

# **Modeling Economic Growth in Contemporary Belarus**

# Entrepreneurship and Global Economic Growth

Series Editor: Professor Bruno S. Sergi

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# ***Entrepreneurship and Global Economic Growth***

**Series Editor: Bruno S. Sergi**

Volume 1: Modeling Economic Growth in Contemporary Belarus

Edited by Bruno S. Sergi



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# Table of Contents

List of Figures	ix
List of Tables	xv
About the Editor	xxi
About the Contributors	xxiii
Introduction to Entrepreneurship and Global Economic Growth Series	xxv
Introduction to <i>Modeling Economic Growth in Contemporary Belarus</i>	xxix
Acknowledgments	xl
<b>Chapter 1: Belarus in Global Ratings: Position and Dynamics</b>	<b>1</b>
<i>Nina Bohdan and Veronika Garkavaya</i>	
<b>Chapter 2: FinTech and Commercial Banking Development in Belarus</b>	<b>25</b>
<i>Irina Karachun, Alexey Korotkevich and Dzmitry Marushka</i>	
<b>Chapter 3: Future of the Belarusian IT Sector: From IT Outsourcing to Industry 4.0?</b>	<b>41</b>
<i>Uladzimir Parkhimenka</i>	
<b>Chapter 4: Industrial Development, Structural Changes, and Industrial Policy in Belarus</b>	<b>63</b>
<i>Vyacheslav Shutsilin, Andrey Filiptsov and Yuliya Vashkevich</i>	

<b>Chapter 5: Technological Parks, Clusters, and Innovation Networks: Expected Transformation of Innovative Sector</b>	73
<i>Alexey Korotkevich, Irina Karachun, Dzmitry Marushka and Hanna Vashchyla</i>	
<b>Chapter 6: Belarus on the Way to Sustainable Development: Circular Economy and Green Technologies</b>	89
<i>Olga Shimova</i>	
<b>Chapter 7: Changes in Fuel and Energy Industry: What to Expect after the Launch of Belarusian Nuclear Power Plant?</b>	107
<i>Tatsiana Zoryna</i>	
<b>Chapter 8: Agrarian Sector: Trends, Scenarios, Policy</b>	129
<i>Natallia Kireyenka</i>	
<b>Chapter 9: How to Make Money on Geography: Transportation and Logistics Services in Belarus</b>	147
<i>Anna Koroleva and Alina Dutina</i>	
<b>Chapter 10: The Development of the Tourism and Hospitality Industry</b>	163
<i>Aliaksandr I. Tarasionak and Viktoryia M. Dziadok</i>	
<b>Chapter 11: Education and Innovation Growth: Establishing Entrepreneurial Universities</b>	181
<i>Alena Vankevich</i>	
<b>Chapter 12: Public–Private Partnerships and Social Innovation in Belarus</b>	193
<i>Maryna Karpitskaya</i>	
<b>Chapter 13: Administrative Arrangement, Spatial Development, and Regional Policy in Belarus</b>	205
<i>Vladimir S. Fateyev</i>	
<b>Chapter 14: Smart Cities</b>	223
<i>Volha Holubava</i>	

<b>Chapter 15: What Belarus Produces, Exports, and Imports: Analyzing Trade in Value Added</b>	235
<i>Aliaksei Bykau and Stanislau Vysotski</i>	
<b>Chapter 16: Foreign Investments and TNCs</b>	249
<i>Aleksey V. Danilchenko, Elena V. Bertosh, Pavel P. Artsemyeu and Roman D. Osipov</i>	
<b>Chapter 17: The Policy of the National Bank of the Republic of Belarus to Ensure Financial Stability: Achievements, Problems, and Prospects</b>	269
<i>Ludmila Stefanovich</i>	
<b>Chapter 18: Improving Fiscal Policies: Evolution or Revolution?</b>	289
<i>Alena Kireyeva and Irina Loukianova</i>	
<b>Chapter 19: Economic Growth in Belarus: Analysis, Forecasts, and Scenarios</b>	307
<i>Vladimir Shimov, Aliaksei Bykau and Tatsiana Khvalko</i>	
<b>Chapter 20: Foreign Economic Policy of Belarus: Integration and Multivector</b>	323
<i>Alla Pranevich and Aksana Shkutsko</i>	
Index	341

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# List of Figures

## Chapter 1

Figure 1.1	Ranking Positions of Belarus From the Project “Doing Business.” . . . . .	7
Figure 1.2	Rankings in Doing Business Topics – Belarus. . . . .	8
Figure 1.3	Ease of Doing Business Score on Doing Business Topics – Belarus. . . . .	8
Figure 1.4	Dynamic of Ranking ICT Development Index for Belarus. IDI, ICT Development Index; ICT, information and communication technology. . . . .	11
Figure 1.5	Percentage of Individuals Using the Internet (2000–2017) in Belarus and Commonwealth of Independent States (CIS). . . . .	11
Figure 1.6	Information and Communication Technology (ICT) Capacity Index. . . . .	13
Figure 1.7	Level of E-Government Development in Belarus. . . . .	20

## Chapter 2

Figure 2.1	ATMs per 100,000 Adults from 2008 to 2016. . . . .	32
Figure 2.2	Belarus Digital Infrastructure in 2018. . . . .	33

## Chapter 3

Figure 3.1	Dynamics of Computer Services Exports in Balance of Payment of the Republic of Belarus. . . . .	43
Figure 3.2	Dynamics of Production Structure in High-Tech Park Companies. ICT, information and communication technology. . . . .	48
Figure 3.3	Dynamics of Computer Services Exports Per Capita in the Republic of Belarus in 2001–2018 and Computer Services Exports Per Capita in Selected Countries in 2016. . . . .	52

Figure 3.4	Dynamics of Average Salary Levels in ICT Sector and at HTP Companies in Comparison to the National Level. . . . .	53
Figure 3.5	Dynamics of Information and Communication Technology Sector's Gross Value Added Share in the Total Gross Value Added in the Republic of Belarus in 2009–2017, in percent. . . . .	53
Figure 3.6	Dynamics of High-Tech Park Company Number in 2009–2018. . . . .	56
Figure 3.7	Dynamics of Monthly Revenues per Employee and Salary at High-Tech Park Companies. . . . .	58
 <b>Chapter 4</b>		
Figure 4.1	GDP Structure in the Republic of Belarus and the World. . . . .	64
Figure 4.2	The Structure of Fixed Capital in the Republic of Belarus by Sectors of the Economy at the Beginning of 2018. . . . .	65
Figure 4.3	The Structure of Fixed Capital and Employment in the Republic of Belarus by Organizations of Various Forms of Ownership. . . . .	66
Figure 4.4	Industrial Production in Belarus, in percent from 2011 to 2017. . . . .	66
Figure 4.5	Industrial Policy Directions. . . . .	67
 <b>Chapter 5</b>		
Figure 5.1	The Main Types of Technology Parks, Residents, and Their Products. . . . .	75
Figure 5.2	Number of Residents and Number of Employees of Residents of Technoparks of Belarus in 2018. . . . .	78
Figure 5.3	Dynamics of Indicators of Knowledge-Intensive GDP, Innovative Activity of Organizations, and the Coefficient of Inventive Activity for 2013–2017. . . . .	81
Figure 5.4	Number of Employees with Academic Degrees Involved in Research and Development for 2010–2017: (a) PhDs; (b) Doctors of Science. . . . .	83
 <b>Chapter 6</b>		
Figure 6.1	The Sustainable Development Goals. . . . .	92

**Chapter 7**

Figure 7.1	Fuel and Energy Industry of the Republic of Belarus Management Structure. . . . .	108
Figure 7.2	Belarusian Energy System Chart. . . . .	110
Figure 7.3	Dynamics of Peat Production and Peat Product Export. . . . .	111
Figure 7.4	Dynamics and Structure of Petrochemical Products Production.. . . .	111
Figure 7.5	Dynamics and Relative Weight of Natural Gas Consumption (Including Associated Gas) in Belarusian Energy System (BES). . . . .	116
Figure 7.6	Dynamics of GDP Energy Intensity (in percent to 2010). . . . .	121

**Chapter 9**

Figure 9.1	The Share of Belarusian Exports in the World Shipping Services. . . . .	148
Figure 9.2	Structure of Cargo Turnover by Types of Transport, in percent of the Total. . . . .	153
Figure 9.3	Export and Import of Transport Services (According to the Balance of Payments Methodology, Million Dollars). . . . .	153
Figure 9.4	The Share of Investment (percent) in Fixed Assets in the Transport Industry (in the Total Investment). . . . .	153
Figure 9.5	Highways of Belarus.. . . .	154
Figure 9.6	European Transport Corridors.. . . .	156

**Chapter 10**

Figure 10.1	Dynamics in the Number of Organizations Engaged in Tourist Activities, 2005–2018.. . . .	165
Figure 10.2	Dynamics of the Structure of Enterprises by Types of Tourist Activities, 2005–2018.. . . .	166
Figure 10.3	Distribution of Hotels With Star Rating by Regions and Minsk, 2018. . . . .	168

**Chapter 11**

Figure 11.1	Number of Specialists per 10,000 Employed in the Economy, 2017. . . . .	183
-------------	---	-----

**Chapter 13**

Figure 13.1	Administrative Structure in the Republic of Belarus. . . . .	206
-------------	--	-----

Figure 13.2	Main Subjects (Public Authorities) Developing, Coordinating, and Implementing the Regional Policy in the Republic of Belarus. . . . .	218
-------------	---	-----

**Chapter 14**

Figure 14.1	Housing Fund in the Republic of Belarus. . . . .	226
Figure 14.2	Improvement of Housing Stock in 2017, in percent. . . . .	227

**Chapter 15**

Figure 15.1	Values of Direct and Indirect Value Added Components in Some Industries of the Belarusian Economy. . . . .	244
Figure 15.2	Domestic Value Added Share in Exports, as a Share of Gross Exports, for a Number of Countries of Central and Eastern Europe in 2011, rel. units. . . . .	245
Figure 15.3	Structure of Major Gross Exports Items and Value Added Component of Gross Exports of the Republic of Belarus, and Import Intensity of Exports (IIEs) in 2016. . . . .	246

**Chapter 16**

Figure 16.1	The Structure of FDI in the Economy of the Republic of Belarus. . . . .	251
Figure 16.2	The Ratio between FDI in the Form of Equity Participation and FDI in the Form of Profit Reinvestment (Million USD). . . . .	252
Figure 16.3	The Prevalence of the City of Minsk and the Minsk Region in the Distribution of Incoming FDI. . . . .	264
Figure 16.4	The Prevalence of the City of Minsk and the Minsk Region in the Regional GDP. . . . .	264
Figure 16.5	Comparative Analysis of Revenue per Person Employed in Enterprises in Various Forms of Ownership. . . . .	265

**Chapter 18**

Figure 18.1	EU-28 Tax Revenues, 2000, 2010, 2016. . . . .	293
Figure 18.2	Total Receipts From Taxes and Compulsory Actual Social Contributions, 2010–2016. . . . .	293
Figure 18.3	Level of Centralization of Financial Resources in Different Countries in 2017, percent of GDP. . . . .	294
Figure 18.4	Rates of the Main Taxes in 2018. . . . .	294

Figure 18.5	Dynamics of Centralization Level, in percent. . . .	295
Figure 18.6	Structure of Tax Revenues of the Budget of the Republic of Belarus (Social Insurance Contributions not taken into Consideration). . . . .	295
Figure 18.7	Quality Structure of the Tax Incentives. . . . .	300
<b>Chapter 19</b>		
Figure 19.1	Decomposition of Economic Growth in Belarus From 2001–2017, in percent. . . . .	311
Figure 19.2	Dependence of Economic Growth in Belarus (in percent) on Changes in the World Oil Prices (in percent to the Previous Year). . . . .	311
Figure 19.3	Limitation of Economic Growth of Belarus by the Balance of Payments. . . . .	312
Figure 19.4	Equivalent to the Foreign Trade Balance by Type of Economic Activity, USD Million at the Nominal Exchange Rate, 2014. . . . .	315
Figure 19.5	Forecast of Changes in the Contribution of Main Products to GDP and the Trade Balance in 2014–2025, Million USD. . . . .	318

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# List of Tables

## Chapter 1

Table 1.1	Belarus’s Human Development Index Trends Based on Consistent Time Series Data and New Goalposts. . . . .	3
Table 1.2	Belarus’s Human Development Index (HDI) and Component Indicators for 2017 Relative to Groups of Countries. . . . .	4
Table 1.3	Belarus’s Inequality-adjusted Human Development Index (IHDI) for 2017 Relative to Selected Groups of Countries. . . . .	5
Table 1.4	Belarus’s GDI for 2017 Relative to Selected Groups of Countries. . . . .	6
Table 1.5	Information and Communication Technology (ICT) Capacity Index. . . . .	13
Table 1.6	Dynamics of Ranking the Global Index of Innovations – Belarus. . . . .	15
Table 1.7	The Global Innovation Index and Its Components for Belarus in 2015–2018. . . . .	15
Table 1.8	Quality of Life Index (Minsk, 2019). . . . .	17
Table 1.9	Belarus’ Rank in the Rule of Law on Basic Principles. . . . .	19
Table 1.10	Aggregate Indicators of Six Broad Aspects of Governance in Belarus. . . . .	20
Table 1.11	Belarus’ Place in the World Arena. . . . .	21

## Chapter 2

Table 2.1	Account Ownership at a Financial Institution or with a Mobile-Money-Service Provider in Belarus. . . . .	31
Table 2.2	Digital Payments Segment in Belarus. . . . .	35

**Chapter 3**

Table 3.1	Main Statistical Indicators of the Belarusian Information and Communication Technology (ICT) Sector Development in 2011–2017.. . . . .	45
Table 3.2	Dynamics of High-Tech Park Development Indicators in 2011–2017. . . . .	47
Table 3.3	Selected Software Startups with Belarusian Origin or Connections.. . . . .	50

**Chapter 5**

Table 5.1	Tax and Custom Preferences of the Chinese-Belarusian Industrial Park Residents. . . . .	80
Table 5.2	Selected Innovation Indicators of the European Innovation Scoreboard (EIS – 2017) for Belarus. . . . .	82

**Chapter 7**

Table 7.1	Total Installed Capacity of Belarusian Energy System as of January 1, 2019.. . . . .	109
Table 7.2	Energy Balance in the Republic of Belarus in 2017 (Thousand Tons in Coal Equivalent). . . . .	113
Table 7.3	Foreign Trade Turnover of Power and Energy Resources in the Republic of Belarus during 2010–2017 (Thousand Tons in Coal Equivalent). . . . .	115
Table 7.4	Indicators of Energy Security in the Republic of Belarus. . . . .	117
Table 7.5	Production of Electrical Energy by Renewable Energy Resources Connected to Electrical Network of “Belenergo”.. . . . .	121

**Chapter 8**

Table 8.1	The Main Socioeconomic Indicators of Agricultural Development in the Republic of Belarus, 2010–2017. . . . .	132
Table 8.2	Structure of Agricultural Products by Types and Categories of Farms, 2010–2017 (Percentage of Total Agricultural Output; at Current Prices). . . . .	135
Table 8.3	Achievement of Indicators From the State Program for the Development of Agrarian Business in the Republic of Belarus for 2016–2020 for the Production of Agricultural Products, Raw Materials, and Food, 2017. . . . .	136



Table 8.4	Production of Agricultural Products Per Capita in the Republic of Belarus, 2010–2017, kg. . . . .	138
Table 8.5	Consumption Per Capita of Staple Food in the Republic of Belarus, 2010–2017, kg. . . . .	139
Table 8.6	Integral Assessment of Food Security in the Republic of Belarus from the Standpoint of Physical Accessibility, 2010–2017, Coefficient. . . .	139
Table 8.7	General Balance of Foreign Trade in Belarus in Agricultural Products and Foodstuffs, 2010–2017, \$ Million. . . . .	140
Table 8.8	Commissioning of Agro-towns in the Republic of Belarus in Accordance with the State Program of Rural Revival and Development from 2005–2010.	142
<b>Chapter 9</b>		
Table 9.1	The Volume of Cargo Transportation by Types of Transport in 2010–2018, Thousand Tons. . . . .	151
Table 9.2	Dynamics of Freight Turnover by Types of Public Transport from 2010–2018, Billion tons/km. . . . .	152
<b>Chapter 10</b>		
Table 10.1	Dynamics of the Number of Main Organizations From the Tourism and Hospitality Industry, 2005–2018. . . . .	165
Table 10.2	Occupancy and Capacity of Hotels and Similar Accommodation Facilities in Belarus, 2000–2018..	167
Table 10.3	The Level of Development of Accommodation Sector in Belarus in Comparison with Other Countries, beds per 1,000 Inhabitants. . . . .	167
Table 10.4	Concepts and Indicators for Assessing Tourism Competitiveness of Countries. . . . .	172
Table 10.5	Assessment of Tourism Competitiveness in Belarus and Neighboring Countries, $\tilde{I}_{in}$ . . . . .	175
<b>Chapter 11</b>		
Table 11.1	Dynamics of the Belarus Education System, 2010–2017. . . . .	182
<b>Chapter 12</b>		
Table 12.1	Analysis of the Institutional Conditions for Implementing Social Innovation in the Framework of PPP Projects in the Republic of Belarus. . . . .	199

**Chapter 13**

Table 13.1	Territory, Population, and Administrative Structure in the Republic of Belarus. . . . .	207
Table 13.2	Life Expectancy at Birth in the Regions of the Republic of Belarus in 1990–2017 (Number of Years). . . . .	209
Table 13.3	Share of Belarusian Regions and Minsk in GDP by Some Socioeconomic Indicators in 2018, in percent.	211

**Chapter 15**

Table 15.1	Trade Balance of Belarus, by Basic Products, Billion USD in Current Prices. . . . .	237
Table 15.2	Gross Value Added by Sector, Percent to GDP. . .	240

**Chapter 16**

Table 16.1	Rating of the Top 2000 of the Largest World Companies (According to <i>Forbes</i> ), Having Representative Offices in the Republic of Belarus. . . . .	255
Table 16.2	Dynamics of the Main Forms of Foreign Economic Activity (in percent to the Number of Respondents).	258
Table 16.3	The Dynamics of the Factors Hindering the Development of Foreign Economic Activity of the Enterprise (in percent of the Number of Respondents). . . . .	260
Table 16.4	Indicators of the Doing Business 2018 Report. . . .	263

**Chapter 17**

Table 17.1	Assets of the Financial Sector in the Republic of Belarus, Million USD. . . . .	275
Table 17.2	The Structure of Assets in the Financial Sector of the Republic of Belarus, in percent. . . . .	276
Table 17.3	The Base Indicators of the Banking Sector in the Republic of Belarus as of January 1, 2019. . . . .	277
Table 17.4	The Refinancing Rate of the National Bank in the Republic of Belarus and Core Inflation. . . . .	283
Table 17.5	De-dollarization of the Economy. . . . .	285

**Chapter 19**

Table 19.1	Macroeconomic Indicators of the Belarusian Economy, in Dynamics with Breakdown by the Periods, 2000–2018. . . . .	308
------------	---	-----

Table 19.2    Scenarios of Economic Growth for 2023–2025. . .    317

**Chapter 20**

Table 20.1    The Development of Integration Engagement  
                  between the Republic of Belarus and the Countries  
                  of the Former Soviet Union. . . . .    336

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A short list of journals where his articles are published include: *Journal of the Belarusian State University* (Series in Economics), *Banking Bulletin*, *New Economy*, *Belarusian Economic Journal*, and others. His research interests include: modeling of economic systems, forecasting and economic planning, finance and financial management, investment and innovation, etc. He is a member of the Expert Council at Minsk City Technopark. He is the Laureate of the research contest of the Gomel Executive Committee and Presidential Fellow for his contribution to improving the efficiency of innovation development in Belarus.

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# Introduction to Entrepreneurship and Global Economic Growth Series

As we all know, economic growth is a fundamental condition for fostering development. However, growth alone does not guarantee the social well-being and the overall sustainability of an economy. Today, global growth is facing a confluence of perils, opportunities, and uncertainty. We have observed the effects brought upon by climate change, the manifestation of the fourth industrial revolution, and the geopolitical conflicts rooted in the past and brewed by new dynamics.

Many variables could severely disrupt economic activity, existing order, and inflict significant change on long-term development prospects on a global level. In light of such enormous economic and social challenges, it is almost worth it for us to revisit the fundamental question regarding economics: what, how, and for whom to produce? In an approach by authoritative command, market, or mixed?

With this economic complexity in mind, it is always exciting starting a new editorial journey, especially today that shows global economic growth and fast-changing truths. *Entrepreneurship and Global Economic Growth*, Emerald's Innovative Global Economic Growth Book Series, reflects the need to present new examinations of old and emerging economic questions.

One of the most debated topics in the field of development economics is: why some countries are able to get ahead and others are poorer and lagging? The institution readiness has long been argued as a fundamental impetus factor. How should a government enact its power for economic growth? What is the right mix of policy that can create an enabling environment breeding growth? In addition to institutions, what about hard infrastructure, the quality of human capital, and cultural condition? What are the main factors that play a conducive role in shaping the ability of an economy to absorb technology and knowledge, to foster entrepreneurship spirit, to build comparative advantage through trade and financial connectivity?

Today, the advanced nations coming from the dawn of the first industrial revolution are experiencing a slowdown. The emerging world's growth skyrocketed during the past decades despite ongoing hindrances popping up here and there. The growth stories of emerging markets, especially China, are attracting considerable research attention. What has been done right in these nations? What were the enabling factors? Many emerging markets exhibit the potential on many fronts of becoming more competitive in the long term; however, their prosperity

depends on enabling factors that drive up productivity and ensure fair income redistribution.

A unique way of looking at countries, which have successfully escaped the middle-income traps, is to examine the disruptive business and financial cycles in which they have navigated through. This inspires us to step up efforts for a growth model that evaluates the breaking through factors including innovation, trade, or other elements revolutionizing their productivity. The global transition to Industry 4.0 is an essential novelty not fully understood, and this roots to a lot of inconsistencies today.

As all of the above has been stated, I cannot stress enough that a global economic system today is fraught under the impact of shifting global geopolitical dynamics. My current teaching at Harvard University on the emerging economies that enables a constant interaction with students from all around the world, the rationale of setting up a new book series was to cover the current and future engines of economic growth in several countries and regions. I can thoroughly state that this new series is reflecting what I teach at Harvard, where I instruct on the Economics of Emerging Markets and the Political Economy of Russia and China.

This book series shall include the most appealing economic growth stories coming out from the emerging and transitional markets. The goal of this series is to first identify a nation's social, economic, and financial systems and their economic prospects. This book series aims to create a suitable platform for authors to share knowledge and expertise to our prospective readers, for understanding about the current dynamic, the future potential and the past development stories of economic growth.

*Entrepreneurship and Global Economic Growth's* books discuss different dimensions of the changing economic and industrial contexts and examine in detail how to accelerate action to foster growth, development, and resilience. This series puts forward significant new research in the global economic growth field, opening discussions regarding new topics, and updating existing literature. All books in the series will be valuable sources of knowledge and information on the specifics in stimulating the processes of growth and development. Continuously changing economic systems and the perception of the context of values also changes, the finances are to build sustainable value for stakeholders. New grounds for growth must be designed in terms of considering supportive decisions and ultimate actions. Breaking economic, social, and productive realities call for an original editorial approach about understanding economic growth forces that countries and industries could adopt. Not least, the high demand for innovative technologies that are stimulating the adoption of hi-tech in productive systems.

As we are currently in the process of rounding out the series publication lineup for the next volumes, the sequence of titles must all tie perfectly together. They will consist of experts' knowledge and exhaustive portrayal of the impact of economic growth and mark a milestone in the research field. Even though the findings are specific to a single country or industry, as the series will evolve further, readers will be able to get more significant details of particular cases and draw definite conclusions that apply to the realm of economic growth.

Our goal is not only to examine the factors contributing to the success or failure of the economic stories but also to give a touch of extraordinary vision, to be forward-looking, and to be engaging for the readers in the academic and general public alike. We strive to enrich the students, researchers, and practitioners who deal with modeling economic growth, both from theoretical and functional viewpoints.

**Bruno S. Sergi**

*Cambridge, MA, USA*

August 5, 2019

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# **Introduction to *Modeling Economic Growth in Contemporary Belarus***

*Modeling Economic Growth in Contemporary Belarus*—the first volume in the series—aims to a peculiar post-Soviet country. Since 1991, the eyes of the world have been on the economic growth and development of the states that formerly made up the Soviet Union. Looking at Belarus' economic growth and prospects, this edited collection analyzes why the country is viewed ahead of other neighbor states in terms of human development. Looking across both medium- and long-term economic growth, this volume brings together a cast of expert contributors to analyze the foreign and domestic policies that affect Belarus's economy. The country is economically dependent on Russia and is attempting difficult emancipation by turning to China, which has sensed the ongoing underground crisis by proposing itself with the tried and tested diplomacy of the yuan and the stadiums. Across the 20 chapters included in the book, the contributors explore the largest industries in Belarus, including the financial, technology, tourism, and energy industries – a contradiction of the sectoral structure of the economy of Belarus, which was traditionally specialized in agriculture, and then successfully conducted industrialization and post-industrialization in the early twenty-first century. As of now, the industry and service sectors dominate its economy. Belarus made an “economic wonder,” which is remarkably interesting for modern economic science and practice. The experience of this post-Soviet country could be useful for other countries – primarily, those of the Commonwealth in Independent States.

With chapters on foreign investment, exports and imports, and regional policy, this is a text that looks across the whole breadth of the economy. A contradiction of international economic activities of Belarus is analyzed. In the two recent decades, it conducted globalization of its economy; despite this, however, the social environment is peculiar for low susceptibility to innovations. Belarusian entrepreneurship is more apt to domestic markets and markets of the region. The study also takes into account the environmental costs and consequences of economic growth of the Republic of Belarus for its environment. The economic growth issues of Belarus are analyzed from the standpoint of sustainability and the prospects for its improvement are determined.

The analysis of the main stages of the Belarusian economy's development from 2000 to 2018 has been carried out, and the main factors and limitations of economic growth have been considered. The known models of economic growth

applied to the Belarusian economy are shown. It is grounded that the correct use of endogenous growth models based on production functions is hampered by the significant influence of exogenous factors on the Belarusian economy, and it is preferable to use models based on the balance of payments under these conditions. Three scenarios for the growth of the Belarusian economy until 2025 are analyzed: baseline, adverse, and target. The desired structural changes are identified for the implementation of the target scenario.

The book considers world experience of the innovation sector transformation and describes results of the Belarusian innovation infrastructure development and transformation issues in the national economy. Suggestions on the ways and mechanisms focused on the efficiency improvement of innovation sector transformation based on clusters and innovation networks in Belarus are presented.

The establishment of the market model of financially stable socioeconomic development of the Republic of Belarus and improvement of the quality of life are inseparably linked with the development of the social innovation sphere and involvement of business in performing state-level strategic tasks. Despite the existence of a certain mechanism for developing public–private partnerships and implementing social innovation in international practice, the mechanical transfer of these statements is impossible due to the ongoing processes of cross-border integration in the Republic of Belarus.

The goals and objectives, subjects and objects, as well as the tools used by the Belarusian public authorities in the regional policy formation and implementation nationwide have been identified.

The promising trends for its improvement pursued in Belarus have been formulated and consider the foreign experience and the paradigm shift of regional development policy observed in the OECD member countries.

Considerable attention is paid to the analysis of industrial policy in the Republic of Belarus, its goals and instruments, as well as regulations. It is noted that the role of the government in regulating the industrial structure of the economy is significant.

Conducted analyses of the international economic specialization in the Republic of Belarus are based on the balance of payments and national statistics data by type of economic activity. It also demonstrates application of the customized Trade in value added methodology for analysis of the international economic specialization of Belarus. The methodology has been developed for the calculation of selected key figures for 2011–2016. Using “Input–Output” tables to measure intersectoral relationships enabled assessment of international trade not only in terms of prices of goods and services, but in terms of value added of each product. The analysis shows that the most important industries of the international economic specialization of Belarus are oil products, chemical products, foodstuffs, equipment and vehicles, transport services, and computer services. Domestic value-added share of exports is about 60%, which corresponds to the level of such countries of Central and Eastern Europe as the Czech Republic, Slovakia, Estonia, Poland. Consequently, import intensity of exports accounts for about 40%.



In the book the features of foreign economic policy of the Republic of Belarus are identified and determined by its multidirectional external economic relations and participation in the processes of international economic integration.

It is noted that in the last decade there was an active search for opportunities to shift the focus in foreign economic policy, including geographic redirection of trade and investment flows, intensification of the search for a “niche” and new ways of incorporating into the world economic relations system, progress toward the liberalization of trade relations by means of multilateral and bilateral interaction formats.

Assessment of the motivation for the boost of the foreign economic policy of the Republic of Belarus is presented in the context of an aggravated geopolitical situation and the growth of protectionist tendencies, identifying obstacles of their implementation.

The activities of foreign transnational corporations and the factors hindering the internationalization of business activity of domestic enterprises have been studied in detail. The priority areas of government in activities to promote the attraction of FDI to the Republic of Belarus have been analyzed.

Descriptions for ensuring financial stability policy are presented in the book. The main goal of the research is to determine the role and policy of the National (Central) Bank, which was called up, together with the Government, to ensure financial stability in the Republic of Belarus. The research provided a summary of the state of the country's financial sector and presented the achievements of the National Bank and state institutions for ensuring financial stability.

The development of technology in the financial sector has led to the formation of a new financial and technological ecosystem. Revolutionary innovations in the field of financial services arise in the interaction of both organizations among themselves and organizations with customers. In the interaction between organizations, new companies appear that develop and offer technologies in the field of payment services at a lower price and on more favorable terms, unlike financial organizations.

The book also covers implementation of tax reforms in Belarus. It analyzes the place of tax instruments in economic growth and investigates the strategic direction of tax reforms. The actual tax policy in Belarus is determined by the requirements of the national strategy of sustainable development which aims to ensure a stable financial basis for the development of society, economy, and environmental management. As a theoretical and practical tool for improving the quality of the tax system through the modernization of the incentives system, the concept of tax expenditures as a part of the budget process was investigated.

The current state and development of the education system in Belarus are considered. It includes preschool, general secondary, vocational, secondary special and higher education, as well as supplementary education for children and further education for adults, including nonformal education. The role of universities in creating the Belarus National Innovation System is shown. The main direction of improving the activities of higher education institutions based on the “University 3.0” model is considered. The Belarussian universities actively develop their innovation infrastructure (they form their own training and research

centers, research and production laboratories, centers of cooperation with enterprises, career development centers for students and startup schools). During the last years, 14 sectoral laboratories and 6 science technological parks were established at Belarusian universities. Belarusian universities, while determining their own development trajectory, are guided by their main mission – to promote innovation and human capital formation – for the sustainable social and economic development of the country.

Description of development and main achievements of the Belarusian IT sector which is today considered by experts to be the most promising and progressive part of the national economy is provided. Special attention to the analysis is given to the governmental policy to stimulate information and communication technology sector growth through special legal regulations (e.g., High-Tech Park as favorable business environment for IT business since 2005) and efforts to promote transition of Belarus to the “IT country” through a number of national programs and legislative instruments, including the President's Decree on Digital Economy Development (2017). Main scenarios of the Belarusian IT sector future development are proposed and analyzed, including risks and opportunities on such four paths as being the global IT development outsourcing provider; exponentially growing their own software product companies; becoming the regional or even global cryptocurrency hub; integrating IT in all parts of the domestic economy in order to build Industry 4.0 and digital society.

Authors of the book have defined prerequisites for the formation and features for the development of the National Strategy for Sustainable Development of the Republic of Belarus, which is a complex of scientifically grounded directions for solving national problems that are closely interrelated with world development. It is also noted that the green economy is becoming a new engine of growth, contributes to the creation of decent jobs, and is a vital factor in the eradication of poverty and destitution. The main factors of the transition to a green economy and the main directions of its development in the Republic of Belarus are outlined. The features of the concept of circular economy and the formation of business models for its implementation are analyzed. The study concluded that the concept of sustainable development is a theoretical model for the desired future of mankind, and the green and circular economies provide very specific projects for the practical implementation of the sustainable development paradigm.

Characteristics of the fuel and energy sector for the Republic of Belarus, its organizational structure, the current state of development of power, gas, peat, and oil industries are given. The energy balance of the country and the main power streams are analyzed. Characteristics of key indicators of energy security is presented. The main threats connected with ensuring energy security in the Republic of Belarus are allocated. In particular, the characteristics of the directions of reducing the energy dependence of the Republic of Belarus on the supply of natural gas from the Russian Federation is presented. Dynamics of power consumption of GDP is analyzed. Potential use of renewable and local energy resources, complexity, and prospect of further integration into the Belarusian power system are considered. The prospects of development of nuclear power of the Republic of Belarus are described. The advantages and disadvantages

connected with input of the Belarusian nuclear power plant in operation are designated. The perspective directions for sustainable power development of the Republic of Belarus until 2035 are revealed.

Analysis of the economic advantage of a geographical location of the Republic of Belarus is presented. Thus, effects of each of the directions of transportations are analyzed and approaches to assessment of their cost efficiency are formulated. The factors that influence the export of transport services as well as the trends of development of the transport sector of Belarus are defined. The main directions and ways of improvement of logistics in the Republic of Belarus are described.

The development of the tourism and the hospitality industry in Belarus has a long-term positive trend. This process is uneven, and the growth rate is below the global average. To stimulate the development of the tourism and hospitality industry, measures are being taken in the form of creating visa-free zones, stimulating business activity, and holding major sport events. The potential for growth in this industry has not yet been exhausted. The assessment of the competitiveness of Belarus in comparison with the neighboring countries showed that the development of the tourism and hospitality industry requires improvement of the business environment, increase of openness for tourists, strengthening of country marketing in the world tourism market.

The agro-industrial complex of Belarus is one of the priority sectors of the national economy, which performs economic, social, environmental, and cultural functions. The main trends in the development of the industry on modern business conditions are presented in the section. The goals, objectives, and mechanisms for the implementation of the state programs of development of the AIC are analyzed. The directions and measures of state support for agriculture are reasonable, and the actual structure of the “green box” and “yellow box” measures are presented. Approaches and mechanisms to ensure national food security are highlighted in light of new conditions, goals, and objectives. The results of foreign trade in agricultural products of Belarus and rural development and social infrastructure of the village are presented. Scenarios for the development of agriculture in Belarus, taking into account national priorities in the field of agricultural production, the domestic consumer market, foreign trade, have been developed.

Informatization of all human activities is reflected in areas of the economy of the Republic of Belarus. Although the concept of “smart” cities is not formulated as a standard or regulation for any city in Belarus, the main indicators of urban services and the quality of life indicate a high degree of territorial development in the direction of automating the urban environment management, energy saving, and improving social services quality for the population. Due to high proportion of the population living in the cities of the Republic of Belarus, the development and implementation of the smart city concept both for the city of Minsk and other cities will improve the quality of life of almost 80% of the population.

The positioning of Belarus in the international context of socioeconomic development based on an assessment of the country's dynamics in world rankings is discussed. The country's presence is recognized in the world rankings and its

holding high positions in them is an obvious advantage for achieving a favorable investment image. Ratings characterize the country's comparative position at the international level in several areas: from credit capacity to human capital development.

The position of the Republic of Belarus is organized in several international comparisons, such as Human Development Index, Doing Business, ICT Development Index, Global Innovation Index, Sustainable Development Goals Index, Corruption Perceptions Index, Rule of Law Index, Worldwide Governance Indicators, and others have been analyzed.

The research findings show that the strongest aspects of the socioeconomic development of Belarus are in place due to the high educational level of the human capital development, gender equality, and the implementation of the UN sustainable development goals.

The well-known book's contributors suggest factors to increase the growth of Belarus's economy, such as launching smart cities, expanding logistic services and the tourism and hospitality industry, and the modernization of the agrarian sector. The book looks for an answer to the question of how Belarus could preserve the focus on national socioeconomic system development in the age of globalization concurrently showing a high quality of population's life. For students and researchers in political economy, or international economics, this is a vital text exploring an important, but the underrepresented, economy.

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