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Long-term challenges to Russian economic policy

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Heli Simola

Long-term challenges to Russian economic policy

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The opinions expressed in this paper are those of the authors and do not necessarily reflect the views of the Bank of Finland.

Contents

Abstract 3
1. Introduction 4
2. Economic growth and policies that support growth 5
2.1 Factors of economic growth 5
2.2 Evolution of growth and development policies 6
3. Russia's economic policies over the past two decades 7
4. A shrinking labor force and aging population 11
4.1 Raising the fertility rate 11
4.2 Longer working lives 12
4.3 Tackling labor force participation and informal labor markets 13
4.4 Confronting migration issues 14
4.5 Enhancing human capital 15
5. Russia lacks investment 16
5.1 Macroeconomic environment & financial markets 18
5.2 Investment promotion policies 19
5.3 Business environment 20
6. Stuck in a low-productivity trap 23
6.1 Structural transformation and diversification 24
6.2 Boosting innovation 25
6.3 Digitalization, a new priority 27
6.4 Changing the state's role in the economy 28
6.5 Infrastructure 30
7. Assessing past and future performance of Russian economic policy 31
7.1 What explains the limited success of Russia's development policies? 32
7.2 Can Russia's current development policies accelerate future growth? 33
8. Concluding remarks 35
References 37

Heli Simola

Long-term challenges to Russian economic policy

Abstract

Russia's economic growth slowed substantially over the past decade. To improve its long-term growth outlook, Russia must deal with structural problems. While the country has not lacked for ambitious development plans, the results of late have been rather thin. We discuss some of the key challenges facing the Russian economy and policy responses. Considering Russia's recent economic policy in light of the economic literature and potential reasons for its successes and failures, we suggest the focus of the country's current economic policy framework is too narrowly drawn to achieve a significant acceleration in long-term growth.

Keywords: Russia, economic policy, development plans, economic growth

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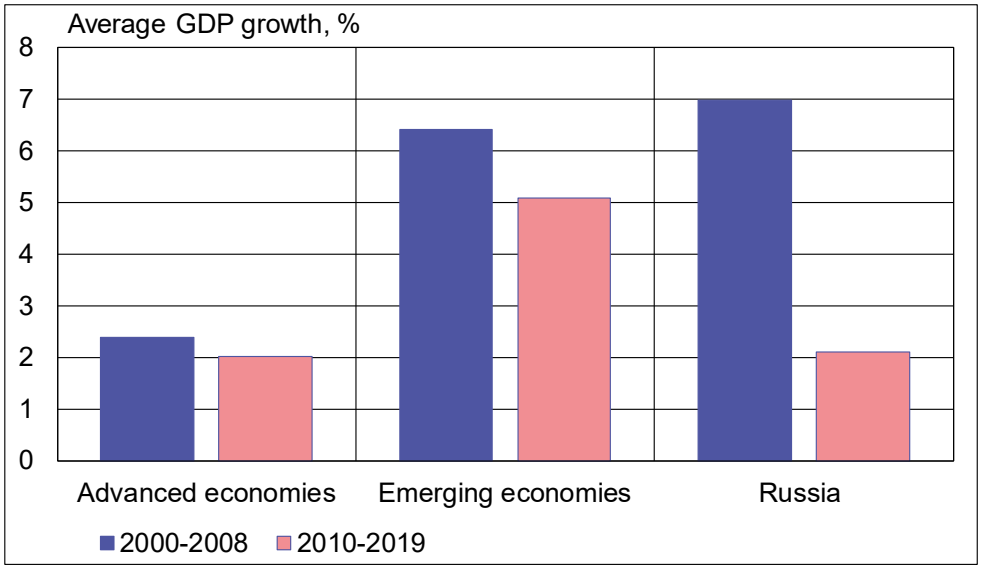
1. Introduction

Russian economic growth slowed well before the COVID-19 recession. In 2000–2008, real GDP grew at a brisk 7 % a year. It fell to 3 % p.a. by 2010–2014 and averaged just 1 % in 2015–2019. The deceleration coincided with the general trend in many economies. Even with high oil prices, however, Russia's slowdown was substantially sharper (Figure 1). In 2000–2008, the average price of Brent crude was $48 a barrel. In 2010–2019, it was $80. Russia also lost its spot among the top-50 nations in terms of a major human welfare indicator – purchasing-power-parity-adjusted GDP per capita. By 2019, Russia had fallen to 58th place, nearly back to its year 2000 ranking of 62nd place. Estimates of Russia's future growth potential are currently around 1–2 % a year (Korhonen, 2021; Okawa & Sanghi, 2017).

Figure 1. Real GDP growth in advanced economies, emerging economies and Russia.



Source: IMF.

Several reasons for Russia's growth slowdown have been put forward. The literature suggests that Russian growth in the 2000s benefited from structural changes associated with the transition from planned to market economy. Major reforms in the economic system initiated in the 1990s and early 2000s enabled improvements in productivity and pressed idle industrial capacity into productive use. The labor force grew and oil prices soared (the price of Brent crude nearly quadrupled between 2001 and 2008). Russia enjoyed huge export earnings, allowing the government to distribute wealth across the wider economy. When the global financial crisis hit in 2008, these engines of growth were already losing steam and Russia has since failed to reattain high GDP growth. This stems from a failure to implement needed economic reforms that foster a new growth model. The weak situation at the start of last decade was exacerbated by a sharp decline in oil prices (e.g. the price of Brent crude price declined by more than half in 2014–2016), as well as economic sanctions imposed by Western countries on Russia following the illegal annexation of Crimea. (Akindinova et al., 2016; Sutela, 2013; World Bank, 2017). The current pandemic could further erode Russia's growth potential.

Why Russia has been unable to implement growth-promoting reforms? In this paper, we analyze the main lines of Russian economic policy over the past two decades with an emphasis on recent plans and proposals. Assessing policies in light of general advice in the economic literature, we discuss the potential factors underlying the successes and failures of Russian growth policy. Our

analysis considers the major economic policy framework. We exclude regional issues (admittedly important for a country as big as Russia), as well as development plans dedicated to specific industrial sectors or otherwise narrow in scope.

The paper is organized as follows. Section 2 briefly presents some key elements from the literature on economic growth and reviews the growth policy debate of recent decades to provide a background for our Russia-specific discussion. The main policy frameworks of Russia's economic policies in the 2000s are analyzed in Section 3. Sections 4 to 6 examine major factors affecting Russian economic growth in detail, reviewing Russian policies that address problems related to specific growth factors. In Section 7, we discuss the successes and failures of various policy measures, as well as Russia's future growth outlook in light of current policy. Section 8 concludes.

2. Economic growth and policies that support growth

The key ingredients of economic growth are well known, but there is no universally accepted recipe for growth. Policy prescriptions and practices for promoting growth have varied widely in recent decades. In this section, we present current themes on sustainable economic growth to provide a foundation for our discussion.[1]

2.1 Factors of economic growth

Economic growth can be viewed in the analytical framework of growth accounting. Combining inputs with technologies produces the final output of an economy. The key inputs in this basic framework, i.e. labor and capital, are combined to generate output through technologies and processes available in the economy. Sophisticated technologies and processes enable efficient production and boost total productivity. Thus, the main ingredients of economic growth in this simple framework are labor, capital and technology.

Since labor is an input to production, any increase contributes directly to higher production. A larger labor force can support growth also indirectly through physical and human capital formation. The working-age population is typically able to save more than other people, making this group an important provider of resources for investment. A large labor force also improves the dependency ratio (i.e. ratio of the dependent population and working population). This can support human capital formation through increased spending on education per child and public finances through higher tax income and lower social expenditure (Bussolo et al., 2015).

An increase in the physical capital stock, e.g. production facilities or machinery, adds directly to production. Investments in physical capital can also support higher labor productivity through more efficient production processes (machinery or equipment) and improved transportation possibilities (transport infrastructure). Foreign capital investment can contribute to economic growth through spill-over channels such as technology or know-how transfers that improve productivity.

Productivity is currently considered the key factor of economic growth, particularly for advanced economies. Productivity gains can be achieved by shifting resources from less to more productive sectors and companies. Resources in poor economies tend to be concentrated in low-productivity sectors (typically agriculture and non-tradable services). Growth can be accelerated with structural changes that shift resources to high-productivity sectors (e.g. manufacturing and

[1] This discussion draws on theoretical macroeconomic models that consider economic growth from slightly different perspectives. While the models emphasize different sources of growth, they can be viewed as complementing each other (see e.g. McMillan et al., 2017).

information-intensive services). Such growth potential attenuates, however, as the resource shift advances (Herrendorf et al., 2014; McMillan et al., 2017; Rodrik, 2014).

Innovation – inventing and adopting more efficient technologies – is the key to productivity enhancement, particularly in advanced economies. Advanced economies operating on the technology frontier are under constant pressure to invent in order to improve the technologies they are using. Less-developed economies can gain from imitation, i.e. adopting the effective solutions developed elsewhere. In the Schumpeterian framework, innovations are associated with *creative destruction*, whereby new inventions obviate existing technologies and processes. Firms must constantly improve their performance to keep up with competition from disruptive entrants and survive in the market (Aghion et al., 2014).

Economic institutions are a fundamental feature of an economy that can promote or inhibit growth. They implicate the general framework (e.g. property rights) that provides the basis for conducting economic activity. Economies with growth-enhancing institutions are characterized by free market-entry possibilities that enable competition, by a state that is able to guarantee property rights (through the judicial system and controlling violence) and by diffuse economic and political power. Economies with low-quality institutions, in contrast, typically concentrate economic and political power with a narrow group of elites who divvy up rents among themselves. Elites retain political power to veto or prevent reforms and innovations that might threaten their position (Acemoglu & Robinson, 2012; North et al., 2012; Rodrik, 2014).

Growth factors are typically interdependent. Economic institutions, in particular, are often dependent on political institutions and influence development of all the above-mentioned growth factors, as well as economic policy choices and the possibilities for implementing chosen policies. These factors also determine long-term growth potential and structure of the economy.

External factors can cause short-term growth to fluctuate. In Russia's case, the oil price is the biggest such driver. While these issues are largely beyond the scope of this paper,[2] we address the role of oil in Russia's economic development in our discussion.

2.2 Evolution of growth and development policies

In the 1950s and 1960s, policymakers emphasized growth and development policies that featured active state support for investment and productivity gains through industrialization. The mainstream view was that broad-spectrum state intervention could correct market failures restricting growth. Obviously the most extreme view of the state's importance was taken in communist countries. But it was assumed also more generally, that massive public-sector investment was necessary in developing capital-intensive industries. Growth was expected to accelerate as the labor force migrated to jobs in high-productivity sectors. Policy frameworks based on import substitution were particularly popular in developing countries. Policy was geared to granting subsidies to domestic industrial sectors and imposing import restrictions so as to make domestic producers competitive with international markets (Lin & Rosenblatt, 2012; Naude, 2010).

When state-led industrialization policies yielded disappointing outcomes, the focus shifted from correcting market failures to correcting state failures. Earlier state policies came to be seen as more distortionary than the market failures they sought to correct. Mainstream policy advice in the 1980s and 1990s was organized around the *Washington Consensus* principles. This framework emphasized macroeconomic stability, market liberalization, limiting state's role in the economy and improving institutional quality. Proponents of the Washington Consensus framework argued that it would create a favorable environment for investment and improve productivity. The Washington Consensus principles, initially formulated in the context of Latin American countries, were adopted in the 1990s

[2] For a survey on effects of external shocks (including oil prices) on the Russian economy, see e.g. Simola (2019).

for economic policy frameworks recommended to transition economies.[3] The importance of innovation as a key driver of productivity and economic growth also gained a policy foothold in the 1990s (Naude, 2010; Spence, 2021).

Washington Consensus policies began to lose favor in the early 2000s. Several countries applying such policies never achieved their desired growth paths (albeit failure in many cases traced back to poor implementation). These weak performances contrasted starkly with the stellar growth of a handful of East Asian countries. South Korea, Singapore, Hong Kong, Taiwan and China – at least superficially – applied a quite different approach to development that relied on state-led creation of totally new industries. High-tech sectors were the common targets. State support was, however, strictly conditioned upon company performance. Strong export orientation and fierce domestic competition were also key parts of this policy framework. The views on the importance of these policies in explaining the growth performance of East Asian countries are mixed, but these experiences have often been used to justify active state intervention elsewhere (Cherif & Hasanov, 2019; Easterly, 2019; Spence, 2021).

The 2008 global financial crisis pushed many economic policymakers back to arguing for greater state participation. The crisis revealed vulnerabilities in the global economic and financial system that created pressure to increase state intervention and regulation throughout the economy. While the need for state intervention to address market failures was acknowledged quite widely, opinions on an appropriate level of intervention varied. Regarding growth and development policies, most experts focused on horizontal policies that targeted at leveling the playing field for market participants, e.g. supporting education to improve human capital or constructing general infrastructure. The horizontal policy approach circumvents the need to pick winners, i.e. the state does not have to determine which sectors or companies merit support and can reduce risks of rent-seeking. Some economists, however, still called for targeted state intervention that emphasized the role of the state in creating markets, i.e. doing more than just fixing market failures (Harrison & Rodriguez-Clare, 2010; Lin & Rosenblatt, 2012; Mazzucato & Semienuk, 2017; Naude, 2010).

Despite today's relatively broad consensus on what successful growth policy should look like, views vary on the spheres of emphasis and implementation details. In general, macroeconomic stability, well-functioning financial and physical infrastructure, openness to trade, high-quality human capital and high-quality institutions are seen as supportive of growth. When experts advise a form of state intervention to address a market failure, the measures proposed are typically geared to improving general growth conditions rather than targeting specific industries or companies. Policy designs also try to account more for country characteristics and political economy considerations (Acemoglu & Robinson, 2013; Cherif & Hasanov, 2019; Lin & Rosenblatt, 2012).

3. Russia's economic policies over the past two decades

In the wake of the Soviet Union's collapse in 1991, Russia required massive structural changes in its transition from planned economy to an economy based on market principles. The Washington Consensus principles of stabilization, liberalization, privatization and structural reforms were initially adopted as the main guidelines for transition in Russia, as well as most former-Soviet and Central Eastern European (CEE) countries. The degree to which these principles were followed and how they were applied in practice varied across countries. Transition, already painful for Russia, was further complicated by political tensions (Gaidar & Chubais, 2011). A handful of oligarchs managed to acquire vast legacy assets at bargain prices due to poor execution of privatization processes. The

[3] A transition economy is an economy in the process of transitioning from a socialist planned economy to a market economy.

country drifted into a government debt default and severe financial crisis in 1998. As the millennium dawned, Russian policymakers and influential members of the business community reached an agreement on the needed pro-growth policies for the country (Åslund, 2014, Sutela, 2012).

These early policy suggestions formed the basis of the comprehensive *Strategy 2010* development plan, a.k.a. the Gref plan, introduced in 2000. As during the transition period, the plan drew its inspiration largely from Washington Consensus policies. The main goal of the program was to accelerate GDP growth to 8 % a year and maintain financial stability. Key features included a serious overhaul of the tax system and the banking sector, renewal of the regulation of natural monopolies and major social reforms. The program characterized the state as a major impediment to reform and called for a redefinition of the state's role. The success of key reforms such as the flat 13 % income tax put the Russian economy back on the growth track - helped by a substantial increase in global oil prices (Åslund, 2004; Gaidar & Chubais, 2011; Gurvich, 2016; Solanko, 2020; Sutela, 2012).

By the mid-2000s, there was a shift in Russia's overall policy framework towards strengthening the role of the state. Several large corporations were reappropriated from their oligarch owners, including the well-reported renationalization of the Yukos oil company. The federal government also took back control from regional administrations. The share of raw material rents collected by the state increased through higher taxation on commodity production and exports. These windfall state revenues were supposed to be used also for social purposes, e.g. through the national priority projects launched by president Vladimir Putin in 2005 that focused on education, healthcare, housing and agriculture. Industrial policy also adopted elements of the state-led development model of East Asian countries. Russia designated national champions (i.e. large state-owned corporations that consolidated assets in various sectors), special economic zones and a range of publicly funded development institutions (Gurvich, 2016).

Russia's growth model was losing steam even before the global financial crisis hit. Policymakers rolled out a new long-term development plan, *Concept 2020*, in the latter part of Putin's second term in 2007. Concept 2020 emphasized the need to shift to a new innovation-based growth model. Similar lines were also set forth in president Medvedev's *Go Russia* article a couple years later (Malle, 2013). Concept 2020 was extensive. It included measures to improve the general economic environment such as infrastructure and institutions, as well as specific state support measures for priority high-tech sectors. The aspect of national security was also noted in the concept, especially with respect to agriculture and food self-sufficiency (and further developed in Russia's food security doctrine of 2010). The target of technological development and the chosen priority technologies were also linked to national security and development of Russia's military-industrial complex (Kuchins et al., 2008).

Concept 2020 lost relevance after the global financial crisis slammed the Russian economy. To chart a new course, then prime minister Putin tasked a wide consortium of prominent Russian economists, led by top academics Vladimir Mau and Yaroslav Kuzminov, with drafting a revised plan. The new development program, *Strategy 2020*, was presented in 2011. It was an extensive framework document that proposed a new growth model, changes in budget policy and repositioning Russia in the global economy. A competing framework was also proposed the following year by the Izborsky Club think tank. It emphasized the role of state, protectionism, national security and development of the military-industrial complex (Yakovlev, 2014). While neither framework was officially adopted, elements from both were included in the subsequent official development plans. Sergey Glazyev, a prominent Izborsky Club member, went on to serve as adviser to the president in 2012–2019.

The next official economic policy framework was introduced in the beginning of president Putin's third term in May 2012. Putin issued eleven May decrees setting forth the 2012–2018 policy baselines for economic, social and foreign policy, as well as development of Russia's armed forces

and defense sector. In contrast to earlier plans, the decrees provided a concise policy framework, each focusing on a key goal and leaving the formulation of actual measures to the government. The goals included indicators for innovation and institutions (e.g. share of high-technology sectors in GDP and Russia's rank in the World Bank's *Doing Business* comparison) as in the previous plan, but also addressed security issues (e.g. a self-sufficiency ratio for certain medical products). The May decrees topped the agenda of the government and came up frequently in discussions on economic policy. Russia also finally sealed its membership in the WTO in 2012 despite increasing protectionist pressures. (Gurvich, 2016; Malle, 2013).

Another turning point in economic policy occurred during the 2014–2015 recession, the result of a sharp drop in oil prices and economic sanctions imposed by the Western countries after Russia's illegal annexation of Crimea and other violations of Ukraine's territorial integrity. Stabilization and prudence became the leading themes of macroeconomic policy. In structural policy, the focus shifted substantially towards economic security and independence (Connolly & Hanson, 2016; Idrisov, 2016). The new mantras became "self-sufficiency," "import substitution" and "pivot to the East." The overall theme was reduced dependence on Western countries. In 2017, a separate long-term strategy for economic security was approved for the first time in decades. The strategy recommended reducing vulnerability of Russian economy to external shocks, as well as dependence on foreign financing and technologies. On the other hand, it also urged bolstering Russian economic institutions to encourage investment and entrepreneurship. The importance of security considerations was manifested as a sizable increase in government military spending in 2014–2015 (Korhonen, 2020).

On the president's order, a new economic development plan extending to 2035 was prepared again by a group of prominent Russian economists led by former minister of finance Alexey Kudrin. An alternative program to represent the views of the business was prepared by a group led by Boris Titov, presidential ombudsman for business. The Kudrin-led program emphasized a prudent approach to fiscal and monetary policy, while Titov's *Stolypin Club* called for substantially looser policies. As to structural policies, both programs, with some differences in the details, recommended the usual measures, i.e. improving Russia's business environment, investing in human capital and supporting technological development and digitalization. Again, none of the programs was officially approved, but elements from both were incorporated in designing the next economic policy framework.

President Putin introduced the *National Goals for 2024* and the accompanying national projects in the beginning for his fourth presidential term in May 2018. The national projects covered a wider spectrum of economic and social issues than previous May decrees, but not such a comprehensive list of reforms as the previous official and unofficial development strategies. The national projects comprised twelve areas of concentration,[4] as well as a plan for infrastructure development that practically lumped together previously agreed infrastructure projects (e.g. the Power of Siberia gas pipeline to China greenlit in 2014).

The economic crisis caused by the COVID-19 pandemic forced the leadership to re-evaluate the national projects. In July 2020, president Putin declared modified national goals for 2030. The five new goals are similar, but the focus shifted more to social issues. The new formulation is more concise and eloquent.[5] The newest set of goals largely included slightly diluted or unchanged targets for the national goals for 2024, but the timeframe was extended to 2030.

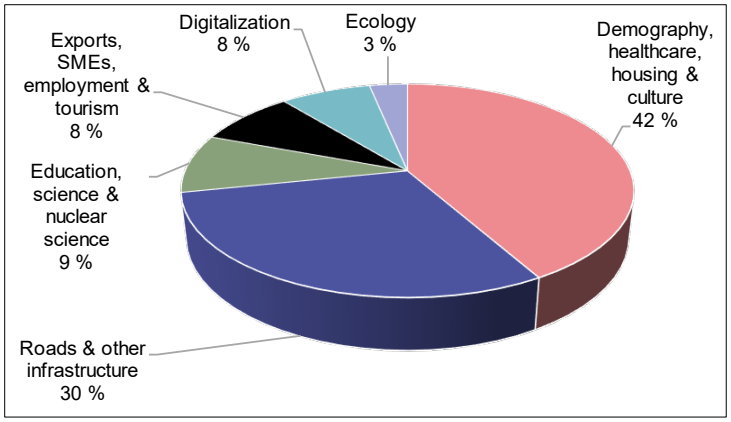
The government was tasked with preparing a detailed plan for the realization of the national goals, and asked to amend the national projects correspondingly. Based on reports from June 2021, the total public sector funding of national projects had been cut by about 7 % from the initial plan.

[4] Demography, healthcare, housing, culture, roads, exports, SMEs, employment, education, science, ecology and digitalization.

[5] The 2030 national goals are a) preservation of the population, the health and welfare of the people; b) conditions for self-fulfillment and the unlocking of talent; c) comfortable and safe environment; d) decent and effective jobs, and successful enterprise; and e) digital transformation.

Currently, the budget spending in national projects from 2020 to 2024 is about 3 trillion rubles ($40 billion) a year, the equivalent of 6–7 % of Russia's consolidated budget expenditure or 2 % of GDP. For comparison, the expenditure on the category national defense is 2.5-3 % of GDP in 2021-2024. The distribution of funding between national projects has also changed somewhat. Spending on social issues has increased, with slightly less funds allocated for infrastructure construction. The programs associated with social issues now account for a 40 % share of spending in national projects, while infrastructure receives about 30 % of the funding (Figure 2). The digitalization and ecology national projects debut in this version. Institutional reforms are scarcely mentioned.

Figure 2. The shares of national projects in the total public funding as of June 2021.



Source: The internet portal of the budget system of the Russian Federation.

The latest novelty in Russia's development policy frameworks are the 42 strategic initiatives approved by the government in October 2021. The initiatives support and complement the national projects. Additional budget funding of about 200 billion rubles ($2.7 billion) a year is planned for the initiatives. The initiatives are classified under six main headings: *social sphere*, *construction*, *ecology*, *digital transformation*, *technological spurt* and *state for citizens*. The initiatives are heterogeneous, ranging from building sport facilities to expanding hydrogen exports. Some of the initiatives are quite close to the national projects, e.g. improving education and healthcare, building infrastructure and enhancing accessibility of internet and public services in digital form. Issues related to emission reduction receive more attention in the initiatives, but they still also outline plans for development of new hydrocarbon deposits. All the latest development plans have been collected under the umbrella of Unified Development Plan to 2030 that was approved by the government recently, but has yet to be published in its entirety.

While the main principles of Russia's economic policy frameworks have changed frequently over the past two decades, the focus of the structural policy framework has shifted gradually from wide-ranging institutional reforms to financial support provided by the public sector for specific purposes. Development plans have also shifted towards providing social support and away from supporting the entrepreneurial sector. Attention paid to security and self-sufficiency has gained importance with rising geopolitical tensions with the West.

4. A shrinking labor force and aging population

Possibilities for economic growth have been held back by the downward trend since 2006 in Russia's labor force. A rising number of pensioners has also raised the dependency ratio, making it harder to finance pensions and increasing pressure for pension system reform.

A key factor behind the shrinking labor force is the substantial decline in Russia's fertility rate. After falling precipitously after the demise of the Soviet Union in the 1990s, it recovered briefly in the early 2000s. The decline in Russia's fertility rate continued thereafter, reaching just 1.5 in 2019, a rate typical of a high-income country.

Another important factor especially from the viewpoint of the weakening dependency ratio has been the low retirement age in Russia. The retirement age remained unchanged for a long time despite a notable increase in the average life expectancy of Russians. With the collapse of the Soviet Union, the average life expectancy of Russians fell substantially in the 1990s. As conditions improved, it rebounded rapidly in the 2000s. In 2018, the average Russian life expectancy had risen to 73 years, which is about the world average. It is still well below the average of 81 years in high-income countries, however.[6]

The literature identifies raising fertility, increasing years spent in the workforce and encouraging immigration as the demographic priorities for Russia. Additionally, the loss of workers could still be offset with human capital gains through education as well as automation. The main policy recommendations in the literature for improving fertility involve provision of childcare, granting a short maternity leave with earnings-related pay and extending financial support after childbirth. Financial transfers immediately at birth are not seen as particularly effective in increasing the fertility rate. Longer working lives can be achieved by raising the retirement age and supporting healthy life styles and longer life expectancy. Emigration can be reduced by improving employment prospects, the business environment and quality of public services. Immigration policies should also focus on attracting workers suitable for the economy (World Bank, 2015; EBRD, 2018). We next discuss in more detail Russia's policies for addressing demographic challenges.

4.1 Raising the fertility rate

Improving fertility has long been on Russia's agenda. The current target is to increase the fertility rate from 1.5 in 2019 to 1.7 by 2030. A key policy tool for improving the fertility rate is *maternity capital*, a one-time payment to parents upon the birth of a child. Maternity capital payments were launched in 2007, and initially went to parents having their second (or subsequent) child. The grant at the time was a hefty 250,000 rubles (about $10,000), or roughly18 times the average monthly wage. The grant was not cash, but a credit for improving living conditions, financing a child's education or contributing to the mother's pension. Most families used the grant to finance mortgages. The popular scheme was later extended and increased.

The evidence shows mixed results for the maternity capital scheme. The fertility rate showed a marked increase when the scheme was introduced, but the relative contribution of the policy measures compared to cohort effects and general economic development are unclear. Overall, the maternity capital scheme seems to have boosted fertility, but the effect has been relatively modest and yet to demonstrate its sustainability. The scheme is also costly for the government (Besstremyannaya & Volchkova, 2019; Slonimchyk & Yurko, 2014; Sorvachev & Yakovlev, 2020).

[6] The trend has been more modest for life expectancy in later years. For example, the life expectancy for a 65-year-old Russian male has increased by only about one year since the early 1960s. In the 1960s, the life expectancy of a 65-year-old Finnish man was lower than that of his Russian counterpart. Today, it is seven years higher.

Russia's complex system of family benefits includes paid maternity leave, child allowances and tax breaks. The size of the benefit package is linked to parental incomes, and the poorest families are entitled to additional forms of assistance. While international comparisons are difficult, it seems that Russia lags the EU average in terms of budget spending. In the EU, public support for families in 2018 averaged 2.3 % of GDP, while the corresponding figure for Russia was 0.9 % of GDP.[7] Russia boasts a relatively extensive daycare system, but the enrollment rate for very young children in daycare is much lower than in the EU. Russia's enrollment rate in formal care services for children aged 0 to 2 was just 19 % in 2017, when the EU average was 33 %[8]. For children aged 3 to 5 years, the enrollment rates were 83 % for Russia and 89 % for the EU.

In Russia's current policy framework, the national project on demography is mainly dedicated to increasing the fertility rate. The demography project accounts for 26 % public funding for the national projects, the largest share among all projects. Most of the funds go to financial support for families with newborn children and provision of childcare services for children under three years of age. The national project on demography has a strong focus on the maternity capital scheme. Since 2020, the scheme has been extended to include families having their first child. The state provides a grant of roughly 470,000 rubles ($6,500) upon the birth of the first child. For subsequent births, the amount is now about 620,000 rubles, the equivalent of about twelve months of the average wage in 2020.

4.2 Longer working lives

Russia moved ahead in 2019 with plans to raise the retirement age, a measure aimed at lengthening the working lives in Russia. At the time, the retirement age was just 55 for women and 60 for men, with exceptions in some professions that granted retirement eligibility even earlier. The retirement age is now under adjustment of six months a year until 2028, when the retirement age will reach 60 for women and 65 for men. This reform eases pressure on public spending on pensions and maintains the size of labor force (Gurvich, 2019; Vlasov & Mamedli, 2018), but is insufficient to reverse labor-force shrinkage over the long term. Gimpelson et al. (2021) estimate that by 2030 there will be 1–3 million fewer persons employed in Russia than in 2019.

During 2011–2020, public spending on pensions averaged 8 % of GDP. Nearly half of Russian pensions were financed directly from the federal budget due to the chronic financing deficit of the Pension Fund. Without increasing the retirement age, the number of pensioners would have continued to rise briskly in coming years. Moreover, the government faces pressure to increase the pension amount. The average old-age pension in 2020 was just 15,000 rubles ($200) a month, or about 30 % of the average monthly wage.[9] Indexation of pensions relative to price development was also included in the new constitution approved in July 2020.

Okawa & Sanghi (2018) estimate that the potential increase in workforce resulting from the higher pension age to be 0.9 %. This translates to a 0.3-0.4 % increase in Russia's potential growth rate from 2020 to 2028. Several factors limit the economic growth effect from additional workers due to the higher retirement age. In recent years, about 30 % of the population over the retirement age (up to 72 years) remained at work, which was largely a reflection of the modest size of Russian pensions. The skill levels and productivity of this elderly labor force tend to be lower than for younger workers. In addition to the usual age-related waning of physical and cognitive abilities, older generations in former socialist countries tend to be less educated and the education they do have is often outdated.

[7] The figure for EU is from the OECD and includes cash and services, the data for Russia is from World Bank.
[8] Grandmothers are often the providers daycare for young children in Russia.
[9] The replacement ratio is about 10 percentage points higher when calculated with the ILO methodology (Vlasov & Mamedli, 2018).

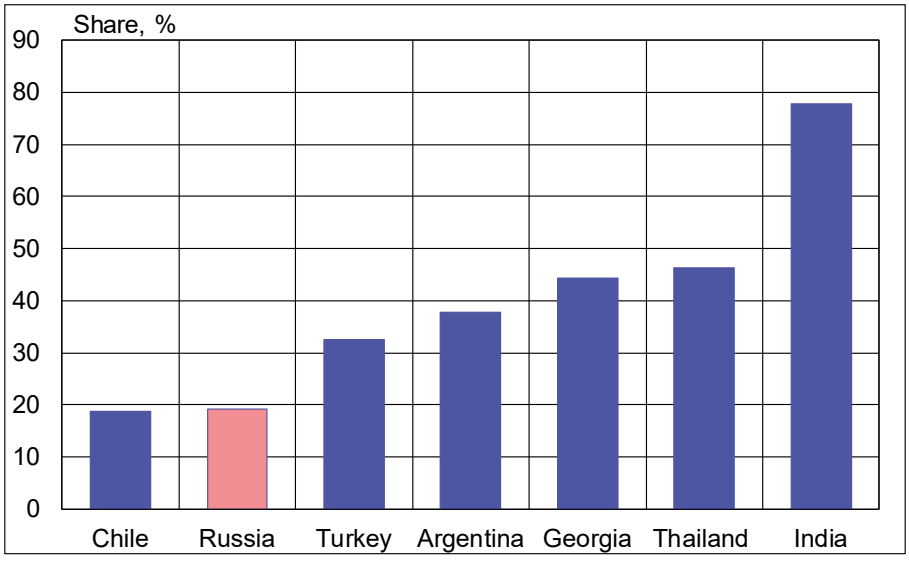
The topic of lengthening work lives is mainly addressed in the national projects for healthcare and demography. These national projects target increasing the healthy life expectancy from 64 in 2019 to 67 years by 2030. This would be an increase of the same magnitude as the increase in 2010–2019. The targeted level corresponds to the current level of countries such as Latvia and Lithuania. Another objective is to reduce by 2030 the mortality rate of working-age people from 485 per 100,000 population in 2018 to 350 per 100,000. The financial focus of the health initiative is on reducing oncological and cardiovascular diseases, the main causes of death for Russian adults. Measures oriented towards addressing these diseases account for 60 % of the national project on healthcare and 6 % of the total public funding for the national projects.

4.3 Tackling labor force participation and informal labor markets

Although it has declined slightly in recent years, labor force participation in Russia is relatively high by international standards. The participation rate in 2020 was 62 %, while the EU27 average was 57 %. Leading labor-force participation countries well exceed 70 %, leaving Russia room for improvement. The participation rate of females has traditionally been much lower compared to males in younger and older age groups due to limited childcare facilities and the lower pension age for women. The participation rate of the elderly could also be supported by improved healthcare and adult education opportunities (World Bank, 2017).

Many Russians work in the informal labor market. The share of employed in the informal market increased over the past two decades. Most estimates, including the official Rosstat estimate, put the share of Russians employed in the informal market at 20–30 % in recent years (Akindinova et al., 2016; Gimpelson et al., 2017; World Bank, 2017, 2019). That share could be even higher if persons employed in both the formal and informal economy are included (e.g. persons with a second job in the informal sector or persons receiving a portion of their salary under the table). In any case, estimates vary widely. While the share of informal employment is not particularly high in Russia by international standards (Figure 3), it could substantially interfere with efforts to raise productivity and reduce public sector revenues.

Figure 3. Share of employment outside the formal sector in select countries (2019).



Source: ILO.

Russia has introduced various policy initiatives in recent years to reduce labor participation in the informal economy. Measures include support for electronic payments and simplified tax rules for registered individual entrepreneurs. The lack of formal jobs is a major factor pushing workers into informal employment. Over the past decade, net creation of formal jobs in Russia was close to zero. While Russia's employment laws are broadly in line with international standards, the protection of employees against dismissal is quite strict in Russia by international standards. This situation discourages formal job creation, especially in small and medium-sized enterprises (SMEs), and forces workers to look elsewhere (Gimpelson et al., 2017; World Bank, 2019).

Unlike most countries that use layoffs and redundancies in economic downturns, Russia's job market relies more on wage elasticity, i.e. workers tolerate pay cuts until the bad time pass. Even during economic crises, unemployment tends to rise relatively sluggishly. This partly reflects the important role of the public sector and state-owned companies as employers, as layoffs are not commonly used in the public sector. But private companies, too, often preserve the jobs by slashing or suspending wages in a downturn. This job market model keeps the unemployment low, but it inhibits reallocation of workers to high-productivity firms and jobs (Gimpelson et al., 2017; World Bank, 2017). Migration policy also feeds the separate issue of the large number of migrant workers in the informal labor market.

4.4 Confronting migration issues

In absolute terms, Russia is a top migration country. UN statistics show that there were about 11.6 million immigrants living in Russia in 2019 and about 10.5 million Russian emigrants living abroad. Relative to the total population, the share of immigrants in Russia is about 8 % and emigrants about 7 %. The average 2019 figures for Western Europe were 13 % and 5 %, respectively. Russia's migration stocks still reflect the legacy of the Soviet Union. About 95 % of immigrants in Russia are from CIS countries, while about 75 % of Russian emigrants reside in CIS countries. Russia has substantially positive net immigration stock mainly with Central Asian and South Caucasus countries (particularly Azerbaijan and Kyrgyzstan), while the opposite applies to high-income countries in Europe and North America (e.g. Germany and the US).

Detailed analysis on Russian migration flows is thwarted to some extent by the incompleteness of Russia's migration statistics. Rosstat figures attempt to capture permanent or long-term migrants and cover both Russian and foreign citizens. They exclude temporary labor immigration, which is substantial in Russia. Temporary labor immigration can be evaluated from the statistics compiled by the border officials. Even these figures miss illegal labor immigration. With regard to emigration, Rosstat statistics automatically record immigrants whose working permit or other documents have expired as emigrants. On the other hand, only Russians who officially register their departure from the country are recorded as emigrants. In addition, there was a major change in Rosstat's methodology in 2011 that makes comparison of longer-term statistics impossible.

The Rosstat figures for 2015–2020 show that the gross flow of long-term immigrants to Russia averaged about 600,000 annually. About third were Russian citizens and another 60 % from CIS countries. The number of temporary labor migrants was higher. Figures from Russia's Ministry of Internal Affairs show that the amount of annually granted work permits was about 1.8 million on average in 2016-2019. Only about 50,000 of the permits were for workers that were classified as "qualified or highly qualified experts." In 2020, the total number of permits declined to 1.2 million and the number of expert permits to below 30,000.

Russian officials estimate that the total amount of labor migrants was about 3 million on average in 2012–2017. Expert estimates put the amount at about 6–7 million in 2013–2014. This number has since dropped due to recession and changes in migration policy to about 4–5 million (6–7 % of the employed in Russia). Most labor migrants are presumably low-skilled, although evaluation is difficult

as many work in the informal labor markets. The share of highly educated labor migrants is estimated to be around 15 %. Education may not matter much, however, as most migrants are employed in low-skilled jobs (e.g. in the construction or service sector) regardless of their educational achievements (Gimpelson et al., 2021; Mkrtchyan & Florinskaya, 2018a,b).

The gross flow of emigrants from Russia averaged about 400,000 annually in 2015–2020. Emigration has been on a slightly upward trend since 2014, both among Russian and other citizens. The official number of Russian citizens emigrating has averaged 65,000 a year. Analyses based on mirror statistics of the main high-income destination countries suggest that the true number could be about three to five times higher. Experts suggest that about 100,000 Russians a year may have migrated to high-income countries in recent years. About 40 % of them possess higher degrees (Mkrtchyan & Florinskaya, 2018a,b; Potapova, 2017; Vorobyova & Grebenyuk, 2016).

Surveys also show that interest in emigrating has risen in recent years, reaching peak levels in 2018–2019, especially among young Russians. While few respondents to such surveys actually emigrate, the trend suggests potential at least for higher emigration flows in the future. Social, economic and political factors all contribute to considering emigration. The lack of high-quality education and healthcare services, the poor macroeconomic situation and business environment, low wages and lack of career opportunities, the overall political situation and lack of political freedom have all been mentioned as motives for emigration (Esipova & Ray, 2018; Herbst & Yerofeyev, 2019; Levada, 2019; Strack et al., 2018; Vorobyova & Grebenyuk, 2016).

Russian migration policy has focused mainly on organizing the country's massive temporary labor migrant flows. In the 2000s, the bureaucratic procedures needed to work legally were simplified for migrants from the CIS countries. 2010 saw the introduction of *patents*, i.e. work permits for CIS citizens that come with a relatively small fee. These changes increased the share of legal labor migrants. New regulations introduced in 2015, however, made working in Russia more difficult and costly for labor migrants, especially those from countries outside the Eurasian Economic Union (Chudinovskikh & Denisenko, 2018).[10]

The only comprehensive policy initiative to encourage migration in Russia has been the *State Program of Assistance for Resettlement of Compatriots*, introduced in 2006. It focused on attracting ethnic Russians or highly educated or highly skilled people with strong ties to Russia to immigrate. In 2014, the program was opened to include citizens of Ukraine. Over a half million people have become Russian citizens under the program's framework. Nowadays, about half of all people receiving Russian citizenship are participating in the program (Chudinovskikh & Denisenko, 2018).

Russia introduced a new, relatively generic, concept for migration policy in 2019. The new policy aspires to mitigate economic and social problems arising from adverse demographic trends in the country. The immigration of ethnic Russians gets first mention, but non-Russian foreign citizens capable of supporting Russia's development are also considered desirable. The practical focus is on administrative procedures. The policy includes no measures for actively attracting immigrants. It also makes no mention of restricting emigration, despite claims of some officials. Even president Putin has not excluded some form of restrictions to curb Russia's brain drain, although acknowledging the importance of creating benign working and living conditions in the country (Tadtaev, 2020).

4.5 Enhancing human capital

Human capital development could also compensate for labor-force shrinkage by raising productivity. Russian formal education attainments are high by international standards (and much higher than for other countries of a comparable income level). Nevertheless, the contribution of human capital to productivity growth has been modest. Russia's lack of skilled labor force is consistently identified as

[10] The Eurasian Economic Union currently comprises Russia, Belarus, Kazakhstan, Armenia and Kyrgyzstan.

a key issue in enterprise surveys. It reflects problems in the quality and focus of formal education in Russia, as well as the absence of continued education possibilities (Gimpelson et al., 2021; World Bank, 2012, 2020a).

Improvement of human capital is a recurring theme in Russia's development plans. For example, one of the national priority programs in 2005 was dedicated to education. The May decrees included the goal of lifting five Russian universities into the ranks of the global top-100 universities. Education is also treated as a distinct national project in the current policy framework, receiving 5 % of the total public funding allocated for the projects. About third of the funds for the national project on education will go to building new schools to alleviate the double or even triple shifts in schools. Other main items include improvement of vocational training and support to export of education services. In addition, the program includes measures to increase digitalization in schools, extra-curricular activities and social support measures (World Bank, 2020a).

Russia's spending on education is lower than in many countries. Over the past decade, government spending on education has averaged around 4 % of GDP compared to 5 % in the EU and the US. In terms of quality, Russia's primary and lower secondary schooling system perform well in international comparisons with respect to basic skills. Russia's PISA rankings have improved over the past two decades, standing close to the OECD average in 2018 in reading, mathematical skills and science. Performance of Russian students on cognitive high-order skills and social skills remained below average, however. In the PISA Collaborative Problem Solving assessment, for example, Russia ranks well below the OECD average. The importance of such skills in job markets is expected to increase substantially in the future (World Bank, 2020a).

A recent study suggesting that nearly two-thirds of Russians are not employed in the profession for which they received education points to the limited relevance of Russian formal education. Most Russians acquire the skills needed for their work on the job. This also highlights the lack of adult education in Russia. Measured by various indicators, spending on adult education and rates of participation in Russia is limited compared to most European countries. A workforce lacking proper skills complicates the efforts of Russian companies in their adoption of new technologies (Gimpelson et al., 2021; Kuznetsov, 2020).

There are no internationally comparable indicators for the quality or relevance of higher education or skill levels of adult populations. Certain indirect indicators point to limited advancements in the higher education sector. The number of Russian universities in the global top 500 has increased between 2012–2019, but the top 100 still includes just one Russian university.[11] The number of international publications of Russian researchers has also risen, but is still low for the number of researchers. While researcher numbers increased in most countries over the past two decades, the number of researchers in Russia has fallen at about 1 % a year. This is not just a reflection of the Soviet legacy; the number of young researchers and university teachers has declined substantially (Kuznetsov, 2020; World Bank, 2020a).

5. Russia lacks investment

Fixed investment levels in Russia have been moderate for many years, especially given the country's income level. Over the period 2000–2020, the ratio of gross fixed capital formation to GDP averaged 21 %. While this roughly matches the level of high-income countries such as the US and Germany, it lags figures for more comparable Central Eastern European countries and emerging economies in Asia. Moreover, most Russian investment has gone to the energy sector, starving other sectors for

[11] The Lomonosov Moscow State University is among the top 100 in the rankings of Quacquarelli Symonds and Academic Ranking of World Universities. No Russian universities feature in the top 100 of the Times Higher Education ranking.

needed resources. Foreign direct investment (FDI) flows annually averaged 2 % of GDP in 2000–2019, falling even below 1 % of GDP in certain years. The level of FDI in Russia is roughly similar to emerging economies of Asia, but lower than that of emerging economies in Europe.

A twist in the Russian FDI story is that a large portion of the FDI stock is likely of Russian origin. The main source countries of FDI inflows to Russia and the main destinations of FDI outflows from Russia consist of a few major international offshore centers (e.g. Cyprus) often used for intermediating international capital flows. This round-tripping of domestic investment through foreign entities seems to be quite common in Russia. The reasons for Russian round-tripping are tax planning, tax avoidance and other motives for hiding capital flows, but also efforts of corporations to shield themselves from the deficiencies in Russia's business environment. Round-tripping FDI is not associated with the positive spill-over effects that can be associated with true foreign investment, but rather with a loss of tax income and other adverse economic effects (Akindinova et al., 2016; Ayukut et al., 2017; Bulatov, 2017; Damgaard et al., 2019; Ledyaeva et al. 2015).

The literature stresses that investment can be supported by fostering a stable macroeconomic environment and robust institutions. Stability and predictability of the macroeconomic and business environment are essential for companies making medium- or long-term investment decisions. Macroeconomic stability can be supported through policies such as inflation targeting, prudent fiscal measures and the maintaining of adequate buffers to be used for softening shocks to the economy. An adequately developed and functional financial system enables efficient resource allocation through investment.

Common policies aimed specifically at investment promotion include various beneficial schemes offered by the government. Special economic zones (SEZs), in particular, are used to entice foreign investment and stimulate exports. SEZ arrangements create a physical space in which corporates enjoy fiscal incentives in the form of tax and tariff reductions, a business-friendly regulatory environment and infrastructure support. While SEZ schemes have often flopped in attracting investment or supporting economic growth, this has not diminished the enthusiasm of policymakers inspired by the small body of successful (mostly East Asian) examples (UNCTAD, 2019).

Economic institutions form the bedrock of investment. They bind the economic fabric and business environment: security of property rights, the regulatory framework, the judicial system, corruption-fighting and the rule of law. Adequate property rights not only enhance investment incentives by limiting the risk of expropriation and reducing the need to devote resources to protecting property, they also facilitate trade in assets and credit transactions. The regulatory framework, which forms an integral part of the business environment, requires careful balancing and frequent adjustment. The public sector is expected to issue laws and regulations to protect consumers, workers, the environment etc., but an overcomplicated, opaque regulatory framework also imposes disproportionate costs on consumers and companies, diminishes efficiency and encourages corrupt behavior.

Property rights and the regulatory framework are only effective when they are complemented by robust legal institutions that ensure rule implementation (OECD, 2018a). Corruption, the abuse of public power for private gain, adds to business costs and uncertainty. Although some have argued that corruption can alleviate problems in weak institutional environments by greasing the wheels of government, most research points to negative effects associated with corruption, including diminished investment and weaker quality of infrastructure and public services (Campos et al., 2010; Wei, 1999). We discuss next in more detail the role of the above factors in the case of Russia.

5.1 Macroeconomic environment & financial markets

The volatility of Russian economic development reflects its painful transition from planned to market economy and resource dependency, particularly with respect to oil. Following Russia's 1998 financial crisis, policymakers reached consensus on stabilizing the economy. Fiscal policy was overhauled and Russia took on its large fiscal deficit, even paying off most of its foreign debt in the early 2000s. Windfall oil earnings set aside in government funds gave the public economy rainy-day buffers and helped alleviate inflationary pressures. Monetary policy focused on keeping the ruble's exchange rate relatively stable. The Central Bank of Russia's foreign currency reserves climbed to historically high levels. Inflation receded from the hyper-levels of the 1990s. This benign economic development allowed the government to liberalize the capital account. Improved macroeconomic environment and growth outlook gave Russian companies access to international financial markets (Solanko, 2020; Sutela, 2012).

When the 2008 global financial crisis slammed Russia, the government was forced to start draining its oil fund buffers. Real GDP contracted by 8 % and capital outflows were massive. The government shored up the corporate and banking sector using oil fund assets and burned through its foreign exchange reserves to slow the rate of ruble depreciation.

The Russian economy bounced back quite rapidly from the crisis thanks to a sharp rise in oil prices and public spending. As the crisis faded, prudent fiscal policies were gradually reinstated and replenishment of the oil funds commenced. The CBR announced plans to shift to inflation targeting and a floating exchange rate at the beginning of 2015.

Russia found itself embroiled in a new economic crisis in 2014 due to a crash in oil prices amplified by Western sanctions. Once again, the government dipped into its oil savings to support the economy, but this time in a more moderate fashion. The CBR moved up its scheduled floating of the ruble by a few months and tolerated a substantial drop in the ruble's external value. When the crisis passed, the focus on prudent macroeconomic policies was even sharper. Public spending was cut to balance the budget. This policy solidly positioned the Russian economy as it entered the COVID-19 recession. Budget spending was substantially increased during the COVID-19 crisis, but in relation to the available assets the spending increases has been relatively cautious. Budget plans at present assume a rapid rebalancing of public finances. Officials appear focused on maintaining economic stability (Gurvich, 2021; Korhonen, 2020; Mau, 2019).

While Russia's financial sector has transformed over the past two decades, it remains heavily bank-based. Its ability to support investment growth is limited, mainly due to the lack of long-term financing. The public's confidence in the banking system increased with the introduction of a deposit insurance scheme in 2005. The consolidation of the sector in recent years has meant that hundreds of non-viable banks and quasi-credit institutions have been liquidated as banking regulation and supervision have improved. Russia's stock markets continue to be dominated by companies involved in resource extraction. The weighting of oil and gas companies has long been around half in RTS/MOEX, the main stock index of the Moscow Exchange[12].

Western sanctions have impaired development of Russia's financial markets. Sanctions imposed by the EU and US in 2014 included severe restrictions that blocked the access of named Russian corporations and banks to long-term financing. The US later imposed additional measures further restricting Russia's access to international financing, e.g. restrictions on government debt and inclusion of several Russian companies to the *Specially Designated Nationals and Blocked Persons* (SDN) list that prohibits financial transactions with them. The continuous threat of sanctions has heightened uncertainty. The imposition of Western sanctions has driven a strong deleveraging of Russian foreign debt. The banking sector, in particular, has reduced its foreign debt exposure. The

[12] The composition of the indices is identical, but RTS is quoted in USD and MOEX in RUB.

value of Russia's foreign debt stock was 35 % or $260 billion lower at the end of 2020 than before sanctions in 2013. Russia's net inflow of FDI has also nearly halved since sanctions. While the average annual net inflow was about $55 billion in 2010–2013, it declined to an average of $25 billion in 2016–2019 (Korhonen, 2019; Mau, 2019).

5.2 Investment promotion policies

Russia has also tried to increase investment through various government support schemes. The concept of special economic zones (SEZs)[13] was introduced in 2005.[14] SEZs are specialized in industry, technology, tourism or port activities. Incentives include tax breaks, reduced tariffs, minimal bureaucracy and support for infrastructure construction. Russia currently has 38 functioning SEZs, with eleven other SEZs no longer in existence. In September 2021, the government approved the establishment of three new SEZs.

2014 witnessed the launch of catching-up territories (TORs).[15] Their purpose is to attract investment to poorer regions and provide privileges similar to those enjoyed in SEZs to their residents. Russia currently has over 100 TORs. Most are located in *monogorods* (company towns) in the Far East federal district.

The latest special regime framework is the Special Administrative Region (SAR).[16] The purpose of these "Russian offshores" launched in 2018 was to bring home Russian capital sitting in international tax havens. Novokmet et al. (2018) estimate that Russians hold about half of their total financial wealth offshore. Russia has sought repatriation of this money by granting a capital by offering an amnesty exemption from income tax and criminal charges for repatriated capital.[17] The main attraction of these SARs is that they grant preferential tax and tariff treatment for residents. Becoming a resident requires an investment of 50 million rubles ($700,000). There are two SARs in Russia. One is on the Russki Island in Russia's Far East; the other on Oktyabrsky Island in the Kaliningrad enclave.

Despite a few success stories, the overall performance of these arrangements could be characterized as middling. The Ministry of Economic Development estimates that SEZs have created about 40,000 jobs over the past 15 years (accounting for 0.06 % of employed people in 2019). Kuznetsov & Kuznetsova (2019) find that the private investments of SEZ residents rarely exceeds public investment. In only one SEZ has public investment so far "paid back" in a sense that the customs and tax payments received from the residents exceed the public investment poured into the SEZ. A report published by the Accounts Chamber of Russia estimates that about 500 billion rubles in budget funds had been allocated for SEZ development and infrastructure construction as of 2019, and that SEZs have had no substantial impact on the Russian economy (Zaytsev, 2020). UNCTAD (2019) analysis shows that the overall results of Russia's performance with respect to trade growth, global value chain participation and FDI are quite disappointing compared to most other countries despite a relatively high number of SEZ-type regional arrangements. SARs have so far mainly acted as a shelter for Russian companies registered abroad that fell under US sanctions, e.g. the corporate structures of industrialist Oleg Deripaska.

In recent years, the Russian government has discussed the creation of a unified framework for investment support and government subsidies. So far the task has proven too challenging, but the

[13] Особые экономические зоны (ОЭЗ).

[14] The first similar arrangements were actually already created already in the 1990s in the Kaliningrad enclave and Magadan peninsula.

[15] Территории опережающего развития (ТОР).

[16] *Специальные административные районы (САР)*.

[17] The amnesty introduced in 2015 was supposed to be a one-time measure only lasting for a short time. As the results were disappointing, two subsequent reporting periods were allowed with minor adjustments in the implementation details.

government has introduced some narrowly targeted instruments. The key investment support tools are *special investment agreements* (SPIKs), a concept introduced in 2014 and updated in 2019. SPIKs aim at supporting industrial production and technology absorption. More general *investment protection agreements* (SZPKs) were introduced in October 2020. These arrangements guarantee the investor immutable administrative conditions during the investment project (e.g. tax and tariff level), provide tax breaks and government support for infrastructure construction, and assure accelerated and simplified administrative procedures (e.g. for receiving the status of *Russian producer*). The guarantee for maintaining administrative conditions can last from three to 20 years depending on the tariff and the amount of investment. The amount of investment needed for the agreement varies across sectors and regions from 200 million rubles to 5 billion rubles ($3 million to $70 million). The first SZPK concept was only valid through April 2021. It was supposed to be adjusted and transformed into an electronic platform thereafter. The electronic platform has not, however, been set up so far and thus it has been impossible to sign new agreements. According to media reports, 36 SZPKs with a total investment value of 1.3 trillion rubles ($19 billion) had been signed before April 2021.

Russia has tried to increase investment, but investment promotion policies typically do not address attracting foreign investment or improving participation in global value chains. Domestic and foreign investment is not differentiated in the SEZs. Most production goes to domestic markets and export operations are typically not promoted (Kuznetsov & Kuznetsova, 2019). Russia introduced restrictions on foreign investment in 2008 for about 40 sectors considered strategic from the perspective of national security. Other limitations for foreign participation, especially in the service sector, have been eased in the recent years to keep with Russia's WTO commitments.

5.3 Business environment

Improving the business environment has long been on Russia's development agenda. Economic institutions received particular attention in the 2008 strategic-goal plan Concept 2020 and during the Medvedev presidency. Institutional development figured still in Putin's 2012 May decrees. The key objective of the May decrees was to lift Russia's rank in the World Bank's *Doing Business* (DB) rankings from 120th place in 2011 to 20th place by 2018. Practical implementation relied on twelve *roadmaps* for various areas of the business environment. They were compiled in cooperation with the business community and focused on such themes as improving the accessibility of energy infrastructure, enhancing the business environment in the construction sector and developing customs administration. Most of these areas are included in the DB sub-indices and the indices were chosen as goals of the roadmaps.

The World Bank (2020b) documents the wide range of plans compiled, legislative changes approved and measures taken. The original roadmap framework was scheduled for 2012–2018. In 2019, the Russian government approved a plan for transformation of the business environment for 2019–2024 that extended the roadmap framework and aimed at further improvement of Russia's ranking in certain DB sub-categories.

Russia introduced also other initiatives to improve the business environment over the past decade. The authorities, for example, tried to reduce corruption by increasing the transparency of income officials through legislative mandates. The law today obliges government institutions to post the income disclosures of their staff on the internet. Efforts aimed at improving protection of property rights include legislative changes to better protect entrepreneurs charged with economic crimes and reduce abuses of official authority. The changes e.g. made it illegal to arrest entrepreneurs during an ongoing investigation. In addition, an amnesty on jailed entrepreneurs was announced in 2013 on the initiative of Boris Titov who had just been appointed to Russia's newly created post of presidential business ombudsman (Rochlitz et al., 2020).

A recent major reform project has been the reform of the public control and inspection activity.[18] This has included a massive overhaul of outdated regulation from the Soviet era known as the regulatory guillotine. Russian authorities report that 3,000 outdated regulations have been replaced by 450 updated regulations within the regulatory guillotine framework. The legislation guiding public surveillance and inspection activities has also been renewed with the aim of reducing accidents through better surveillance, while minimizing the costs to companies.

Russia's business environment has improved in some respects, but the overall gains are modest. The biggest success has been the roadmap framework with Russia's ranking in the DB as the key goal. While Russia has yet to break into the top 20, it has improved its rankings in several subsectors (Table 1). The DB measures, however, are often not representative of the business environment as a whole. They look at specific topics such as getting hooked up to the electricity grid or getting a permit to construct a small industrial building. The geographical focus is also narrow, covering just Moscow and St. Petersburg. The DB does not measure e.g. security, corruption or the quality of the underlying institutions. Frequent methodological changes complicate comparisons over time. In September 2021, the World Bank decided to discontinue the publication of the DB report due to data irregularities detected in some of the latest issues.

Table 1. Russia's rank in the World Bank's *Doing Business* comparison

	Doing Business	*Starting a business*	*Construction permits*	*Getting electricity*	*Trading across borders*
2010	115/183	69/183	174/183	182/183	154/183
2020	28/183	44/183	27/183	7/183	91/183

Russia's position has improved less in other international rankings (Table 2). The World Bank's *Worldwide Governance Indicators* (WGI) are compiled from multiple sources. They depict the overall institutional quality of countries. Russia's rankings have improved since the 1990s, but gains in the rankings have been sluggish of late. The *Global Competitiveness Indicators* of the World Economic Forum (WEF) include indicators from a vast international company survey. They show modest improvements in Russia's rankings in similar institutional variables, but still relatively low rankings internationally.

Table 2. Russia's rank in selected sub-categories of the World Bank's Worldwide Governance Indicators (WGI) and the World Economic Forum's (WEF) Global Competitiveness Indicators.

	Control of corruption (WGI)	*Regulatory quality (WGI)*	*Rule of law (WGI)*	*Property rights (WEF)*	*Judicial system (WEF)*	*Burden of regulation (WEF)*
1996	159/187	125/185	149/198			
2008	162/187	113/185	159/198	122/134	109/134	118/134
2019	143/187	118/185	147/198	113/141	91/141	90/141

Other analyses and surveys paint a similar picture. Despite improvement in the business environment in recent decades, significant problems remain with corruption, protection of property rights and bureaucratic burden. Business environment dangers have changed, however. In the 1990s, criminal groups were the biggest risk facing entrepreneurs. Gangs would shake-down businesses for regular protection payments. The protection money racket has largely been replaced by rent-seeking activities

[18] *Kontrolno-nadzornaya deyatelnost* (KND).

of public officials. A recent survey PWC Russia of 1,000 representatives of Russian business found that, while the threat of violence related to business had diminished and possibilities to conduct honest business have improved since the 1990s, about half of the respondents felt it was still impossible to conduct business honestly in Russia. About 70 % reported that corruption has not diminished at all over the past three decades (Gans-Morse, 2012; PWC, 2020; Rochlitz et al., 2020).

The risk of renationalization of businesses or state pressure on major businesses appears to have diminished. Renationalization was high in the minds of many following the October 2003 arrest of Mikhail Khodorkovsky and confiscation of his oil company Yukos by the Russian state. Some other privatized companies were renationalized on the premise that their privatization during the 1990s was a mistake on the part of political leaders (Gans-Morse, 2012). It has been evaluated that all Russian billionaires that lost their fortunes between 2000 and 2005 did so because of political pressure, but after 2005 the share of those has declined substantially (Treisman, 2016). Russia's current business leaders tend to have close relations with the political leadership (Djankov, 2015).

Corporate raiding, another aspect of state capture, showed signs of declining in the early 2010s as a consequence of policy measures. Corporate raiding refers to illicit acquisition of a business or part of a business. Law-enforcement officials (*siloviki*) selectively apply rules or commandeer the entrepreneur's assets under false premises. Corporate raids are typically initiated by a business rival of the targeted company. Efforts of the early 2010s to curb this practice have stalled in recent years. Corporate raiding continues to be a serious problem and has even been brought up by the president. In a survey of Russian companies conducted by the presidential business ombudsman in 2020 found that 94 % of respondents felt they lacked protection from baseless criminal charges. 74 % said that the Russian judicial system is neither independent nor objective. Although foreign investors are less often affected by the practice, a prominent case that has been cited as an example of such abuse has been the criminal embezzlement charges against the US investor Michael Calvey in 2019 (Gans-Morse, 2012; Hanson, 2014; Rochlitz et al., 2020; Titov 2020).

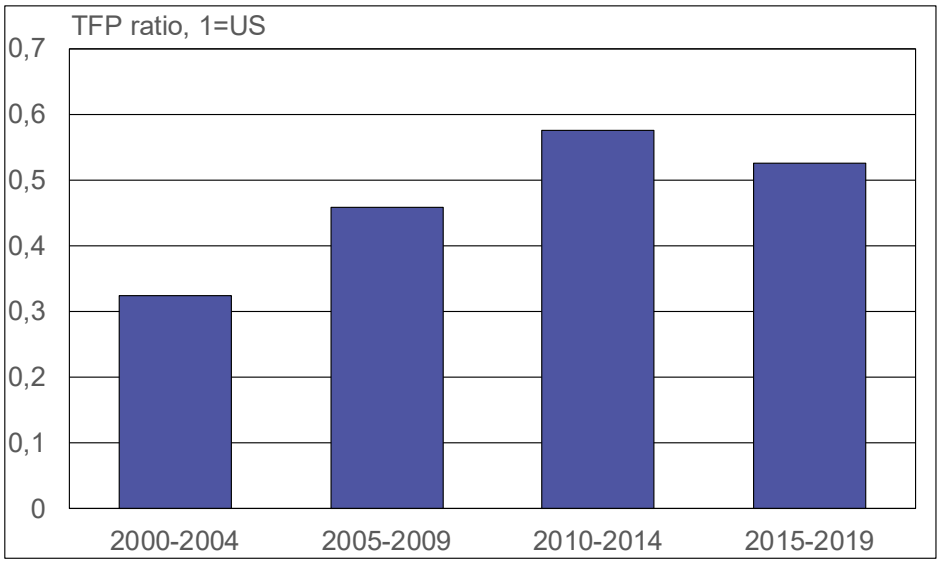
Russians see the regulatory burden as heavy and costly with the numerous inspections involved. It is estimated that at least 1 % of total working hours in Russia go to accommodating inspections by officials. Complex regulations provide further opportunities for corruption. The number of inspections has nearly halved during the past decade to about 1 million in 2019 (scheduled and surprise inspections) mainly due to the substantial decline in the inspections by the Federal Tax Service. The downward trend has ceased in recent years. In 2018, the Federal Service for Labour and Employment conducted nearly 140,000 inspections (the corresponding figure in the US was half of that). In about 80 % of scheduled inspections was found at least one violation, while counter-intuitively the corresponding share for surprise inspections was only 50 %. Russian officials are more likely to find violations than their US colleagues: the Moscow office of the Federal Service for Oversight of Consumer Protection and Welfare (*Rospotrebnadzor*) recorded violations in 70 % of their inspections in 2018 compared to only 24 % of their counterparts in New York. The presidential ombudsman report noted that penalties imposed on companies for violations of regulations have increased in recent years, despite a decline in the number of inspections. Even the Russian government is not satisfied with the progress of reforms in this area. Prime minister Medvedev stated in 2019 that the administrative control imposed on Russian companies is unreasonable and excessive (Kuchakov, 2020; Titov, 2020).

6. Stuck in a low-productivity trap

Russian productivity, low by international standards, has struggled to achieve even minor gains in recent years. The traditional measure applied in economics, total factor productivity (TFP), refers to the share of growth not explained by increases in inputs of labor or capital. It is assumed to depict the technologies and capabilities available to an economy for combining inputs for final production.

Russian TFP is estimated to be about half that of the US, a country often used as the benchmark for advanced economies (Figure 4). TFP increased rapidly in Russia in the early 2000s, bringing Russia slightly closer to the US level. Growth slowed down, but TFP continued to rise until the mid-2010s. In recent years, Russian TFP level has again fallen more behind the US.

Figure 4. Russian TFP trends in the 2000s.



Source: Penn World Table 10.0.

Productivity can be improved by shifting resources in the economy from less to more productive sectors or firms. While this structural transformation spurs productivity growth, the effect fades gradually as the economy evolves. Another way to improve productivity is to invent or implement a superior production technology. Highly advanced economies need to come up with new inventions constantly to improve their performance, but economies farther from the global technological frontier can appropriate the solutions created by others. This distinction may lead to differences in the recommendations of innovation policy approaches of advanced and emerging economies. The suitable policy for economies or sectors entering the catch-up process can be to focus on investment that helps absorb or acquire best available technologies and practices. As the country or industry catches up, the policy emphasis shifts to supporting novel inventions (Aghion et al., 2014; Rodrik, 2015).

The wide assortment of government measures aimed at improving the productivity of the economy can be labeled as industrial policy, although the concept is often used vaguely. Industrial policy typically is geared to supporting development of sectors with high productivity and numerous linkages and spillovers to other sectors of the economy. The rationale for industrial policy is to correct market failures related to positive externalities and information asymmetries. On the other hand, it is difficult for governments to choose sectors or companies that should be supported, and industrial policy measures are vulnerable to rent-seeking. In addition, the evidence of efficiency of industrial policy gives a mixed picture (Harrison & Rodriguez-Clare, 2010; Naude, 2010).

While the mainstream view advocates limiting state intervention, industrial policies are in wide use in both developed and emerging economies. The common recommendation is for state involvement with horizontal or soft industrial policy measures that support overall industrial development, particularly innovation and innovation absorption. This includes measures such as public spending and support for R&D, education, supporting digitalization, development of infrastructure and promotion of foreign trade participation. Key policies to support innovation include government grants and tax credits for innovation (Bloom et al., 2019). Such general measures are less prone to the pitfalls traditionally associated with industrial policy. Even the advocates of more directed government measures emphasize the need to focus on innovative industries, address sectors rather than individual companies, ensure competition and impose conditionality and accountability on sectors or firms receiving support to reduce the risks of detrimental outcomes (Cherif & Hasanov, 2019). We discuss various aspects and Russian policies related to productivity in more detail in the following subsections.

6.1 Structural transformation and diversification

Russian productivity growth took off in the early 2000s as structural reforms of the transition took hold. Resources were reallocated to productive sectors, particularly to the service sector, which had been severely stunted during the Soviet era. Productivity growth was greatest in those parts of the service sector requiring high skill levels and lowest in oil & gas sector. Productivity growth has slowed in all sectors in recent years as transition effects have waned and new reforms have not been forthcoming (Okawa & Sanghi, 2018; Voskoboynikov & Solanko, 2014; World Bank, 2017a).

The role of Russia's oil & gas sector in the economy deserves particular attention at this point. Productivity growth is typically lower in primary commodity sectors as they tend to have fewer linkages and spillovers to other sectors of the economy. World market prices for commodities often display sharp, unpredictable swings that increase the volatility of economic development in countries highly dependent on commodity exports. This can cause Dutch disease whereby steep and persistent commodity price rises erode manufacturing competitiveness through appreciation of the currency and attracting resources to the commodity sector. Resource dependency can also foster rent-seeking and have adverse impacts on economic institutions (resource curse). Moreover, demand for several commodities can decline substantially in the next decades due to emission reductions required to restrain climate change. The literature suggests that problems related to resource dependency and poor resource management are prominent features of the Russian economy (Gaddy & Ickes, 2010; Kakanov et al., 2018; Simola & Solanko, 2021).

Adjusted for oil price fluctuations, the share of the oil & gas sector in Russian GDP and industrial output has remained quite stable over the past decade. Broadly speaking, the oil & gas sector generates about 20 % of Russian GDP.[19] In recent decades, oil & gas have accounted for about half of Russian exports of goods and services. This share fluctuates due mainly to large swings in oil prices. Russia's top exports also include commodities such as metals and low value-added chemical products such as fertilizers. Notably, the share of metals has declined in recent years (Simola & Solanko, 2021).

Diversification of the economy and exports and increasing the degree of raw material processing has been long on Russia's policy agenda. The level of processing in exports has been tried to increase by export tariffs e.g. on crude oil and raw wood. The 2012 May decrees set the goal of increasing the share of high-technology sectors in GDP. The national targets for 2030 include increasing the volume of non-hydrocarbon exports by 70 % by 2030. The national project for export

[19] The statistical challenges related to estimating the contribution of the oil & gas sector are discussed more thoroughly in Simola & Solanko (2021).

promotion in itself accounts for about 5 % of the total public spending allocated to the national projects.

Diversification of domestic production to reduce import dependency has been a prominent policy theme in recent years. Russia set self-sufficiency targets under its food security doctrine of 2010. The major push for import substitution, however, only began after Russia's illegal annexation of the Crimean peninsula in 2014 and the imposition of Western sanctions. Russia initially imposed bans on imports of certain agricultural products from several countries as counter-sanctions against Western countries. These bans supported domestic production during the economic downturn and reduced Russia's dependence on food imports (Connolly & Hanson, 2016; Korhonen et al., 2018).

Import substitution goals were imposed on products in all sectors of the economy, although the emphasis was mainly on foodstuffs, medical products, information technology and electronics. Import substitution was supported through state subsidies and import restrictions on public procurement, as well as projects of state-owned enterprises and projects receiving public sector support. In 2021, domestic content requirements were introduced for 250 products in the procurement of state-owned enterprises.

Diversification and import substitution efforts have made the most headway in the agricultural sector. Output of certain agricultural products such as poultry and grains has increased substantially. Indeed, Russia has met its self-sufficiency targets for meat, grain and potatoes. Russian exports now include a larger share of agricultural products, and Russia has become the largest wheat exporter in the world. Development for other foodstuffs has been more modest. For example, Russia's dairy product self-sufficiency is lower than in 2000 and well below the current 90 % target. Russia also relies on imports of other food products, but the origin of imports has changed after banning the imports from Western countries. Volchkova & Kuznetsova (2019) estimate that the gains that accrue to Russian food producers from the import bans are paid by Russian consumers in the form of higher prices. The government has recently tried to curb price increases for certain foodstuffs through export tariffs, export quotas and direct price freezes. Many of Russia's largest agricultural conglomerates are owned or associated with politically and economically well-connected people (e.g. a former minister of agriculture).

We have recently seen positive signals in Russia's high-technology sectors, but it is too early to say if they indicate larger or permanent trends. The IT sector and pharmaceutical industry grew rapidly over the past decade, yet combined they still only accounted for about 2 % of Russian GDP in 2019. Russia's few high-technology export products have long been dominated by military weapons systems and nuclear technology. Progress in finding new export products has been modest (World Bank 2020d). Import substitution attempts in many industrial sectors have been hampered by the complete lack of or the poor quality of domestic substitutes (Tsukhlo, 2016). This import substitution can reduce the competitiveness of domestic production, as there is plenty of evidence in the literature (including for Russia) that companies using imported inputs and technologies have higher productivity (Volchkova & Turdyeva, 2016).

6.2 Boosting innovation

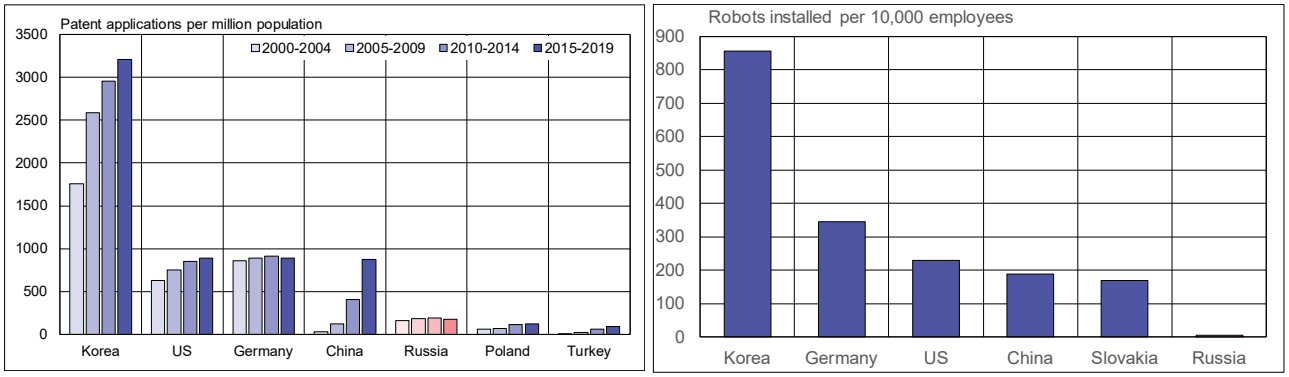
Russia performs poorly in most indicators related to innovation activity and absorption. Despite advancements in recent decades, some indicators have begun to deteriorate. Russia now lags some of its international peers, even countries with lower income levels such as China.

A popular indicator of innovation activity is the number of international patent filings per year. By this measure (adjusted for population), Russia performs much better than most emerging economies, but clearly lags most advanced economies and China (Figure 5, Panel A). In stark contrast to most emerging economies, the number of Russian patent applications have barely grown over the past two decades. Even discounting China's stellar performance, one cannot overlook the fact that

the number of patent applications has grown ten times in Turkey and doubled in Poland over the same period.

Industrial robot use is commonly used to indicate the pace of innovation absorption. In Russia, there were only four industrial robots per 10,000 workers in 2017, a minuscule number compared to most advanced economies (Figure 5, Panel B). In absolute numbers of industrial robot installations, China led the world in 2019 with 140,000 new robots installed. Russia failed to even break into the top-15 robot markets, lagging much smaller economies of Poland and the Czech Republic, where just 2,600 new robots were installed.

Figure 5. Panel A: Resident patent applications (per million population) by country of origin in 2000–2019 for select countries. Panel B: Manufacturing robot density in 2019.



Note: Russian data on robot density in Panel B are from 2017.

Sources: WIPO, International Federation of Robotics.

Innovation was a prominent theme in Russia's growth policy framework in the years preceding the 2008-2009 Global Financial Crisis. The Concept 2020 published in 2007 proposed an innovation-led growth model as Russia's target. The country also introduced several instruments to finance innovation. Interest in innovation policy has since faded to some extent. In Russia's innovation policy the state's role in supporting innovation has always been substantial both for goal-setting and practice.

Concept 2020 goals included increasing total R&D spending (public and private) to 3 % of GDP by 2020. This share has also been used in subsequent development plans. Currently, the national project on science sets the target of slightly increasing the share of R&D spending relative to GDP in coming years. The share, which was quite stable throughout the 2000s, declined slightly during the past decade. For 2000–2009, R&D spending accounted for 1.15 % of GDP. In 2010–2019, it corresponded to 1.06 % of GDP. For comparison, the share in 2010–2019 has been about 2 % in the EU and China, 3 % in the US and Japan, and 4 % in South Korea.

Russian R&D spending relies heavily on the government. About 70 % of Russian R&D spending comes from the government, while the average in most developed countries is 20–30 %. This is also reflected in the poor innovation performance of Russian companies. Fewer than 1 % of Russian industrial companies are seen as competitive in global markets (HSE, 2020).

Russia introduced an R&D tax allowance and accelerated depreciation provision for R&D capital in 2009. The rate of tax allowance has remained unchanged since its introduction, and there have been no other changes in the design of the tax relief provisions (OECD, 2021). At about 0.1 % of GDP, the level of Russia's tax support to business innovation lags global leaders but still corresponds to the EU average. In terms of direct government support to business innovation, however, Russia is by far the most generous among the 50 countries evaluated by the OECD. At 0.3 % % of GDP in 2018, Russia's direct support was about twice that of Hungary and Korea, the next most generous countries.

Russia created numerous development institutions during the years it focused on an innovation-led growth model (Idrisov, 2016). By 2020, there were 40 state development institutions in Russia. The wide range of facilities included the innovation center of Skolkovo, the state-owned nanotechnology corporation Rusnano, the development bank Vnesheconombank (VEB), funds for financing industry and innovation, as well as a separate corporation to support the activities of small and medium-sized enterprises (SMEs). Despite bright spots in performance of these institutions, the overall results are disappointing. Russia's development institutions have been criticized for ineffective use of funds (e.g. simply depositing the money in bank accounts), paying unusually high wages, capital exports and corruption (Sokolov, 2021).

A prominent example of development institutions is the innovation center of Skolkovo. It was launched with great fanfare during the Medvedev presidency in 2010, with a goal of becoming the Silicon Valley of Russia. Skolkovo launched cooperation with well-known foreign universities and corporations. When Medvedev's term ended in 2012, the interest in Skolkovo faded. The construction of the Skolkovo facilities was delayed and corruption charges were brought against high-level participants of the project. After the 2014–2015 recession, funding for Skolkovo was slashed and Western sanctions made cooperation with foreign partners difficult. Skolkovo is by far the most important innovation and start-up cluster in Russia, and there have been individual success stories. In 2019, companies associated with Skolkovo made 160 international patent applications accounting for 15 % of all applications from Russia. All Russian applications that year, however, amounted to only a quarter of those made by the Chinese telecom giant Huawei.

Other development institutions have even weaker track records. The development bank VEB, for example, amassed huge losses and required public funds for capitalization on several occasions. It funded massive money-losing projects such as the Sochi Olympic Games in 2014 (Inozemtsev, 2020). Rosnano, the state corporation specialized on nanotechnology, is currently in serious problems with its high indebtedness. The performance of the corporation tasked with supporting the SME sector is labeled a failure in a report published by the Accounts Chamber of Russia (Shilkov, 2021). During 2015–2020, the corporation had provided support to less than 1 % of SMEs operating in Russia, and the share of SMEs in its loan portfolio declined. On the other hand, the employee compensation policies of the corporation were remarkably generous: the average wage of the employees of the corporation was double the average of financial sector wages in Moscow. The Russian government acknowledged the disappointing performances of the development institutes, and prime minister Mikhail Mishustin initiated their reorganization in autumn 2020.

6.3 Digitalization, a new priority

Digitalization[20] can enhance productivity by improving cost-efficiency of production processes, improving data security and reducing the importance of physical infrastructure and geographical distance. Digitalization as a stand-alone topic in Russia's development policy is relatively new. It was picked up as one of the twelve initial national projects to 2024, and remains one of five topics in the new formulations of national goals to 2030. It is among the largest national projects, accounting for 8 % of the public funding for the projects. The main targets of the national digitalization project are increasing domestic expenditure on development of a digital economy, building a robust and secure IT infrastructure and establishing a predominance of domestic software. The importance of digitalization as a development target is supported by its high potential for military applications.

The basic infrastructure supporting digitalization is quite advanced in Russia. Most people live in areas with mobile cellular network coverage and most own a mobile phone. In 2019, 73 % of

[20] There is no consistent definition for digitalization, but in most contexts it refers to increased utilization of information and communication technologies (ICT).

Russians used the internet daily, and 77 % of households have internet access at home. Regarding fintech usage, Russia ranks even among global leaders. In the latest *EY Fintech Adoption Index*, Russia ranked 3rd after China and India, with 82 % of Russians having used at least two different financial services online, while the highest ranking advanced economy was the Netherlands at 7th place (EY 2019).[21] In the latest *Findexable* (2021) fintech ranking that focuses on fintech companies, Russia ranked 19th place ahead of high-income countries such as Denmark and Japan. Russia has also constructed its own domestic payment system in recent years to reduce dependence on international providers, although it is still in limited use.

Consumer e-commerce has developed rapidly, but Russia still lags several countries. UNCTAD (2021) estimates that in 2019 the share of B2C e-commerce was about 2 % of GDP and that 35 % of internet users engaged in online shopping. In top-ranked countries, these shares were 6–10 % and 80–90 %, respectively. The digital transformation of Russia's public sector has also progressed. In the UN's *E-Government Development Index* (EGDI), Russia ranked 36th among 193 countries in 2020. Digitalization has led to improvements in e.g. the efficiency of tax collection and inspections. In contrast, Russia's business sector and industry are generally laggards in terms of digital development. Only about half of Russian companies even have a website (HSE, 2021; World Bank, 2018).

The IT sector has received considerable attention from officials in recent years. Import substitution policies have been actively applied in the IT sector. Currently, all public sector organizations, state-owned companies and "critical information infrastructure" (KII) companies must migrate to domestic software by 2023 and domestic hardware by 2024. Since this spring, certain Russian applications must be installed in all smartphones and computers sold in Russia. The *great tax maneuver* went into force for the IT sector at the beginning of 2021, qualifying IT companies for lower profit tax rates and lower mandatory social contributions. The VAT exemption that used to cover all products, is now only available for software that is included in a special register consisting almost entirely of Russian products.

As noted above, Russia's IT sector has grown briskly. Official reports suggest that the use of domestic IT products has increased in the public sector. The average share of Russian software in the procurement of the public sector was 56 % in 2017–2019, up from around 20 % in 2015. The share varies, however, across years and levels of administration. In state-owned corporations, the share is more moderate. As of end-2020, Rosatom was the first state-owned company to announce adoption of Rusbitech's Astra Linux operating system. As this example illustrates, the "Russianness" of import substitution solutions vary. Operating systems developed by Russian companies are often based on Linux or some other open source code. Russian hardware typically relies heavily on foreign components as domestic solutions tend to be less effective. Russian producers routinely complain about attempts at circumventing import substitution requirements. Media reports indicate that the City of Moscow has sought Huawei data processors for storing medical data of the residents, and that a number of Russian regions have formulated their laptop procurement orders for schools in a way that only foreign products meet the procurement requirements.

6.4 Changing the state's role in the economy

The creation of a competition-friendly business environment, and specifically the role of state in the economy, are important for productivity. State ownership is typically justified in sectors which are vulnerable to market failures and give rise to natural monopolies (e.g. water supply and sewage). In other sectors the advantages of state ownership are less obvious. State-owned enterprises (SOE) are typically less efficient than their private counterparts. They are often subject to soft budget

[21] The survey includes 19 services related to money transfer and payments, budgeting and financial planning, savings and investments, borrowing and insurance. A more detailed description of the methodology is provided in EY (2019).

constraints, tend to innovate less and can reduce competition by crowding out private companies. A lack of competition can reduce incentives to improve productivity and innovate. In addition, the public sector can affect the competitive environment through the organization of public procurement (EBRD, 2020; Di Bella et al., 2019; Guriev & Megginson, 2007).

The state's role in the Russian economy has always been large due to the Soviet legacy. Even with rapid, massive privatization in the 1990s, the state's share of GDP was still about 30 % at the start of the millennium. That share climbed to 35 % in 2005 with the renationalization of certain oil and gas companies. Since then, the state's share of the economy has remained quite stable. Recent estimates put the share of the state at around a third of the Russian GDP. The public sector accounts for about half of formal employment in Russia. While it has declined, the share of public-sector employment remains much higher in countries with a communist legacy than in similar economies lacking the planned-economy experience (EBRD, 2020; Di Bella et al., 2019).

State-owned enterprises (SOEs) are prevalent in Russia in sectors with natural monopolies or companies involved in mineral extraction, i.e. sectors with strategic and social significance. The state also plays a dominant role in the financial sector and SOEs are active in almost all sectors of the economy. Russia has at least one SOE operating in 39 of its 44 industrial and service sectors. The corresponding average for most other countries is about 25. SOE presence is associated with high concentration (small number of companies), poor governance and weak performance in several sectors in Russia. The role of the public sector is so dominant that it weakens market mechanisms and reduces efficiency. It is considered one of the most important factors restraining productivity growth in Russia (Di Bella et al., 2019; Kudrin & Gurvich, 2015; World Bank, 2017a; World Bank, 2020c).

This issue has featured in Russian policy frameworks, but approaches have varied. On one hand, further privatization of public sector companies has been on the government agenda for most of the past two decades. The government typically compiles privatization plans for three-year periods. During 2011–2019, however, fewer than half of the planned privatizations were actually realized. For the latest period, 2017–2019, the share was just 25 %. The only major privatization deal during this period involved selling an asset included in the list to another SOE also listed for privatization.[22] The Accounts Chamber of Russia has concluded that the main problem in realizing privatization plans is that the assets on sale are not attractive to investors (Baturkin, 2021).

Indeed, the level of state ownership has increased in the mineral extraction and finance sectors since the early 2000s. Beyond the prominent Yukos example, several mineral extraction sector companies have been renationalized and merged with state owners. State ownership in the financial sector increased mainly as a consequence of the financial crises in 2008–2009 and 2014-2015 that led to a number of bank bailouts.

SOEs play a major role in Russian industrial policy. Under the national champions initiative, huge state-owned corporations were created in 2005–2007. For example, the United Aircraft Corporation and United Shipbuilding Corporation were created by consolidating assets in their respective sectors. Rosnano was built on a green-field basis to advance nanotechnology development. Conglomerate Rostec swallowed up production facilities from titanium to radioelectronics. These national champions follow the successful examples of East Asian countries and seek to improve the global competitiveness of Russian production. Most national champions integrate military and civilian production assets to take advantage of the more competitive military technologies in the civil production (Djankov, 2015; Finland's Ministry of Defence, 2019).

SOEs are often vulnerable to corruption. A recent international survey (Baum et al., 2019) conducted among the employees of over 200 SOEs (including Russian SOEs) suggests that the employees perceived corrupt and related irregular practices in half of the companies. There is also

[22] Kristall, Russia's leading polished diamonds producer, was sold in 2019 to the Alrosa diamond mining company.

evidence that the performance of SOEs is substantially poorer in countries with high levels of corruption and that corruption likely hits SOEs harder than private companies (Baum et al., 2019; OECD, 2018). Certainly, Russia has had its share of SOE corruption scandals. A recent example is scandal surrounding construction of the massive Vostochny spaceport project. Russia's state space corporation Roscosmos has been struggling to get the project moving since 2011. By 2018, there had been 140 court cases associated with the project, over 50 people convicted of criminal corruption and total losses amounting to 11 billion rubles ($160 million). Arrests and prosecutions for misconduct and malfeasance related to the project are ongoing.

SOEs are so prevalent that public procurement (public sector and SOE purchases, excluding military purchases) is a substantial source of demand in Russia. In recent years, the value of public procurement has corresponded to nearly 30 % of GDP on average. Officials and lawmakers have focused on developing the regulatory framework for public procurement with the aim of increasing competition and transparency. An SME quota has been introduced in public procurement to improve their access to this large component of demand. In practice, an overwhelming majority of SOE procurement is still conducted via non-competitive methods. This often leads to higher prices than with competitive bidding. In addition, small companies that are subsidiaries of large holdings can be considered as SMEs in the public procurement quotas. This further limits competition as these participating companies are SMEs in name only.

The supplier concentration is high with only 4 % of suppliers accounting for 80 % of procurements. Suppliers are concentrated in the public sector. Only 13 % of procurement contracts are awarded to privately owned companies. Large state corporations such as Rostec are often among the most important buyers and suppliers of public procurements (Di Bella et al., 2019; World Bank, 2020c).

Public procurement is increasingly used to support domestic production and import substitution. Import restrictions have been imposed on public sector procurement and domestic producers enjoy a price preference. Beginning in 2021, the government imposed domestic content quotas for 250 products in public sector and SOE procurement. SOEs have been reluctant to fulfill their quotas as they fear it could hurt their production, increase prices or reduce quality. Even Russia's energy ministry has sought to postpone localization requirements for oil tankers in order to assure fulfillment of pending orders at the Zvezda shipyard. The government recently discussed sanctions and other possible measures to force SOEs to comply with the new regulations.

6.5 Infrastructure

Adequate infrastructure such as electrical power generation and transportation networks is essential for businesses and improving productivity. While the level of Russian infrastructure is generally quite adequate, the fact that Russia is huge geographically and sparsely populated makes its transportation network critical. Simulations suggest that Russia's economic growth would be measurably enhanced from improvements in its transportation infrastructure (World Bank, 2017b). Unfortunately, construction of transportation infrastructure is highly vulnerable to corruption (Collier et al., 2015; Fazekas & Toth, 2018). It creates a risk that public infrastructure(?) spending will be directed to flashy, high-value projects with inflated price tags, and provides motivation for project delays and supplying of low-quality inputs.

Infrastructure is featured as a cornerstone of several development plans. The current national project framework includes a project dedicated to roads and another program for modernizing other infrastructure such as railways, ports, and oil and gas pipelines. In aggregate, infrastructure accounts for 30 % of the public financing allocated to national projects. Most non-road infrastructure projects, however, rely on extra-budgetary funding (typically from state-owned companies). In addition, the national project on ecology includes infrastructure projects related to waste management. Russia's

seriously underdeveloped waste treatment and waste handling has emerged as a major public concern in recent years, with landfill and garbage protests common across the country.

The results of Russia's infrastructure development policies have been mixed. Transportation infrastructure investment, generally quite moderate in recent decades, has been on a declining trend since 2008. OECD data show that Russian investment in transportation infrastructure and maintenance averaged 1.5 % of GDP in 2000–2009, and fell to an average of 1 % of GDP in 2010–2019.[23] While this is about the same level as in most Central Eastern European countries, it is substantially less than the average for China, which climbed to 5 % of GDP in 2010–2019.

The capacity of seaports and oil and gas pipelines increased in the 2000s, allowing a shift in Russian trade flows to domestic ports and diversification of export routes and destinations that reduced Russia's dependence on third countries for cargo transit. In contrast, development of road system has been weak. In the *WEF Competitiveness Report 2019*, for example, Russia's ranking on quality of road infrastructure was 99th among 141 countries. In Russia's eastern half, the situation is even worse. Over 40 % of Russia's total land lacks reliable access to the transport network because many roads are seasonal (World Bank, 2017b).

Infrastructure construction is mainly funded by the public sector directly or via government development institutions such as the VEB development bank. The share of private-sector financing is typically much lower in Russia than in most countries (World Bank, 2017a). Russia has experimented with other approaches to project financing. For instance, road tolls for trucks weighing over 12 metric tons were introduced in 2015 on all federal highways. Although the payments were intended to be used for road maintenance, most toll income under this arrangement has gone to covering the costs of the company operating the toll system. The company is partly owned by the state conglomerate Rostec and partly by a private company of billionaire businessman Igor Rotenberg. Major infrastructure construction projects (e.g. the Sochi Olympics and Kerch bridge) are often given to companies associated with business personalities with close links to the president (Djankov, 2015). SOEs are also often involved in various infrastructure projects. For example, VEB, Rostech and Rosatom last year announced a trilateral agreement on constructing 25 new waste disposal plants throughout Russia.

7. Assessing past and future performance of Russian economic policy

Russian real GDP nearly doubled over the past two decades, but its share of global economic activity (adjusted for purchasing power parity) barely shifted, averaging 3.2 % from 2000–2004 and 3.1 % from 2016–2020. The number of people living below the official poverty line has more than halved during the 2000s. Russia managed to improve the stability of its macroeconomic environment with prudent fiscal and monetary policies, and the government posted surpluses consistently in the years preceding the COVID-19 recession. The level of government debt remains low today and oil income savings provide a substantial fiscal buffer. Inflation subsided to moderate levels near the CBR's 4 % p.a. target, and the soundness of the banking sector improved with the clean-up of hundreds of non-viable financial institutions.

Russia also succeeded on other fronts. For example, it made solid gains in the rankings of the World Bank's *Doing Business* survey. However, the survey only provides narrow snapshots of the business environment. Moreover, demographic indicators show improvement from depths of hardship in the 1990s, but the demographic policies chosen have often been quite costly and questionable as to their effectiveness. Production and exports of certain agricultural commodities

[23] Including road, rail, inland waterways, maritime ports and airports.

have increased. Self-sufficiency targets for certain foodstuffs were met. Yet these achievements were largely paid for by the Russian consumer. IT sector has witnessed strong progress. Russia also has become one of the global leaders in fintech adoption. Yet again, IT sector is still small and often relies heavily on internationally sourced inputs.

Russia has, however, failed in securing several preconditions needed for sustainable economic growth. Fixed investment and productivity have been in the doldrums during the past decade. The volume of gross fixed capital formation was 2 % smaller in 2020 than in 2011. Economic institutions have little to show in the way of general improvement. Productivity gains have been meager, and diversification of production and exports has made little headway. Both introduction and absorption of innovations has been weak even with direct public support for business innovation that is quite generous by international standards. The state's role in the economy remains substantial and shows no sign of shrinking.

7.1 What explains the limited success of Russia's development policies?

There is an international consensus on policies that support growth, and these approaches are discussed routinely by international and Russian experts alike. Russian policymakers are certainly familiar with these growth themes.

The Russian economy has unique features. It is an upper middle-income country that shares the characteristics of an advanced economy (e.g. high education levels), yet underperforms its peers in other areas (e.g. economic institutions). These features must be considered when calibrating policy for the Russian environment, like e.g. the privatization experiences of the 1990s show (Acemoglu & Robinson, 2013). In recent decades, the main problems from the perspective of supporting economic growth stem from failure to implement recommended reforms or policy choices that are counterproductive to economic development.

Despite numerous economic policy reform initiatives based on mainstream recommendations, our analysis showed they rarely are realized. Similar picture arises from survey of Russian experts evaluating the realization of the Strategy 2020 recommendations. The experts found that, on average, only about 30 % of the measures proposed in Strategy 2020 had been realized. Among the highest realization rates were the sections on budget and monetary policy, as well as development of the banking and financial sector. The lowest average realization rate (12 %) was posted by the section on development of institutions. Results in other fields, including reducing the state's role in the economy and promoting non-commodity exports, were also disappointing (Dmitryev, 2016).

Oil prices are often blamed for the failure to implement policy reforms. Russia's growth in recent decades has largely relied on substantial oil rents that have been redistributed to other parts of the economy. These oil rents enabled a comfortable economic growth and improvement of living standards without the need to undertake cumbersome and unpopular reforms. The pressure for reforms stalled in the early 2000s with rising oil prices. Interest in reforms revived with the 2008-2009 Global Financial Crisis and sharp drop in oil prices. This was reflected in the Medvedev era development plans and the presidential 2012 May decrees that strived for supporting growth by improving the business environment. The economic crisis of 2014–2015, exacerbated by Western sanctions, increased pressure to find new sources of growth. When the crisis proved short-lived, enthusiasm for reform again evaporated (Akindinova et al., 2016; Gaddy & Ickes, 2010; Rochlitz et al., 2020; Yakovlev, 2014).

Administrative inertia provides another barrier to reform. The out-sized role of the president in the administrative system means that "manual steering" by the president is often the sole guarantee of success for a reform initiative. Of course, the number of reform initiatives that the president is able and willing to personally manage is limited. Russia's public-sector apparatus is both extensive and complex. In addition to the formal vertical power structure, there are various informal networks that

can affect reform policy outcomes, making it difficult to coordinate and realize policy initiatives. Moreover, the prevalence of soft budget constraints incentivizes low-level officials to conceal inefficiency. The administrative framework favors reforms with support from the highest political level (and preferably the elites as well) that can be implemented by competent technocrats. Examples of such reforms include monetary policy and certain taxation policies. In contrast, reforms that threaten disruption of established systems are often impossible to realize (Dmitriyev, 2016; Gelman & Starodubtsev, 2016; Guriev, 2018; Gurvich, 2016; Ledeneva, 2012; Volkov & Kolesnikov, 2019).

In certain cases, Russia deliberately pursues policies that do little to promote growth. These include the policies emphasizing the state's role and import substitution. State-led development policies that are ostensibly modeled after those of the East Asian growth miracles, have largely failed in other countries and are vulnerable to rent-seeking. Most countries long ago abandoned also import-substitution policies due to their limited success.

The deliberate choice of sub-optimal policies likely reflects Russia's institutional framework. The literature on institutions suggests that most countries that have not achieved the highest levels of income have an authoritarian regime with a narrow group of elites dominating the economy. As the leadership's main goal is regime stability, funds are distributed to the elites and general population to ensure domestic security (and sometimes external security). While economic growth facilitates this task by increasing the amount of funds available, it is not always a top priority for leadership. The Russian economy is often depicted in this framework. Despite a stated goal of economic growth, it remains secondary to the leadership's concerns about stability and security objectives. This has been particularly true since 2014. Reforms seen as supporting stability and security have the best chances of succeeding. Some of them, such as prudent fiscal and monetary policy may also support long-term economic growth. Others, however, can even hamper economic growth (e.g. import substitution). (Akindinova et al., 2016; Gurvich, 2016; Hanson, 2012; North et al., 2013; Yakovlev, 2014).

7.2 Can Russia's current development policies accelerate future growth?

Recent estimates put Russia's potential GDP growth at 1–2 % a year, with little perspective of higher growth without reforms (Korhonen, 2021; Okawa & Sanghi, 2018). The on-going and evolving COVID-19 pandemic will likely impact Russia's growth possibilities. Russian GDP contracted relatively moderately during the first year of the COVID-19 crisis, but that partly reflects substantial public-sector support measures, including fiscal stimulus. While necessary to support the economy, the measures have diminished available public sector resources that could go to fostering future growth. Russia's current structural policy framework is based on measures requiring public funding. With less funding available, the issue on the shape of reforms is even more critical.

Russia's current structural policy framework is based on the national goals for 2030 and associated national projects that mainly focus on distributing public funds for various development goals. The public financing allocated to the national projects accounts for about 2 % of GDP annually. It should be noted that the estimated fiscal multiplier effects for Russia are quite modest (Vlasov & Deryugina, 2018). Moreover, the value-added tax (VAT) hike in 2019 to secure funding for the projects has weighed on growth. The net effect of the national projects on Russia's potential growth is considered to be in the range of a few tenths of a percentage point (IMF, 2019). The national projects are heavily focused on social issues and infrastructure (Mau, 2019). They account for nearly three-quarters of the total public funding for the projects.

Social issues (e.g. demography, healthcare and housing) represent more than 40 % of the total public funding for the projects. The largest shares of the funding are reserved for financial support to families with newborns (maternity capital), combating oncological and cardiovascular disease and reducing the stock of low-grade housing. The national project on education will only receive 5 % of the public funding of the projects, with about half going to new school construction. Social issues are

undeniably critical for the Russian economy, but even without the national projects social policy expenditure accounts for about a third of consolidated budget spending. There is clearly room for improving the efficiency of social spending (World Bank, 2021). These measures could support economic growth by increasing the availability of labor and improving the quality of human capital, but the effect is likely to be marginal and slow to realize.

The national goals concept aims at increasing investment in 2030 by 70 % from the 2020 level. For national projects, the investment focus remains on infrastructure. About 30 % of public funding for the national projects is dedicated to construction of roads and modernization of other infrastructure. There are few incentives that otherwise might support other investment or improving the business environment. The remaining 20 % of the public funding of the national projects is loosely oriented to policies that ostensibly improve productivity through technology development or innovation (e.g. digitalization and science projects). Much of the funding is directed at public sector support for import substitution particularly in technology branches such as IT and electronics.

Apart from social issues, Russia's structural policies largely focus on state-led infrastructure investment and technological development. Is it possible to achieve successes and accelerate economic growth with these policies in the light of the discussion in previous section? Technological development supports the security of the economy by reducing dependence on foreign technologies and with potential applications in the military sector. Russia's IT sector has developed rapidly in recent years and continues to show potential. The good news for Russia is that the experiences of India and Israel suggest that successful high-value-added sectors can coexist with low-quality institutions (World Bank, 2017). State funding can also be a positive. For example, a state entity in the US, the Defense Advanced Research Projects Agency (DARPA), created the internet (Mazzucato & Semienuk, 2017).

Nevertheless, the risks, i.e. high vulnerability to rent-seeking, use as redistributive mechanisms for elites and lack of competition, are particularly high in Russia's institutional environment. The Soviet experience also reminds us of the limited possibilities of success in heavily state-led policy frameworks. Lucrative businesses, including IT firms, are vulnerable to business environment risks (Volkov & Kolesnikov, 2019). Even if these risks could be avoided and technological development spurred, there is little guarantee that it would contribute to economic development broadly. The main purpose of Russian import substitution policy is precisely to substitute imports to reduce dependency on foreign supplies, and the expansion of exports is of secondary importance. Technology exports could also be constrained by state's efforts to prevent valuable technologies from spilling over to foreign countries or buyer worries over heightened geopolitical tensions in the current environment.

Institutions have received little attention in Russia's latest policy plans, although they are commonly considered crucial building blocks for long-term economic growth. Experiences from previous crises suggest that the on-going COVID-19 pandemic could revive interest in reforming economic institutions and business environment to support recovery and patch the public finances after substantial funds were spent on support measures. Massive 1998 crisis united the views of the country's elites as to the necessity of stabilizing the economy. In the wake of the 2008-2009 Global Financial Crisis, policymakers introduced measures to improve the business environment (Rochlitz et al., 2020; Yakovlev, 2014). The 2014–2015 recession promoted reforms in the monetary and fiscal spheres, but also fostered policies aimed at reducing Russia's dependence on the international economy.

Digitalization and the associated technologies should provide new tools for alleviating some of institutional weaknesses. The advancement of digitalization in the public sector can improve the bureaucratic efficiency and reduce opportunities for misconduct and corruption (Hanson, 2019). Reform may not be top in policymaker minds, however, as acute incentives for reform are again waning. Russia seems to have emerged from the first waves of the pandemic relatively unscathed economically. Oil prices have rebounded to pre-crisis levels. Moreover, even if the situation changes,

digitalization and other technological advancements risk facing fierce resistance due to their disruptive nature. Their wide adoption is likely to reduce rents of various groups, increase competitive pressures for large, influential but inefficient, corporations and reduce employment in certain sectors (Volkov & Kolesnikov, 2019).

The literature suggests that reaching a level of a high-income country eventually requires creation of the robust economic and political institutions that go with it. The establishment of high-quality institutions tends to be an extremely difficult and lengthy process. The experience of various countries in history suggests that even a change in the political leadership or elites is not necessarily sufficient to change the entire institutional framework. The system of incumbent extractive institutions often continues or reformats itself with some changes in characteristics and people at the top. Russian development from tsarist system to Soviet Union and current state is often cited as an example of continuous extractive institutions, poor natural rent management and persisting informal governance networks. A comprehensive change in institutions typically requires a wide social coalition that uniformly supports change. While no such coalition is on the horizon for Russia, it could arise if rents in the economy are substantially reduced. Such a situation may yet emerge in coming decades if, for example, measures to tackle climate change globally take hold and substantially reduce Russia's oil rents (Acemoglu & Robinson, 2012; Gaddy & Ickes, 2010; Hanson, 2019; Ledeneva, 2012; Rodrik, 2015).

8. Concluding remarks

Russian economic growth slowed substantially over the past decade and the outlook for growth is modest. The living standards of average Russians remain far below those of most advanced economies. The COVID-19 pandemic will likely impede future growth and thus reduce the potential for improving the material well-being of ordinary Russians.

Russia has introduced numerous development policy frameworks in recent decades. While most policies were designed according to recommendations from the economic literature, some policy choices have little to do with supporting economic growth. Fostering growth seems to have lost importance. Instead, the state's role in the economy has increased over the past two decades and the focus of economic policy has shifted to economic security and independence.

This not to say that Russia has not enjoyed economic successes, but rather that advancements have been modest in recent years. Productivity gains and improvement of business climate have been limited, and the profound reforms required are challenging in Russia's current institutional environment. The administrative system remains complex, and many groups oppose reforms as disruption of the status quo would lead to re-allocation of economic rents.

Main economic policy framework today is based on the national development goals to 2030 and the accompanying national projects. Implementation depends largely on state financing of priority targets and their funding corresponds to 2 % of GDP annually. The projects have a strong focus on social issues and infrastructure construction, while the broader preconditions for entrepreneurship and economic growth have received less attention. Current policies such as import substitution emphasize security over economic growth.

The pursuit of heavily state-led development policy is risky for Russia. Its institutional environment remains vulnerable to rent-seeking and redistribution of public funds to narrow groups of elites. Moreover, major institutional reforms require a broad-based aspiration to changes shared among members of society generally – and there is no evidence that such a consensus exists in Russia at the moment. The substantial drop in hydrocarbon revenues as other countries decarbonize to meet

their climate targets could bring about the needed moment of reckoning on structural reform for Russia, but getting there is likely to be a difficult process.

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