

Index

- AliPay, 3
- Anti-Russia sanctions
 - negative side of, 206, 208–209, 212
 - positive aspects of, 209–212
- A Random Walk Down Wall Street*, Malkiel, Burton (1973), 7
- Arctic zone, oil and gas industry
 - broadband seismic methods, 169, 172
 - CJSC “Belfrakht”, 169
 - domestic producers, 168
 - economic sanctions, 167
 - foreign companies, 168
 - foreign contractors, 172
 - geophysical services, 172
 - hydrocarbons, 167
 - international sanctions, 169
 - JSC “MAGE”, 172–173
 - JSC “PO” Sevmash, 168
 - JSC “Zvezdochka”, 168
 - localization production, 168
 - marine geophysical companies, 172
 - Mezhregiontruboprovodstroi, 169
 - seismic monitor, 169
 - “Sozvezdie”, 168
 - ZAO “Belfrakht”, 169
- Arkhangelsk Commercial Sea Port, 169
- Artificial intelligence (AI)
 - investment, 8
- Associated Petroleum Gas, 176
- Augmented Dickey–Fuller (ADF) regression, 18
- Baltic LNG project, 179
- Banking system
 - economic freedom, 14
 - EFW index measures, 14
 - financial development. *See* Financial development
 - free mobility of resources, 14
 - innovations, 13–14
 - lenders and borrowers, 13
 - literature review, 14–15
 - loan and credit, 4–6
 - in market economy, 13
 - model to identify control variables, 18–20
 - restrictive rules and regulations, 14
 - socioeconomic factors, 14
 - in Soviet Union, 15
 - See also* Financial technology (FinTech)
- Beauty Care plant, 195
- Betterment, 7
- BioMed, 113
- “Bishkeksut”, 192
- Bitcoins, 3–4
- Blockchain technology, 3
- Bobrovsky, 113
- Broadband seismic methods, 169, 172
- “Cash advances”, 5
- “Cheerful Molochnik”, 192

- Circular economy
- applied research methods
 - accessible technologies, 131
 - “Clean country”, 131
 - consumed energy, 133–134
 - energy capacity, 133
 - energy resources, 131
 - environment protection, 132, 133
 - forests, 132
 - influence of investments, 127, 130
 - investments, 134
 - national program, 127, 132–133
 - paired linear regression, 130
 - reduction and processing of waste, 131
 - water resources, 131–132
 - conceptualization and adaptation, 126–129
 - economic benefits
 - corporate and consumer ecological responsibility, 136
 - economic growth, 134, 135
 - energy intensity reduction, 135
 - entrepreneurship, 136
 - full-scale implementation, 135–136
 - innovative technologies, 136
 - mineral extraction, 135
 - private investments, 136–137
 - process of formation, 135
 - humanity and environment, 125
 - linear model, 125
 - optimization task, 126
 - reduction in production, 126
 - resources and energy, 126
- CJSC “Belfrakht”, 169
- Clusters and innovational networks
- Bobrovsky, 113
 - Buryat Republic, 113
 - developmental contribution, 115–116
 - expenditures for R&D, 114–115
 - factor analysis, 114, 115
 - foreign corporations activity, 108, 112
 - Fotonika, 111
 - future growth scenarios, 116
 - characteristics, 117–119
 - imbalanced and unstable growth, 119
 - implementation, 119–120
 - implement effectiveness, 121
 - paired linear regression, 119
 - private investments, 119
 - significant changes, 120
 - state investment, 119, 120
 - structural disproportions, 120
 - substantial changes, 120
 - Greenstate, 113
 - gross added value, 113–114
 - labor efficiency, 111
 - logical model, 113–114
 - regression and correlation analysis, 108
 - regression curves, 108, 113
 - values of coefficients, 108
 - volume of expenditure, 111
 - volume of investments, 116, 117
- Commercial banking
- development. *See* Banking system
- CommonBond, 5
- Counter-sanctions
- finances and imprisonment, 215, 216

- food products, 213
- foreign citizenship, 213
- legislation, 211, 214
- pharmaceuticals, 214–215
- punishment, 215–216
- restrictive measures, 214
- statutory regulation, 213
- Credit, 4–6
- Cryptocurrency, 3–4, 9
- Currency risk, 37
- Daimler, 192
- “*Digital Economy of the Russian Federation*”, 102
- Direct payment system, 3
- Domestic value-added (DVA), 222, 224
- Economic benefits, of circular economy
 - corporate and consumer ecological responsibility, 136
 - economic growth, 134, 135
 - energy intensity reduction, 135
 - entrepreneurship, 136
 - full-scale implementation, 135–136
 - innovative technologies, 136
 - mineral extraction, 135
 - private investments, 136–137
 - process of formation, 135
- Economic Freedom of World (EFW), 14
- Economic growth
 - calculations
 - GDP and per capita GDP growth, 252–254
 - investments and accumulated capital, 249–250
 - total factor productivity, 250–251
 - circular economy, 134, 135
 - development, 244–249
 - empirical model
 - data description, 241–243
 - define, 240
 - estimation, 244
 - foreign direct investment, 241
 - public institutions, 240
 - R&D expenditures, 240
 - volume of investments, 241
 - financial development and, 15–16
 - human capital, 16–17, 236
 - methodology, 16–18
 - socioeconomic development, 236–238
 - strategies, 236–238
 - technological progress, 236
 - theoretical model, 238–239
 - variables, 17
 - See also* Banking system
- Economic sanctions
 - international community, 201
 - legitimacy and legality, 203
 - reality, 202
 - restrictive measures, 202
 - against Russia, 203–207
 - uses, 201
- Economic theory, 16–17
- EFW. *See* Economic Freedom of World (EFW)
- Eigenvectors, 21
- Emerging stock markets, 29
- Empirical model
 - economic growth
 - data description, 241–243
 - define, 240
 - estimation, 244
 - foreign direct investment, 241
 - public institutions, 240

- R&D expenditures, 240
- volume of investments, 241
- stock market
 - data and methodology, 35–38
 - international CAPM
- “End-to-end” digital technologies, 130
- Enel, 190
- Eni, 190
- Environmental Performance
 - Index, 144–146
- E. ON, 190
- Equity markets, 7
- Exchange-traded funds (ETFs), 7
- Federal Reserve Report, 5
- Federal Service for Supervision of Natural Resource Usage, 131
- Federal State Statistics Service, 127
- Financial crisis, 2, 35, 45
- Financial deepening, 15
- Financial development
 - definition, 14, 15
 - demand-pull explanation, 15
 - and economic growth, 15–16
 - methodology, 16–18
 - objective and quantifiable variables, 15
 - principal component analysis, 21, 23
 - supply-push, 15
 - variables, 17, 20–22
 - See also* Banking system
- Financial intermediaries, 15
- Financial technology (FinTech)
 - credit and loan issuance, 4–6
 - development, 1
 - financial crisis, 2
 - industry, 2
 - innovations, 1, 2
 - insurance, 8–9
 - investment. *See* Investment payment, 3–4
 - regulatory regime changes, 1
 - in Russia, 9
- Fixed income, 7
- Flare gas, 176
- Ford Corporation, 191
- Foreign direct investment (FDI), 230, 241
- Foreign value-added (FVA), 222–224
- Forest restoration, 132
- Forestry Code of the Russian Federation, 132
- Fortum, 190
- Fossil fuels, 176
- FVA. *See* Foreign value-added (FVA)
- Game theory approach, 116
 - characteristics, 117–119
 - imbalanced and unstable growth, 119
 - implementation, 119–120
 - implement effectiveness, 121
 - paired linear regression, 119
 - private investments, 119
 - significant changes, 120
 - state investment, 119, 120
 - structural disproportions, 120
 - substantial changes, 120
- GARCH, 38
- GEICO, 8
- General Motors Corporation, 191
- “GeoStreamer”, 172
- Global banking system, 4
- Global economic system, 143
- Global Trade Analysis Project (GTAP), 222
- Global value chains (GVCs)

- concept, 219–220
- economic literature, 220
- future trends, 229–232
- gainfully link, 227–229
- input–output approach, 220–221
- international fragmentation, 219
- Russia’s participation measure
 - DVA, 224
 - FVA, 222–224
 - participation index, 224–226
 - sectoral dimension, 226–227
 - statistical approach, 221–222
 - unbundling, 220
- Goldman Sachs Group Inc., 5
- Goodness-of-fit measure R^2
 - over time, 38, 41
- “Green economy”
 - characteristics of demand, 145, 146
 - economic practice, 143
 - Environmental Performance Index, 144–146
 - foundations and practical experience, 144
 - investments, 147
 - normative and legal documents, 144
 - policy implications and recommendations, 153–155
 - “protection of the environment”, 144
 - sustainable economic growth, 144
 - technological parks
 - achievement, 149
 - category D, 149
 - characteristics and practical peculiarities of development, 147
 - dynamics of number, 147, 148
 - full-scale modernization, 152–153
 - function, 147
 - industrial companies, 149
 - innovational development, 148
 - Khanty-Mansi Autonomous Okrug–Yugra, 152
 - labor efficiency, 149–151
 - participants, 151–152
 - priority, 147
 - revenues, 152
 - sectorial structure, 147, 148
 - Sinarsky, 149
 - West-Siberian innovational center, 152
- Gross added value (GAV), 113–114
- GRPCGDP, 18
- GVCs. *See* Global value chains (GVCs)
- Hennes & Mauritz (H&M) company, 195
- Human capital, 16–17, 236
 - growth rate, 244–247
- “Individual investment account” (IIA), 46
- Industry
 - development
 - changes and trends, 76, 78–82
 - stages, 76–77, 83–89
 - strategic objectives, 98, 102–104
 - dynamics of industrial production, 69–71
 - national economy, 70
 - policy, 89–92

- advance development, 96–98
- automotive industry, 89, 95–96
- catching-up development, 95–96
- causes, 93
- “New Wave”, 98–101
- pharmaceutical industry, 93
- possible adverse changes prevention, 94–95
- system-forming companies, 89
- typology, 93–94
- Russian economy, 72–75
- Industry 4.0
 - aging of leading production funds, 56, 57
 - atomic icebreaker, 60
 - business activity, 62
 - digital economy, 55
 - econometric analysis, 59
 - external environment, 63, 64
 - financial resources, 63
 - framework strategy, 61
 - indicators, 55
 - infrastructural provision, 62
 - international cooperation, 63, 64
 - Internet of Things, 51
 - level of sustainability and industrial and innovational development, 58
 - logical analysis, 56
 - modern economic systems, 51
 - modernization of critical components, 56
 - modernization of entrepreneurship, 62–63
 - normative and legal documents, 60–61
 - regression and correlation analyses, 59
 - “road map”, 60
 - state regulator, 62
 - statistical data, 56
 - tax preferences, 62
 - theoretical and methodological basis, 52–53
 - top-priority products, 51
 - volume of high-tech export, 57–59
- Initial coin offering (ICO), 47
- Initial public offering (IPO), 30
- Institute of Developing Economies-Japan External Trade Organization (IDE-JETRO), 222
- Insurance, 8–9
- International CAPM (ICAPM), 29
 - with domestic risks, 42–45
 - global risk, 38–40
 - without local risks, 38–42
- International Finance Centre (IFC), 46
- International fragmentation, 219
 - See also* Global value chains (GVCs)
- International sanctions. *See* Economic sanctions
- Internet of Things (IoT), 51
 - aging of leading production funds, 56, 57
 - atomic icebreaker, 60
 - business activity, 62
 - digital economy, 55
 - econometric analysis, 59
 - external environment, 63, 64
 - financial resources, 63
 - framework strategy, 61
 - indicators, 55

- infrastructural provision, 62
- international cooperation, 63, 64
- level of sustainability and
 - industrial and innovational development, 58
- logical analysis, 56
- modern economic sciences, 56
- modernization of critical components, 56
- modernization of entrepreneurship, 62–63
- normative and legal documents, 60–61
- regression and correlation analyses, 59
- “road map”, 60
- state regulator, 62
- statistical data, 56
- tax preferences, 62
- volume of high-tech export, 57–59
- Investment
 - artificial intelligence, 8
 - circular economy, 134
 - economic growth calculations, 249–250
 - fixed income and equity markets, 7
 - money markets, 6–7
 - “warehouse” banks, 6
 - zero interest rate policy, 6
 - See also* Financial technology (FinTech)
- “Investment tax rebate”, 46
- IoT. *See* Internet of Things (IoT)
- Ishimbay Specialized Chemical Catalyst Plant LLC, 175
- JSC “Marine Arctic Geological Exploration Expedition” (JSC “MAGE”), 172–173
- JSC “PO” Sevmash, 168
- JSC “Zvezdochka”, 168
- Kazan, 131
- Khanty-Mansi Autonomous Okrug–Yugra, 152
- Kolion*, 6
- Lending Club, 4–5
- Leontief, Wassily, 221
- Liquefied natural gas (LNG), 177–180
- Loan, 4–6
- “Loan sharks”, 5
- Marstone, 7
- Medical insurance, 8
- Mezhregiontruboprovodstroï (MRTS), 169
- Microcredit model, 4
- Ministry of Energy and the Ministry of Industry and Trade, 174
- Ministry of Energy of Russia, 174, 175
- Ministry of Finance of Germany, 4
- Ministry of Natural Resources, 131
- Modern Portfolio Theory, 7
- Mondelēz International, 193
- Money market funds, 6–7
- Morgan Stanley Capital International Index (MSCI) for Russia, 33
- “Mosaic” peer-to-peer lending platform, 5
- Moscow Exchange Indices, 30
- Moscow Interbank Currency Exchange (MICEX), 30
- Moscow Oblast, 131

- MSCI Emerging Markets Index, 33
- MSCI World Index, 33
- The National Technology Initiative (NTI), 98, 102
- Nestle, 193
- “New Wave” of industry policy, 98–101
- Nooyi, Indra, 192
- Ohlin, Bertil, 219
- Oil, 37
- Oil and gas industry
- Arctic zone
 - broadband seismic methods, 169, 172
 - CJSC “Belfrakht”, 169
 - domestic producers, 168
 - economic sanctions, 167
 - foreign companies, 168
 - foreign contractors, 172
 - geophysical services, 172
 - hydrocarbons, 167
 - international sanctions, 169
 - JSC “MAGE”, 172–173
 - JSC “PO” Sevmash, 168
 - JSC “Zvezdochka”, 168
 - localization production, 168
 - marine geophysical companies, 172
 - Mezhregiontruboprovodstroi, 169
 - seismic monitor, 169
 - “Sozvezdie”, 168
 - ZAO “Belfrakht”, 169
 - crisis of 2014, 162–163
 - innovative development, 176–180
 - investment contracts, 175
 - natural resources development, 174–176
 - priority projects, 174–175
 - ruble vs. dollar, 163–167
- Oil price, 29–30, 248–249
- “One-on-one” model, 5
- Organic Rankine cycle (ORC) heat recovery systems, 176–177
- Oscar Health, 8
- Payday loans, 5
- Payment, 3–4
- PayPal, 3
- money market fund, 6
- PayTM, 3
- Pechora-LNG project, 177
- Peer-to-peer payment (P2P) payment system, 4, 9
- PepsiCo, 192
- Peterson Institute for International Economics, 201, 202
- PJSC Gazprom Neft, 176
- PJSC “NK” Rosneft, 176
- Polynomial models, 16
- P2P payment system. *See* Peer-to-peer payment (P2P) payment system
- Principal component analysis (PCA)
- advantage, 21
 - control variables, 23
 - financial development variables, 22
 - loading factors, 21
 - regressing per capita GDP and GDP growth rate, 23, 24
- Procter & Gamble company, 195
- Property insurance, 8–9
- QPlum, 8
- Raiffeisen Bank, 190
- Renault, 191

- Robo-advisors, 7, 8
 “ROSBANK”, 190
 Royal Dutch Shell, 190
 Russian investors, 2
 Russian Ministry of Finance, 162
 Russian technology firms, 2
 Russian trade system (RTS), 30
- Saudi Arabia, 163
 Seismic monitor, 169
 Sesame Credit, 5
 Siemens, 190
 Soviet Union, banking system, 15
 “Sozvezdie”, 168
 SsangYong, 191
 Stock market
 analysis, 29
 currency risk, 30
 empirical analysis
 data and methodology,
 35–38
 international CAPM, 38–45
 growth opportunities, 45–47
 critical socioeconomic
 indicators, 46
 domestic investors, 46
 financial and high-tech
 sectors, 46–47
 geopolitical risks, 45
 initial coin offering, 47
 local and global risk factors, 29
 oil prices, 29–30
 performance, 30–35
 political crises, 29
- Sustainability, 107
 Sustainable economic growth, 107
 clusters and innovational
 networks. *See* Clusters
 and innovational
 networks
 distribution of GRP per capita,
 108, 111
 dynamics of indicators, 110
 game theory approach. *See*
 Game theory approach
 “green economy”, 144
 GRP per capita of federal
 districts, 108, 109
 recommendations and policy
 analysis, 121–122
- System-forming companies, 94–95
- Taxation rules, 46
 Technet, 60
 Technological parks
 achievement, 149
 category D, 149
 characteristics and practical
 peculiarities of
 development, 147
 dynamics of number, 147, 148
 full-scale modernization,
 152–153
 function, 147
 industrial companies, 149
 innovational development, 148
 Khanty-Mansi Autonomous
 Okrug–Yugra, 152
 labor efficiency, 149–151
 participants, 151–152
 priority, 147
 revenues, 152
 sectorial structure, 147, 148
 Sinarsky, 149
 West-Siberian innovational
 center, 152
- Tests of stationarity, 18–19
 TFP. *See* Total factor productivity
 (TFP)
 TGARCH model, 47
 Theory of Games. *See* Game
 theory approach
 Total factor productivity (TFP),
 239, 250–251

- Toyota, 191
 Trade in value-added (TiVA), 225, 231
 Traditional payment system, 3
 Transnational corporation (TNCs)
 agricultural and food products, 185
 attractiveness, 184
 average number of employees, 187
 Beauty Care plant, 195
 corporate strategies, 193
 Daimler, 192
 domestic demand, 185
 energy sector, 196–197
 financial sector, 196
 foreign corporations, 189
 foreign direct investment, 184
 geopolitical risks, 196
 Hennes & Mauritz (H&M)
 company, 195
 international business
 challenge, 184
 investments in capital assets, 188
 KNAUF, 194
 manufacturing industry, 186, 194–196
 Mondelēz International, 193
 multinational companies, 187
 negative sentiment, 190
 Nestle, 193
 nonwestern producers, 191
 pharmaceuticals company, 189
 postcrisis development features, 183–184
 primary industrial clusters, 194
 private generators, 190–191
 Procter & Gamble company, 195
 Raiffeisen Bank, 190
 “ROSBANK”, 190
 UniCredit bank, 190
 Valio, 192
 volume of investments, 188
 Western car producers, 191
 Western corporations, 184
 “wholesale and retail trade”, 186
 186
 UniCredit bank, 190
 United Nations Security Council
 Resolution, 202, 203
 US Office of Foreign Assets
 Control, 215–216
 US Securities Exchange
 Commission (SEC), 47
 USSR industry, 72

 Valio, 192
 Vanguard, 7
 Variance inflation factor (VIF), 20, 21
 Venmo, 3
 Vladivostok-LNG project, 179
 Volgabus, 60

 Wealthfront, 7
 Western car producers, 191
 Western corporations, 184
 West-Siberian innovational center, 152
 “Wholesale and retail trade”, 186
 World Bank, 239
 World economy, 235
 World Input–Output Database (WIOD), 222

 Yu’E Bao money market fund, 6–7
 Yunus, Muhammad, 4
 Yuri Milner’s DST Global, 2

 ZAO “Belfrakht”, 169
 Zero interest rate policy (ZIRP), 6
 Zhong An Insurance, 8–9