capital as:

$RORK_t = \alpha(Y_t/K_t)$

The rate of return of capital is defined as the income accruing to capital (αY) as a ratio of capital input (K), which in a context of Cobb-Douglas production function is equivalent to marginal product of capital:

$MPK_t = (\partial Y_t/\partial K_t) = \alpha A_t K_t^{\alpha-1} L_t^{1-\alpha} = \alpha(Y_t/K_t)$

As such, the estimate of rates of return to capital is a simple transformation of the data used for estimating TFPs. Therefore, all the assumptions that have gone into estimating TFP will affect the estimates of returns on capital.

Alternative estimates

The initial level of capital: For the aggregate analysis, we use the official estimate of the capital stock in 1991 and update it to the level in 1995 using the perpetual inventory method and official data for annual investment. For the sectoral analysis, we used two alternative estimates of the initial capital stock: "Est 1" which uses official data on the initial capital stock in 2001, and "Alt Est" which uses investment in 2001 divided by the depreciating rate (δ=0.05) to estimate the initial capital stock in 2001. The results were qualitatively similar for most sectors.

Izyumov and Vahaly (2008): For the aggregate analysis, we report an estimate of RoRK based on data from Izyumov and Vahaly (2008).[84] Izyumov and Vahaly use official data on gross capital stock in Russia for 1989, then estimate capital stocks in CIS countries using proportions of Soviet production capital held in these countries. The level of capital in 1989 thus obtained for each CIS country is then updated to 1991 using the perpetual inventory method and investment data from WDI at an annual depreciation rate of 5 percent. Izyumov and Vahaly then apply a one-off discount of 30 percent on the initial capital stock in each CIS country to reflect the destruction of Soviet-era capital at the beginning of transition.

Capital-embodied technology: Following Adams and Chadha (1992), we obtain an alternative estimates using the capital-embodied technology model which assumes that contribution of growth in capital to output growth consists of two components—expansion of capital stock and new technology embodied in new capital. The latter will enhance the rate of technological progress implied by the change in TFP while maintaining the basic assumption of constant returns to scale (i.e., the model is still a standard neoclassical growth and not an endogenous growth model; see Adams and Chadha 1992 for more details). Intuitively, the capital-embodied technology model would assign a greater contribution to growth to capital accumulation and less to change in TFP. More formally, the model can be expressed as:

$Y_t = A_t K_t^{\alpha} L_t^{1-\alpha}$

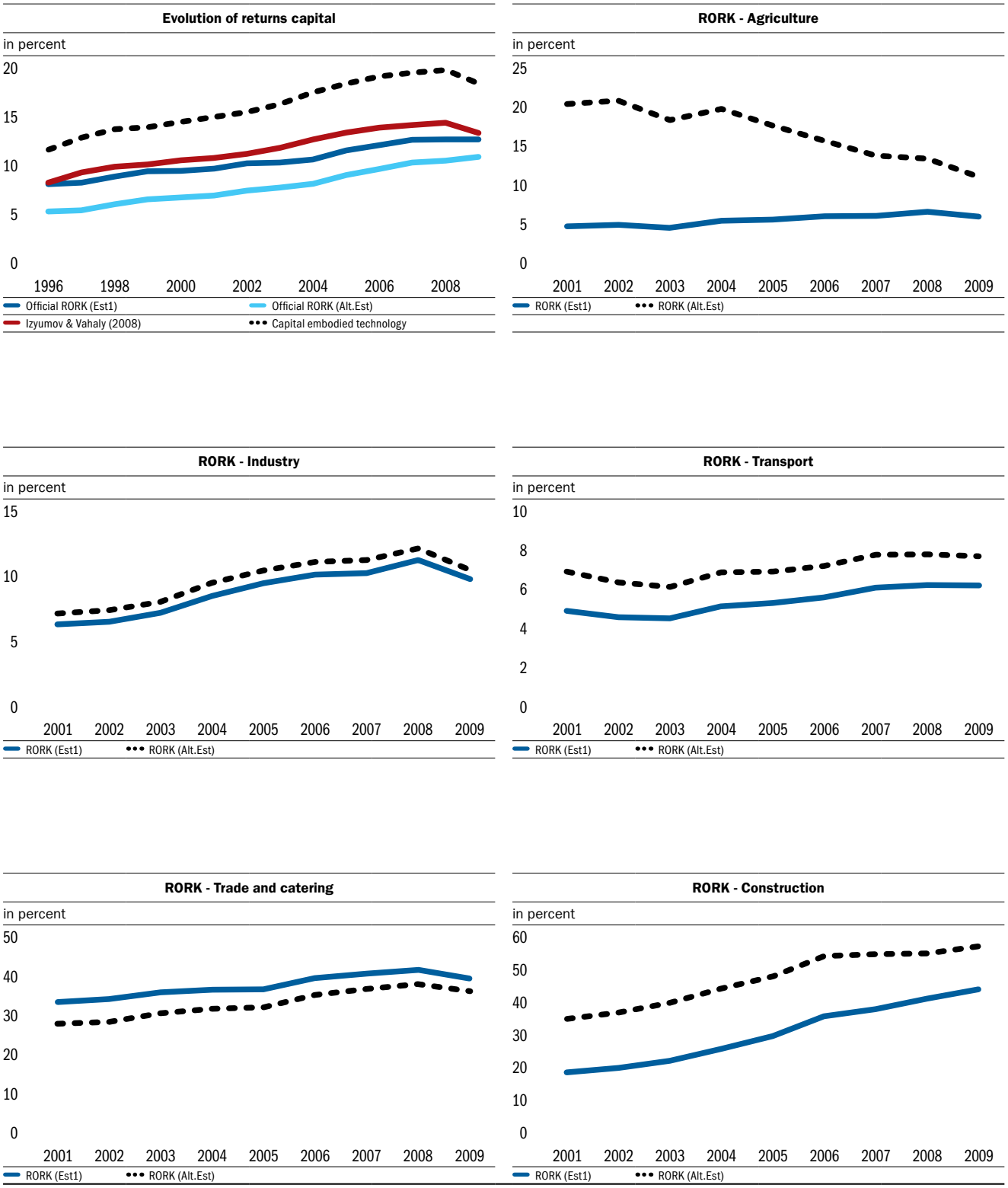
$$K_t^* = \sum_{m=0}^{t-1} K_m(1 - h)^m$$

$dy_t/y_t = \alpha h\theta(da_t/a_t) + \alpha(1 + h\theta)(dk_t/k_t) + (1 - \alpha)(dl_t/l_t)$

where K*= aggregate capital input, m=vintage of capital, h=assumed rate of exogenous rate capital-embodied technological progress, θ=average age of capital stock.

84 Izyumov, A., and Vahaly, J. (2008) "Old Capital vs. New Investment in Post-Soviet Economies: Conceptual Issues and Estimates," Comparative Economic Studies, 50:79–110.

Figure A1.3.1. Evolution of rate of return on capital by alternative estimates



Sources: Belstat, World Bank calculations.

Annex 2.1. Sources of Labor Statistics in Belarus

Belarus is the only country in Europe that does not run a labor force survey (LFS). The existing system of labor statistics is built entirely on data from employers. The main components are mandatory reports in the formal sector (state agencies and registered enterprises) for both employment and wages. Employment data are broken down by branch, region, gender, age, and educational attainment. The data on unemployment are based on administrative unemployment.

One useful indicator of the current state of labor statistics in Belarus is obtained by examining which indicators are at present included in the ILO Key Indicators of the Labor Market (KILM) (table 2.2.). The fact that an indicator is not included means that either the relevant data are not available or they do not meet the international standards required for inclusion. Almost all the items on the right hand side of the table could be collected in a LFS; information on item 17 (hourly compensation costs) is already collected through a biennial census of employers.

Table A.2.1. Availability of KILM Data for Belarus

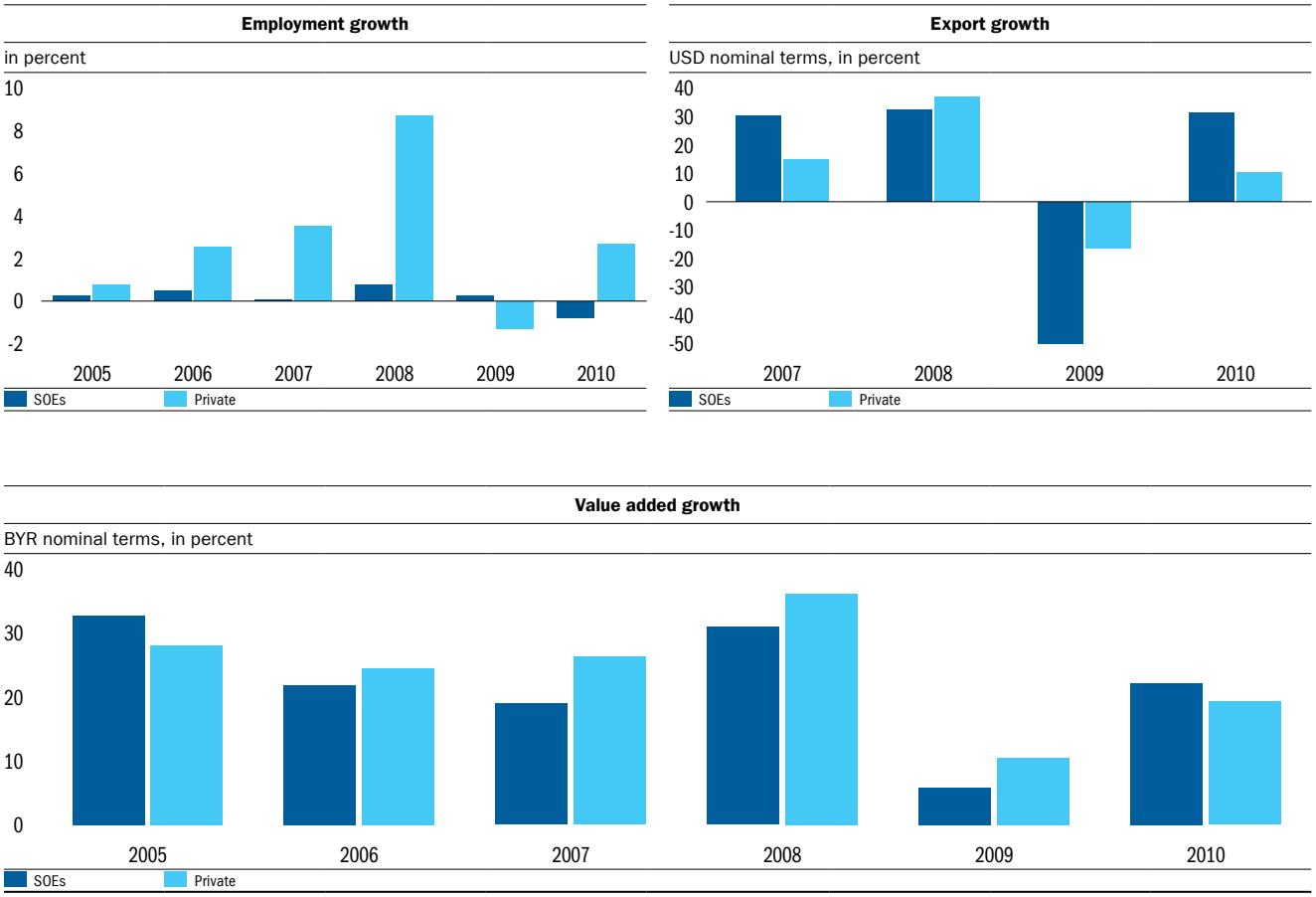
Statistics available	Statistics not available
1 Labor force participation rate	3 Status in employment
2 Employment to population ratio	4 Employment by sector
8b Registered unemployment	5 Part-time workers
11 Registered unemployment by education	6 Hours worked
13 Inactivity	7 Informal sector
14 Illiteracy	8a Total unemployment
15 Manufacturing wage indexes	9 Youth unemployment
16 Occupational wage rates	10 Long-term unemployment
18 Labor productivity	12 Time-related underemployment
19 Employment elasticities	17 Hourly compensation costs
20 Working poverty	

Source: International Labour Organization, *Key Indicators of the Labour Market*, 6th ed., 2009.

Launching a household survey of labor force behavior on the basis of a large sample covering regions up to the level of rayons was identified as a priority in the National Strategy for the Development of Statistics, developed with the support of a World Bank grant from the Trust Fund for Statistical Capacity Building (TFSCB). The second TFSCB grant was provided to Belarus to catalyze the introduction of a regular LFS in the statistical practice, in line with the recommendations of the national strategy and the needs of the country. A pilot LFS was conducted in November 2011, and the first regular (quarterly) LFS is scheduled for February 2012. This will enable Belarus to have a better collection of high-quality data and adequate coverage of labor market data and provide policy makers (as well as all stakeholders) with reliable information and tools for analysis, evaluation, and impact monitoring of reforms on living standards and making informed policy decisions.

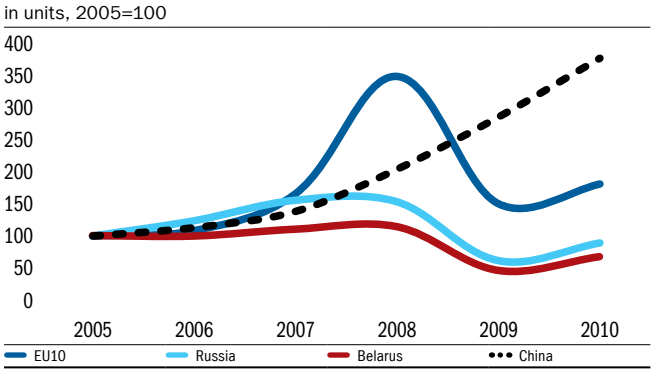
Annex 3.1. Complementary Tables and Graphs for Chapter 3

Figure A3.1.1. Employment, export and value added growth, 2005–10



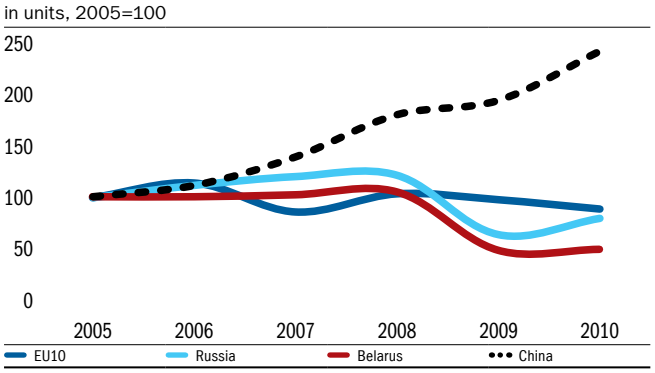
Source: Belstat, World Bank staff estimates on Belstat data.

Figure A3.1.2. Normalized production levels of heavy trucks



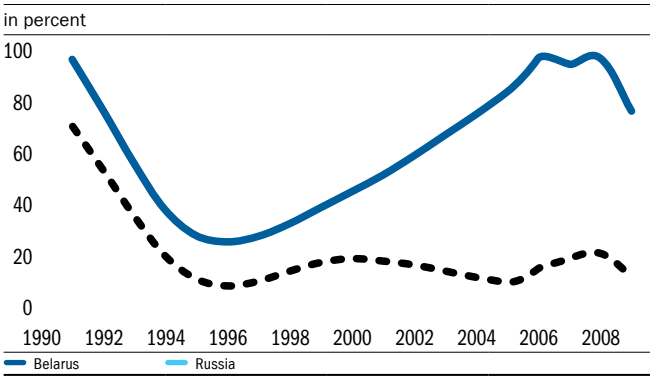
Source: Organization of Motor Vehicle Manufacturers, www.oica.net.

Figure A3.1.3. Normalized production levels of heavy busses



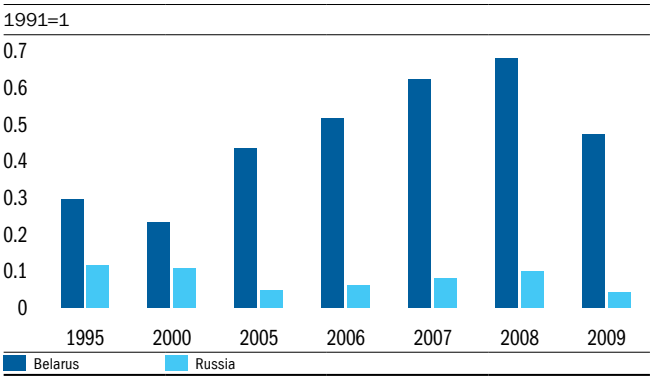
Source: Organization of Motor Vehicle Manufacturers, www.oica.net.

Figure A3.1.4. Tractor production utilization rate in Russia and Belarus



Sources: Rosstat, Belstat, World Bank estimates.

Figure A3.1.5. Tractor production level in Russia and Belarus



Sources: Rosstat, Belstat, World Bank estimates.

Table A3.1.1. Heavy truck sales in Russia

Units ('000 trucks)	1995	2000	2005	2006	2007	2008	2009	2010
Total Sales	**129.2**	**190.3**	**205.9**	**256.6**	**366.9**	**360.5**	**102.0**	**--**
Russian producers	119.1	171.1	155.8	193.2	230.3	211.3	76.1	--
CIS producers	5.8	11.5	9.6	10.3	11.6	9.2	2.2	--
Non-CIS producers	4.3	7.7	40.5	53.1	125	140	23.7	--
Market shares (% of total)								
Russian producers	92.2%	89.9%	75.7%	75.3%	62.8%	58.6%	74.6%	--
CIS producers	4.5%	6.0%	4.7%	4.0%	3.2%	2.6%	2.2%	--
Non-CIS producers	3.3%	4.0%	19.7%	20.7%	34.1%	38.8%	23.2%	--

Source: Rosstat, World Bank estimates.

Annex 3.2. Defining State Owned Enterprises in Belarus and Data Sources

According to the System of National Accounts (SNA) a corporation is a public corporation if a government unit, another public corporation, or some combination of government units and public corporations controls the entity, where control is defined as the ability to determine the general corporate policy of the corporation. The expression "general corporate policy" as used is understood in a broad sense to mean the key financial and operating policies relating to the corporation's strategic objectives as a market producer. Because the arrangements for the control of corporations can vary considerably, it is neither desirable nor feasible to prescribe a definitive list of factors to be taken into account.

In this report the ownership of the majority of the voting interest was used as a proxy for government control. Other indicators of government control (such as control of the board or other governing body and control of the appointment and removal of key personnel) are more difficult to quantify.

Therefore, SOEs are classified as firms where the direct ownership of the state equals or exceeds 50 percent. However, there are many corporatized enterprises where the state has effectively the majority of the voting interest without direct ownership. For example, a corporatized enterprise which is owned solely or in part by a state owned enterprise is classified as a private company. Such classification undermines the true extent of state control of Belarus economy.

In Belarus there are three main types of legal entity. These are: Joint Stock Companies; Limited Liability Companies; and Unitary Enterprises.

Two data sets are used to analyze the SOEs in Belarus: (1) an aggregate data set on key characteristics of SOEs grouped by economic sectors compiled by Belstat; (2) an enterprise dataset maintained by the NBRB. This balanced panel dataset spans from 2005 to 2010 and includes key balance sheet and income statement aggregates at the enterprise level in industry, construction, trade and catering, and transport sectors.

Annex 3.3. Case Study of Minsk Motor Plant

MMP is a vertically integrated concern with six subsidiaries producing components for the manufacturing of diesel engines. The companies are scattered across Belarus: OJSC "Borisov Assemblies Plant" in Borisov, OJSC "Gomel Starter Motor Plant" in Gomel, OJSC "Zhitkovichy Engine Building Plant", OJSC "Radiovolna" in Grodno, and OJSC "Lidsky Mechanical" Plant in Lida. However, not all vertically integrated MMP enterprises specialize in upstream production. For instance, "Radiovolna" specializes in the production of about 90 types of alternators, spare parts, and units to engines produced by MMP, and 90 percent of its output of electrical wire harnesses is sold to Volkswagen. The cooperation with VW began in 2003 and was facilitated by Radiovolna's favorable location in the northwest industrial district of Grodno on the borders with Poland and Lithuania and within the territory of the Free Trade Zone "Grodnoinvest". These vertically integrated enterprises are often located in towns where they are among the largest employers. For example, the MMP subsidiary in Stolbtsi employs about 1,500 people, almost 10 percent of the total population of Stolbtsi (table B3.2.1).

Table A3.2.1. Vertically Integrated Enterprises of Minsk Motor Plant

Enterprise Name	Role	Employment at the enterprise	Km from Minsk	Employment, % of total population
MINSK MOTOR PLANT	Final Assembly line	5800	0	0.3%
Gomel enterprise of engine starters	Subsidiary	530	302	0.1%
Zhitkovichsk motor works	Subsidiary	530	122	3.3%
Lida mechanical enterprise	Subsidiary	480	160	0.4%
Radiovolna factory	Subsidiary	2000	386	0.6%
SUBSIDIARY IN STOLBTSI	Subsidiary	1480	79	9.6%
Enterprise BZA	Subsidiary	1500	100	1.0%

Source: World Bank estimates based on information provided by the Ministry of Industry and collected during the interviews of MMP and its subsidiaries.

Annex 3.4. Managing SOEs in the OECD Countries

The organization of the ownership function within the state administration varies across the OECD countries. Notably, the degree of variation dependents on the traditional administrative organization, the significance of the state sector in the economy prior to the privatization waves, as well as recent reforms carried out in regulation and the management of state-owned assets. Three main types of organizations dominated across the OECD countries: the decentralized or sector model, the dual model and centralized model.

The decentralized model is the one where SOEs are under the responsibility of relevant sector ministries. The decentralized or sector model is the most traditional one. This model of ownership function still exists today in a few OECD countries, such as Finland and to a less extent Germany. In Finland, 9 different ministries exercise the ownership function over 50 SOEs. The main advantages and rationale for such a decentralized organization are due to the much greater availability of sector expertise. The main drawbacks resulting from such an organization are the difficulty in clearly separating the ownership function from the regulatory role and the risks of governmental interference in day-to-day operational functions.

The dual model is the one where the responsibility is shared between the sector ministry and a "central" Ministry or entity, usually the Finance Ministry or the Treasury. The dual model used to be the most common and is still adopted in many OECD countries, including Greece, Italy, Korea and New Zealand. In the dual model both sector ministries and a "common" ministry are responsible for exercising ownership rights. The "common" Ministry is usually the Ministry of Finance (or the Ministry of Economy and Finance), due to the importance of the SOE sector to the state's overall economic and financial objectives. An important potential advantage of the dual model is that it can alleviate the conflict of interest that the government typically has in its dual role as both the owner of an SOE and the representative of that SOE's customers. Another potential advantage of the dual model is that facilitates both technical (from the officials of a sectoral ministry) and fiscal oversight (from the Ministry of Finance, or perhaps a ministry of public enterprises).

The centralized model, in which the ownership responsibility is concentrated under one main ministry, has been on the increase more recently. The centralized model has often resulted from the recent implementation of privatization programs. In this model, most SOEs are put under the responsibility of one Ministry or Agency. In most cases this is the Ministry of Finance (Denmark, the Netherlands, Spain) or the Ministry of Industry (Norway and Sweden), which used to have the most important SOEs under its responsibility in the previous model of sector ministry organization. The main advantages of the centralized model are the clear line of accountability from the SOE to the government, the ability of the government to exert close fiscal supervision and to form a coherent SOE policy, and the fact that it allows the best use of the typically limited human resources available within the civil service to undertake the specialized job of exercising the government's ownership function. The main disadvantage is the likelihood that the depth of sectoral expertise available in a Ministry of Finance, for example, will be shallower than in sectoral ministries.

Finally a special organizational model is based on holdings to which the ownership of specific lists of SOEs has been transferred. These holdings are in turn owned by the state and under the responsibility of one Ministry. This holding model has often resulted from reforms undertaken in the 1970s, aimed at decreasing political interference in the management of SOEs, giving more flexibility to their management, and introducing tougher budget constraints. This holding model is not frequent and has shown its limitations. It has not proven to be efficient either in terms of corporate restructuring or in financial management, and not even for regional development in the Italian case.

Source: Governance Arrangements for State Owned Enterprises, World Bank, 2008.

Annex 3.5. Key Elements of SOE manager's Compensation System

Belarus uses individual performance agreements with the most senior officials of SOEs to enforce accountability, control key aspects of operations and ensure implementation of enterprise level targets. Each sectoral ministry designs criteria for evaluation senior management. The Ministry of Industry (MOI), formally responsible for the machine-building subsector, is using the following criteria in evaluation the performance of senor officials: (i) achieving quantitative targets set in the annual business plan of enterprise; (ii) effectiveness of enterprise; (iii) personal characteristics and qualifications of senior managers.

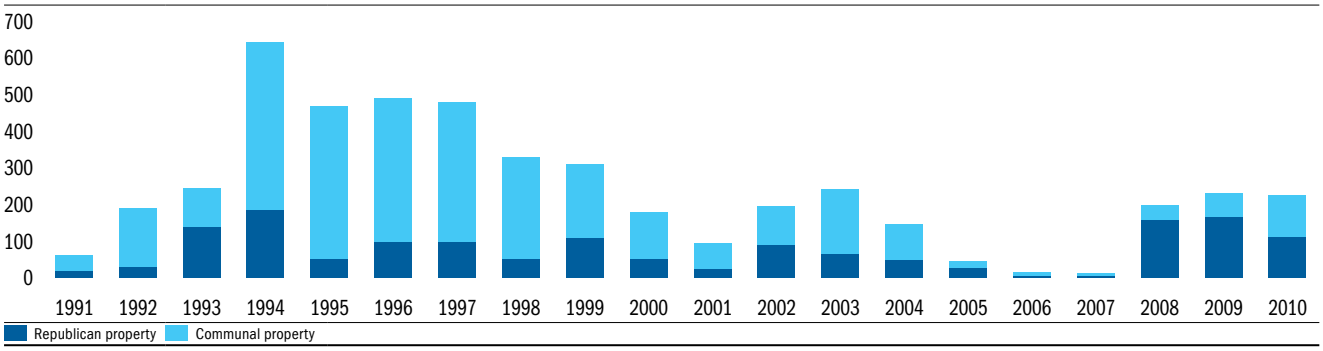
The MOI defines the effectiveness of enterprise using a set of performance indicators related to meeting formal administrative compliance rather than operational performance related to key operations of the enterprise. These formal indicators include (i) efficient use of budget funds (if such funds were allocated), (ii) meeting sales targets for government procurement, (iii) level of overdue payments, (iv) success in decreasing barter transactions in foreign trade transactions, (v) implementation of decrees of President, council of ministers and MOI, (vi) labor discipline, (vii) occupational safety, (viii) efficient use of natural resources, (ix) meeting energy efficiency targets, (ix) ensuring full payment of labor wages, and (x) implementation of targets set for inventory levels. Recently the government has initiated policy reforms that are aimed at gradually moving away from these performance indicators toward ones that are more related to operational efficiency of company.

Formally, these criteria are part of a legally binding written agreement as part of an annual performance appraisal and an employment contract process for senior managers of SOEs. In many cases the agreement has an explicit statement of the targets that the managers were to be held responsible. Typically these criteria are reviewed on annual basis and can be used to determine salary levels and termination or continuation of employment contract with the senior management.

Compensation structure of senior managers is directly linked with performance of the enterprise. The base salaries of senior managers are linked with the unified wage grid used in the public sector. The variable part of compensation consists of bonus payments related to characteristics of work (e.g. a position held, experience, work conditions) and bonus payments related to performance. The base salary should not exceed the levels specified in the first tier of the wage grid; however, in special circumstances that require prior approval of prime minister or deputy prime minister, the contract can specify larger base scale. If the enterprise has met its key quantitative targets the base salary can be increased by up to 80 percent of base salary for heads of enterprises and up to 50 percent for deputy heads. The specific criteria and amount of performance bonuses are specified individually in employment contracts of senior managers.

Annex 4.1. Complementary Tables and Graphs for Chapter 4

Figure A4.1.1. State Property Transformations



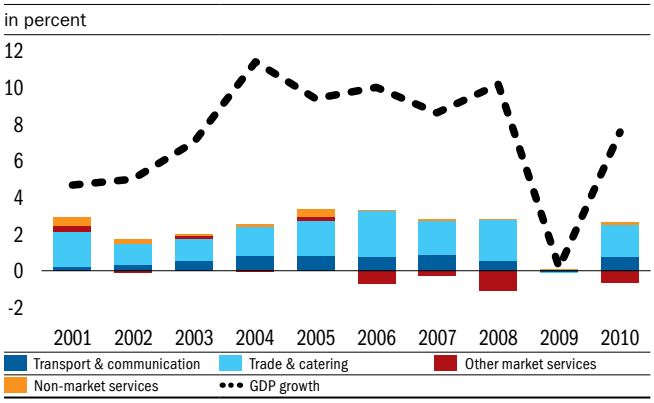
Source: State Property Committee.

Table A4.1.1. Major Privatization Deals, 2007–11

Year	Name of privatized enterprise (shares sold)	Sector	Investor	Value
2007	Beltransgas (50%)	Transport (gas pipeline)	Gazprom (Russia)	US$ 2.5 billion (annual acquisition of 12.5% Stake at US$ 625 million over 4 years)
2007	Mobile operator Velcom (31%)	Telecom	SB Telecom (Cyprus)	US$ 0.556 billion
2007	Belvnesheconombank (47.4%)	Banking	Vnesheconombank (Russia)	US$ 0.0474 billion
2008	Mobile operator Best (80%)	Telecom	Turksell (Turkey)	US$ 0.5 billion
2009	Belpromstroibank (93.27%)	Banking	Sberbank (Russia)	US$ 0.281 billion
2011	Beltransgas (50 %)	Transport (gas pipeline)	Gazprom (Russia)	US$ 2.5 billion

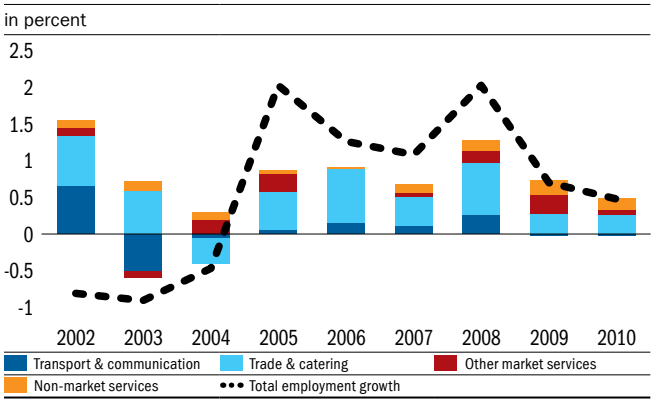
Source: World Bank compilation.

Figure A4.1.2. Contribution of Services to GDP growth



Source: World Bank calculations on Belstat data.

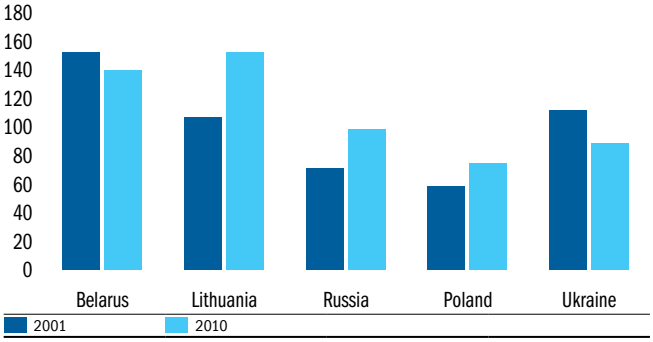
Figure A4.1.3. Contribution of services in employment growth



Source: World Bank calculations on Belstat data.

*Figure A4.1.4. Openness to Trade**

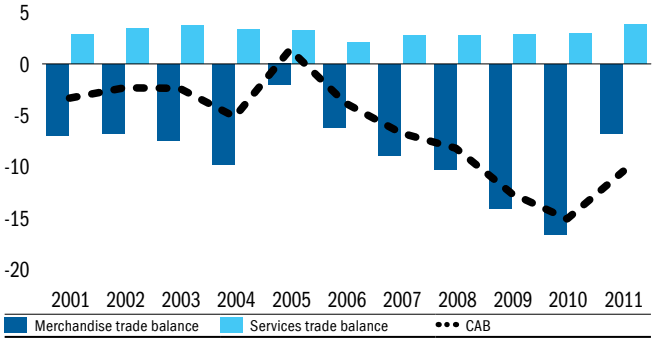
in percent



Source: World Bank calculations on WDI data.
Note: *Trade (X+M) in goods and services to GDP ratio (constant US$).

Figure A4.1.5. Merchandise trade balance and Services trade balance

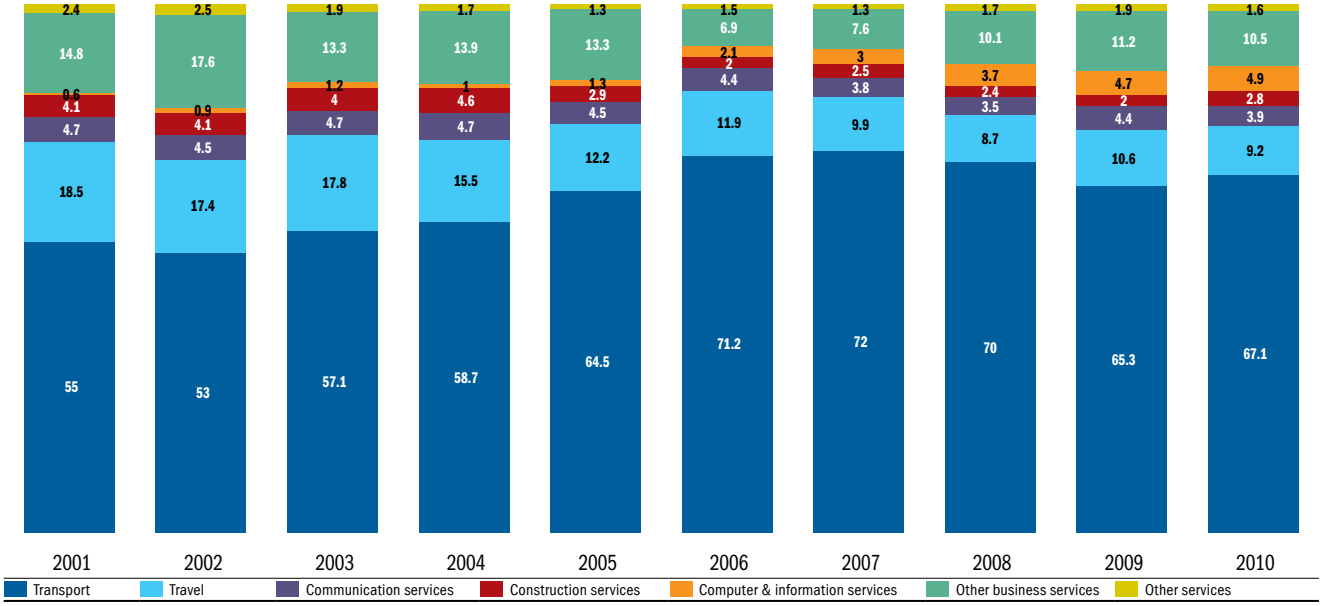
in percent of GDP



Sources: World Bank calculations based on National Bank of the Republic of Belarus data.

Figure A4.1.6. Structure of services export

in percent of total



Source: World Bank calculations based on National Bank of the Republic of Belarus data.

Table A4.1.2: Top ten manufacturing sectors with best combination of proximity, PRODY and strategic value

ISIC code	ISIC industry	HS code	Product name	Leamer group	PRODY, PPP	Exports, US mil
3843	Manufacture of motor vehicles	8707	Bodies (including cabs), for the motor	Machinery	20602	16,325
3843	Manufacture of motor vehicles	8708	Parts and accessories of the motor	Machinery	21748	314,235
3220	Manufacture of wearing apparel, except footwear	4110	Parings and other waste of leather	Animal products	15885	0,128
3220	Manufacture of wearing apparel, except footwear	6104	Women's or girls' suits, ensembles,	Labor intensive	19729	12,706
3220	Manufacture of wearing apparel, except footwear	6107	Men's or boys' under-pants, briefs	Labor intensive	18149	1,072
3220	Manufacture of wearing apparel, except footwear	6108	Women's or girls' slips, petticoats	Labor intensive	19555	15,098
3220	Manufacture of wearing apparel, except footwear	6110	Jerseys, pullovers, cardigans, wais	Labor intensive	25778	14,012
3220	Manufacture of wearing apparel, except footwear	6204	Women's or girls' suits, ensembles,	Labor intensive	20769	64,157
3710	Iron and steel basic industries	7216	Angles, shapes and sections of iron	Capital intensive	40174	1,188
3710	Iron and steel basic industries	7326	Other articles of iron or steel	Capital intensive	16036	23,666
3831	Manufacture of electrical industrial machinery and apparatus	8501	Electric motors and generators (exc	Machinery	22000	41,124
3831	Manufacture of electrical industrial machinery and apparatus	8503	Parts suitable for use solely or pr	Machinery	23748	2,055
3720	Non-ferrous metal basic industries	7407	Copper bars, rods and profiles	Raw materials	21363	0,134
3720	Non-ferrous metal basic industries	7601	Unwrought aluminium	Raw materials	17594	0,331
3813	Manufacture of structural metal products	7308	Structures (excluding prefabricated	Capital intensive	18245	97,458
3813	Manufacture of structural metal products	7309	Reservoirs, tanks, vats and similar	Capital intensive	16551	0,496
3824	Manufacture of special industrial machinery and equipment except metal and wood working machinery	8438	Machinery, not specified or include	Machinery	24932	18,667
3824	Manufacture of special industrial machinery and equipment except metal and wood working machinery	8451	Machinery (other than machines of h	Machinery	21901	0,015

Table A4.1.2 (continued)

ISIC code	ISIC industry	HS code	Product name	Leamer group	PRODY, PPP	Exports, US mil
3824	Manufacture of special industrial machinery and equipment except metal and wood working machinery	8474	Machinery for sorting, screening, s	Machinery	21104	29,514
3523	Manufacture of soap and cleaning preparations, perfumes, cosmetics and other toilet preparations	3307	Pre-shave, shaving or after-shave p	Chemicals	21622	3,216
3523	Manufacture of soap and cleaning preparations, perfumes, cosmetics and other toilet preparations	3402	Organic surface-active agents (othe	Chemicals	18073	5,058
3560	Manufacture of plastic products not elsewhere classified	3917	Tubes, pipes and hoses, and fitting	Labor intensive	16276	9,125
3560	Manufacture of plastic products not elsewhere classified	3922	Baths, shower-baths, wash-basins, b	Labor intensive	18274	1,475
3560	Manufacture of plastic products not elsewhere classified	3924	Tableware, kitchenware, other house	Labor intensive	16531	11,216
3819	Manufacture of fabricated metal products except machinery and equipement not elsewhere classified	7320	Springs and leaves for springs, of	Capital intensive	20038	7,676
3819	Manufacture of fabricated metal products except machinery and equipement not elsewhere classified	7616	Other articles of aluminium.	Capital intensive	19549	4,548
3819	Manufacture of fabricated metal products except machinery and equipement not elsewhere classified	7907	Other articles of zinc.	Capital intensive	17952	0,004
3819	Manufacture of fabricated metal products except machinery and equipement not elsewhere classified	8403	Central heating boilers other than	Capital intensive	18206	6,672

Source: World Bank (2010_b).

Annex 4.2. The World Bank Technical Assistance on Privatization in Belarus

Since 2009, The World Bank has worked with the authorities to create the institutional environment for a new privatization model and to test it on a small sample of medium scale enterprises. The Bank provided expert guidance during the drafting of the new Privatization law which was enacted on July 16, 2010; ii) advised the government through the process of creating the legal and institutional framework for the new National Agency for Privatization and Investment (NAIP) which was established as an agency under the Ministry of Economy in April 2011; and iii) developed the methodology for the selection process for the companies to be considered as pilots for the new privatization method. On December 22nd, 2010, the authorities and the World Bank signed the Grant Agreement related to the Trust Fund financed by the Austrian Federal Ministry of Finance to support a "case-by-case" privatization program in Belarus.

The newly approved privatization law and the newly established NAIP are the cornerstones for the institutional setup of the privatization process. The new privatization law and legal framework provides a sound institutional and legal environment. The goal for NAIP is to equip it with dedicated and professional staff with the capacity to effectively implement the privatization transactions, advise the government on privatization policy and provide potential investors with an identifiable and competent point of entry into the country. To establish transparency and ensure a competitive process the program will involve the use of competitively selected reputable international financial advisors, who will act in the interest of the government while at the same time providing a safeguard for international investors. Since it is well recognized that this framework for privatization is uncharted in Belarus, the program is designed in a "learning by doing" mode. It will start with a pilot program for the sale of 8 small-sized financially sound SOEs in order to refine the process and assess its benefits before rolling it out to a larger number of enterprises pursuing the sale of up to 25 medium-sized enterprises over the 5 year period.

The 8 companies for the pilot were selected by the Ministry of Economy (as agreed with the World Bank and the State Property) and approved by the Council of Ministers on August 26, 2011 (table A4.2.1).

Table A4.2.1. List of Companies Selected for the Pilot Privatization Program by NAIP

Name	Activities	Revenue (us$m, 2010)	Number of employees
Avtomagistral	Road operation and maintenance	23.6	692
Baranovichi concrete plant	Precise concrete	28.1	626
Belgazstroy	Construction of engineering facilities	1.7	549
Belsantech-montazh - ii	Production and installation of sanitary equipment	82.2	1,860
Construction and assembly trust No. 8	Road construction, civil engineering	27.3	615
Konfectiona-ry (konfa)	Bakery (sweets)	9.1	443
Medplast	Production of medical equipment	7.9	211
Minsk margarine	Production of margarine	31.9	500

Annex 4.3. Lessons learned from the Privatization Efforts in Emerging Economies

There is extensive global experience in undertaking privatization of state owned assets. While the objectives, country context, scale and specific methods of privatization programs vary across countries, international experience offers some general lessons learnt on what factors tend to enhance the success rate.

Privatization programs must be transparent. Transparency means that privatization is governed by a clear legal framework and that sales procedures are well defined. Governments that deviate from these principles devalue their programs—and so lower the value of privatization, since many investors shy away from nontransparent transactions.

Political support is a must. Privatization is intensely political. It often involves a massive redistribution of wealth and power and implies fundamental change to the way enterprises are organized and operated. Thus success requires high−level political commitment. High−level commitment alone -while necessary- is insufficient. All stakeholders—employees, legislators, foreign investors, and the public—must be brought into the process and convinced of its merits.

The legal framework should support privatization. Most governments have passed laws and supporting regulations to implement privatization programs. These laws and regulations generally spell out the scope of government authority in privatization, the need (if any) for legislative approval of transactions, and the accepted methods of privatization. Countries that lack experience with market activities have had to go even further; creating company laws, securities laws, and bankruptcy and antimonopoly laws. Such efforts are essential, because the absence of an adequate legal framework can slow or derail privatization programs.

The regulatory framework must balance competing objectives. Privatization of large, strategic enterprises, such as utility companies requires that an adequate regulatory framework and institutional structure be established before privatization takes place. Regulation involves balancing potentially conflicting objectives, such as ensuring that the public receives services at a fair price and that investors receive an equitable return on their investment. Thus regulators must have sufficient knowledge and authority. Regulation is complex, however; and building regulatory expertise takes time.

Privatization should be integrated with other reforms. Governments that have tried to privatize in isolation, outside the framework of more comprehensive economic reforms, have inevitably failed to achieve expected gains in productivity and efficiency. Russia, for example, privatized in the midst of rampant inflation, adopting a stabilization program only after mass privatization had ended. By contrast, countries that have incorporated privatization within a comprehensive reform program—Argentina, Chile, the Czech Republic, Poland, and Egypt among them—have achieved substantial economic gains.

Programs should maintain a level playing field to attract foreign direct investment ...Privatizations in emerging markets have attracted considerable foreign direct investment and foreign portfolio investment. These flows have been concentrated in a fairly small number of countries, however; foreign direct investment is most likely to flow to countries that maintain a level playing field between domestic and foreign investors. Foreign investors demand a stable and predictable tax regime and must be able to repatriate the capital and dividends that flow from their investment.

...and foster equity market development. Governments often ignore the link between privatization and equity markets. Most domestic equity market reforms have come too late in the privatization cycle, making it difficult for governments to use the domestic market to float large public offerings.

Outside experts should be used. Complex transactions involving large trade sales, mixed sales, or even initial public offerings usually benefit from experienced financial advisers—whether domestic, foreign, or both. Advisers should be used once an enterprise has been selected for privatization, to assess the likelihood of a successful transaction, to perform due diligence, to prepare an information memorandum or prospectus on the sale, to approve public information campaigns, to handle the road show and book−building exercise, to control share tendering and allocation, and to provide research on and support for the company's shares after the initial public offering.

Pre-privatization restructuring should be limited. In most cases governments should not extensively restructure state enterprises prior to sale. There is a difference, however, between defensive restructuring and active restructuring. Defensive restructuring involves corporatizing an enterprise or creating a legal entity (in most cases a corporation or joint stock company). Corporatization allows for different classes of shareholders, establishes the opening balance sheet of the newly formed corporation, and creates a governance structure for the corporation. Defensive restructuring may also involve financial engineering—restructuring the enterprise's debt and shedding excess labor. Active restructuring, such as making new investments or reorganizing the company should be avoided because most governments lack the institutional capacity to implement such changes and most private investors prefer to make such changes themselves.

Sale conditions should be kept to a minimum. Establishing too many preconditions for a sale—such as minimum sales prices, unrealistic timetables for sale, and employment guarantees—reduces competitive bidding and ultimately lowers transaction values.

Information about privatization should be widely disseminated. There is a strong need for public information about privatization at several levels. One level is to educate the public about the objectives and economic importance of privatization and the potential benefits that will accrue from the private operation of enterprises. Another is to promote privatization to key stakeholders such as legislators, enterprise managers and employees, and potential investors. A third level is to promote the individual transaction through public relations campaigns, advertising, and road shows in major financial markets such as New York, London, and Tokyo.

Source: Adapted from Privatization and emerging equity markets/ Ira W Lieberman and Christopher Kirkness, World Bank, Washington D.C., 1998.

Annex 4.4. Export Sophistication: Methodology

Hausmann, Hwang and Rodrik (2006) find that the composition of a country's export basket has important implication on growth. Country that has rather 'sophisticated' export baskets which contains high productivity goods experience more rapid subsequent growth. Similarly, a country with a rather simple, unsophisticated export basket remains poor. HHR developed a measure of sophistication of every product (*PRODY*) defined as a weighted average of the per capita GDPs of countries that export the product where the weights are the revealed comparative advantage of each country in the particular good. Goods usually exported by poor countries have a low sophistication, or *PRODY*, and those typically exported by rich countries have a high *PRODY*. The formula is as follows:

$$\mathrm{PRODY}_{i,t} = \sum_{c} \frac{(\mathrm{xval}_{i,c,t}/X_c)}{\sum_{j} (\mathrm{xval}_{i,c,t}/X_c)} * Y_c$$

where $xval_{i,c,t}$ equals exports of good *i* by country *c* in year *t*, *Xc* equals total exports by country *c*, and Yc equals GDP per capita of country *c*.

The product-level measure of sophistication (*PRODY*) is then used to measure the sophistication of a country's export basket. Basically HHR calculate the GDP per capita associated with a particular country's export basket which is called *EXPY*. *EXPY* is the weighted average of the *PRODY* where the weights are the export share of each good in the country's export basket.

$$\mathrm{EXPY}_{c,t} = \sum_{i} \left(\frac{\mathrm{xval}_{c,i,t}}{X_{c,t}} \right) \mathrm{PRODY}_{i,t}$$

HHR showed that a country's export income is highly correlated with its GDP per capita. This means that if a country has developed rather sophisticated export basket and its level of *EXPY* is higher than its level of GDP per capita, this country will experience more rapid subsequent growth as GDP per capita converges to the export income level over time.

Hausmann and Klinger (2006&2007) developed the methodology introduced by HHR and showed that the process of structural transformation becomes easier if to move to 'nearby' products. This is based on the idea that every product involves highly specific inputs such as knowledge, physical assets, intermediate inputs, labor training requirements, infrastructure needs, property rights, regulatory requirements or other public goods. The probability that a country will develop the capability to be good at producing one good is related to its installed capability in the production of other similar, or nearby goods for which the currently existing productive capabilities can be easily adapted. The barriers preventing the emergence of new export activities are less binding for nearby products which only require slight adaptations of existing capacity.

This is shown by first developing a measure of distance between products. The distance between each pair of products is measured based on the probability that countries in the world export both. If two goods need the same capabilities, this should show up in a higher probability of a country having comparative advantage in both. Formally, the inverse measure of distance between goods *i* and *j* in year *t*, which is called proximity, equals

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

where for any country *c*

$$x_{i,c,t} = \begin{cases} 1 \text{ if } \mathrm{RCA}_{i,c,t} > 1 \\ 0 \quad \text{otherwise} \end{cases}$$

and where the conditional probability is calculated using all countries in year *t*.

To measure how close any potential product is to that country's export basket as a whole the distance between products must be combined with export data. This measure, from Hausmann and Klinger (2006), is called density: the density of current production around any good. This is the distance of good *i* from country *c*'s export basket at time *t*. It is the sum of all paths leading to the product in which the country is present, divided by the sum of all paths leading to the product. Density varies from 0 to 1, with higher values indicating that the country has achieved comparative advantage in many nearby products, and therefore should be more likely to export that good in the future.

$$\text{density}_{i,c,t} = \left(\frac{\sum_k \varphi_{i,k,t}\, x_{c,k,t}}{\sum_k \varphi_{i,k,t}} \right)$$

Hausmann and Klinger (2007) show that this measure of density is indeed highly significant in predicting how a country's productive structure will shift over time: countries are much more likely to move to products that have a higher density, meaning they are closer to their current production.

Then Hausman and Klinger (2007) aggregate this measure of density to an overall measure of the connectedness of a country's export basket. This country-level measure is called "open forest". A higher value indicates that the current export basket is a part of the product space that is well connected to other new and valuable opportunities for structural transformation. In other words, a high open forest indicates that the country is located in a dense part of the product space. A low value of open forest indicates the country is specialized in a sparse, unconnected part of the product space. Open forest is calculated as follows:

$$\text{open\_forest}_{c,t} = \sum_i \sum_j \left[\frac{\varphi_{i,j,t}}{\sum_i \varphi_{i,j,t}} (1 - x_{c,j,t})\, x_{c,j,t}\, \text{PRODY}_{j,t} \right]$$

As with export sophistication, there is a positive relationship between income and open forest, with richer countries specialized in more connected parts of the product space. Yet, there is variation in this relationship, and countries that have managed to move into a relatively well connected part of the product space given their level of development enjoy faster subsequent structural transformation.

Some products are in a dense part of the product space, meaning that they are intensive in capabilities that are easily deployed to a wide range of other goods. The implication is that successfully producing these goods would create capabilities with significant value for other new products. On the other hand, other products are located in the periphery, or in a part of the product space where the country has already achieved comparative advantage and acquired the requisite productive capabilities. Therefore, these products have a low strategic value, because successfully producing them would offer little in terms of future structural transformation.

The strategic value of every good not currently exported with comparative advantage can be measured using open forest. This is done by calculating what would happen to open forest if that good were added to the export basket. If a product is closely connected to a wide range of other valuable products not currently exported by the country, it would result in a large increase in open forest, and therefore have high strategic value because it would greatly expand the country's option set.

Annex 4.5. Extensive and Intensive Margin: Methodology

The methodology used for the calculation of the extensive and intensive margin presented in Chapter 4 follows the work of Hummels and Klenow (2005).

Let K_i be the set of products exported by country *i*, X^i_k the dollar value of *i*'s exports of product *k* to the world, and X^W_k the dollar value of world exports of product *k*.

The (static) intensive margin is defined by HK as:

$$IM^i = (\sum_{K^i} X^i_k)/(\sum_{K^i} X^W_k)$$

In words, the numerator is *i*'s exports and the denominator is world exports of products that are in *i*'s export portfolio.

The extensive margin (also static) is:

$$XM^i = (\sum_{K^i} X^W_k)/(\sum_{K^W} X^W_k)$$

ECA PREM
EUROPE AND CENTRAL ASIA network