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Iikka Korhonen

Russia's growth potential post-COVID-19

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Bank of Finland
BOFIT – Institute for Emerging Economies

PO Box 160
FIN-00101 Helsinki

Phone: +358 9 1831

Email: bofit@bof.fi
Website: www.bofit.fi/en

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Iikka Korhonen[1]

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Abstract

This paper updates my earlier calculations on Russia's long-run growth potential using a standard growth accounting framework in which GDP growth depends on available labor, capital and efficiency in combining them, i.e. total factor productivity. Russia's economy has grown relatively slowly during the past decade, partly because of declining labor force. In my revised framework, growth recovers after the negative COVID-19 shock, but remains subdued as the working-age population continues to dwindle. Productivity growth remains lower than in the early 2000s, while average GDP growth settles at approximately 1.5% p.a.

[1] Bank of Finland, iikka.korhonen@bof.fi

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1. Introduction and summary of results

This brief updates Korhonen (2015) by assessing Russia's growth potential after the COVID-19 pandemic using the growth-accounting framework. Russia's demographic developments are shown to play a significant role in its growth prospects. Indeed, Russia's growth potential is weak as the working-age population is almost certain to decrease significantly over the next two decades. These new results, which are broadly consistent with those of Korhonen (2015), bolster the view that rapid growth in fixed capital investment is unlikely in coming decades. Hence, the assumptions about the capital stock's growth rate have been revised down.

The COVID-19 pandemic has clearly affected the Russian economy. The IMF's World Economic Outlook of October 2019 expected Russia to grow by 3.0% in 2020. In fact, Russia's GDP dropped by 3.0%, which was still among the smallest hits taken by G20 countries, with the only positive growth posted in 2020 by China (GDP up by 2.3%) and Turkey (GDP up by 1.8%). Notably, the structure of the Russian economy shielded it from the worst effects of COVID-19. In addition to the relatively minor contribution of tourism and relatively low fraction of output generated by small firms, Russia's energy sector has been relatively resilient to the pandemic even with constraints on crude oil output under the OPEC+ agreement between Russia and OPEC members.

I use the most recent forecast for 2021–2023 from BOFIT (2021) to fix the starting point of the long-term economic trajectory up to 2040. Russian GDP growth has been fairly subdued since the Global Financial Crisis in 2008. The imposition of sanctions by the West in 2014 on Russian entities and individuals in response to the annexation of Crimea and unlawful actions in eastern Ukraine obviously impacted growth (Korhonen, 2019), but there was already been a marked deceleration in growth well before the imposition of sanctions.

Russia's working-age population, which entered into decline over a decade ago, will continue to diminish during the next two decades. Immigration and raising of the retirement age can alleviate some of this contraction, but such measures are insufficient to stem the declining trend. Russia's gross capital formation has been enough to increase its capital stock for some time now, but it is hard to foresee a sustainable acceleration in the rate of capital accumulation. In the scenarios below, I assume relatively fast growth in total factor productivity (TFP) in comparison to Russia's most recent past. Relatively high TFP growth in the short-run is justified by the Russian economy's clear potential for catching up. As it approaches the global frontier, however, Russia's TFP growth will decelerate.

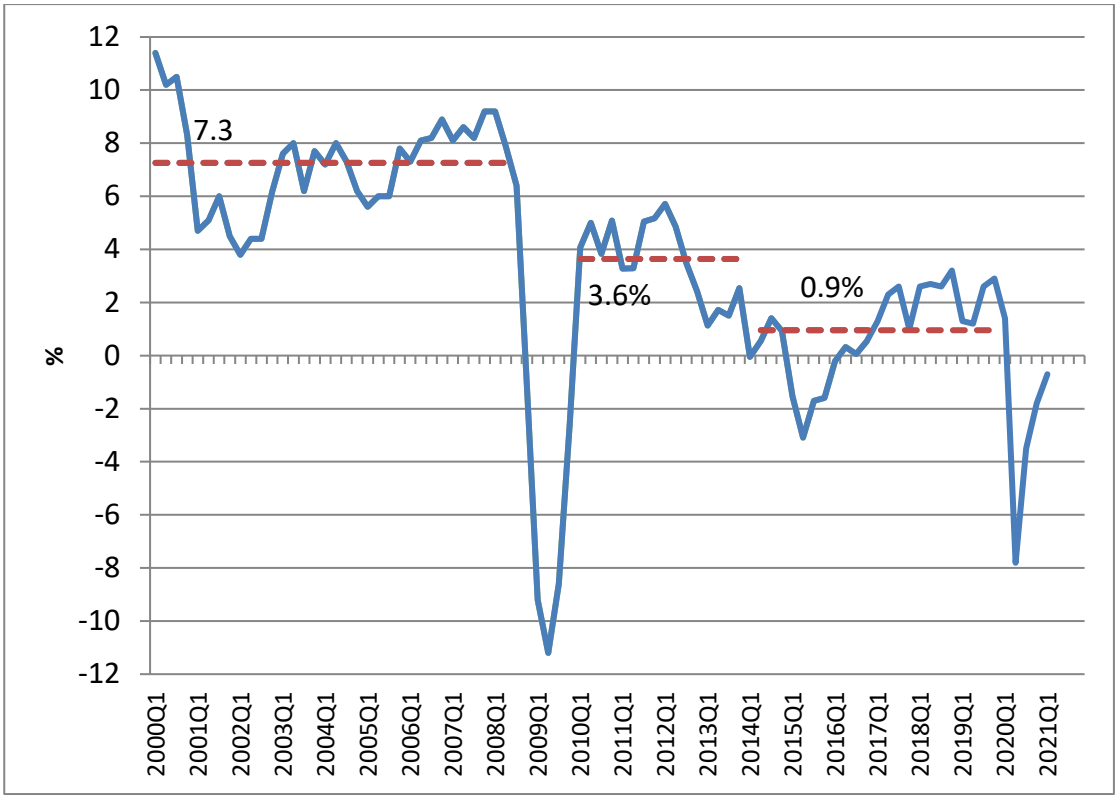
These three trends in combination suggest that Russia's growth potential, even under the most favorable scenarios, is only about 1.5 percent p.a. over the next two decades. This is substantially lower than the growth rates during 2000–2008, when Russia's real GDP expanded on average by almost 7.5% p.a. Moreover, most risks to the growth scenarios are on the downside. While it is uncertain how long the negative effects of COVID-19 pandemic will persist, the waning share of Russia's contribution to the global economy is certain.

2. Recent developments in the Russian economy

Between 2000 and early 2008, the Russian economy grew at a swift pace with GDP growth averaging close to 7.5% (Figure 1). Since the Global Financial Crisis in 2008, however, Russia has never attained such rapid growth, even with recoveries in oil prices. Moreover, Russian GDP growth decelerated from 2011 to 2015. Just ahead of sanctions and the oil price collapse, GDP

growth topped out in the second quarter of 2014. Russia regained that level in the third quarter of 2017, but thereafter quarterly GDP year-on-year growth rates oscillated between 0.5% and 2.5% until the second quarter of 2020, when GDP declined by 8% from the same period the year earlier. The V-shaped COVID-19 dip in 2020 amounted to a mere 3% contraction in GDP, suggesting (at least initially) that Russia was less affected by the pandemic than many of its peers.

Figure 1. Russian GDP growth 2000–2021, year-on-year



Sources: Rosstat and own calculations.

In the short-run, oil prices may be the most important single factor affecting Russian economic development. Crude oil, oil products and natural gas account for roughly two thirds of Russia's merchandise exports. The energy sector accounts for approximately half of the tax intake at the federal level, and around 20% of the total public sector tax intake.

Deryugina and Ponomarenko (2014) use a large Bayesian VAR model to assess the relative importance of various macroeconomic factors in explaining short-run evolution of Russia's GDP. They find that the oil price, when combined with demand from the EU, is enough to forecast and explain most short-run movements in Russian GDP. Rautava (2013) notes a similar dependence on the oil prices. More importantly, he finds that Russia's trend growth halved to approximately 2% after the global financial crisis.

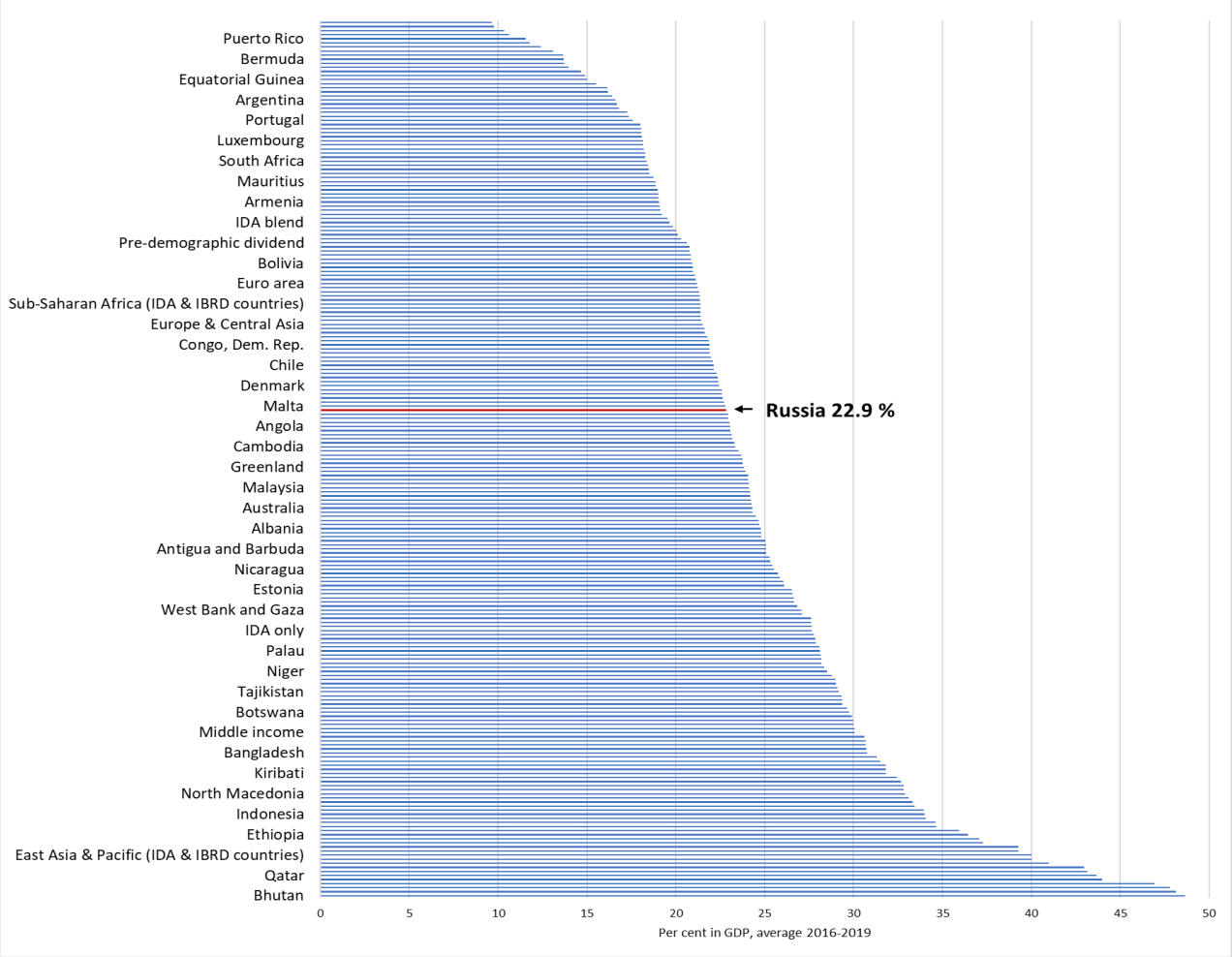
During 2014 and 2015, the Russian economy suffered visibly from the sanctions and uncertainty related to the annexation of Crimea and Russia's other actions against the territorial integrity of Ukraine. Western sanctions related to access to finance seem to have been particularly effective as Russia's banking sector has become much less integrated with the global financial markets. While oil price changes remain a more important source of variation in economic growth,

the International Monetary Fund (2019) finds that sanctions and Russia's counter-sanctions reduced Russia's GDP growth by 0.2 percentage points every year between 2014 and 2018.

In the longer run, Russia's economic growth has decelerated clearly after the global financial crisis, even in periods with higher oil prices. This is partly explained by demographic factors. Russia's working-age population started to decline a decade ago, even if the increased female labor-force participation rate helped to alleviate the problem for several years.

Another obvious problem for Russian economic growth is the low investment rate (Figure 2). Russia's investment rate, slightly above 20%, is lower than in most European high-income economies. Indeed, the majority of fast-growing European emerging economies have been able to maintain investment rates around 30% of GDP or higher for several years. Russia's challenging business environment has often been mentioned as a major impediment to investment and productivity growth in Russia (see e.g. Dabrowski, 2019, and references therein). Kudrin and Gurvich (2015) offer some suggestions on needed reforms of the judiciary and the functioning of the civil service.

Figure 2. Gross capital formation, % of GDP, average 2016–2019



Source: World Bank.

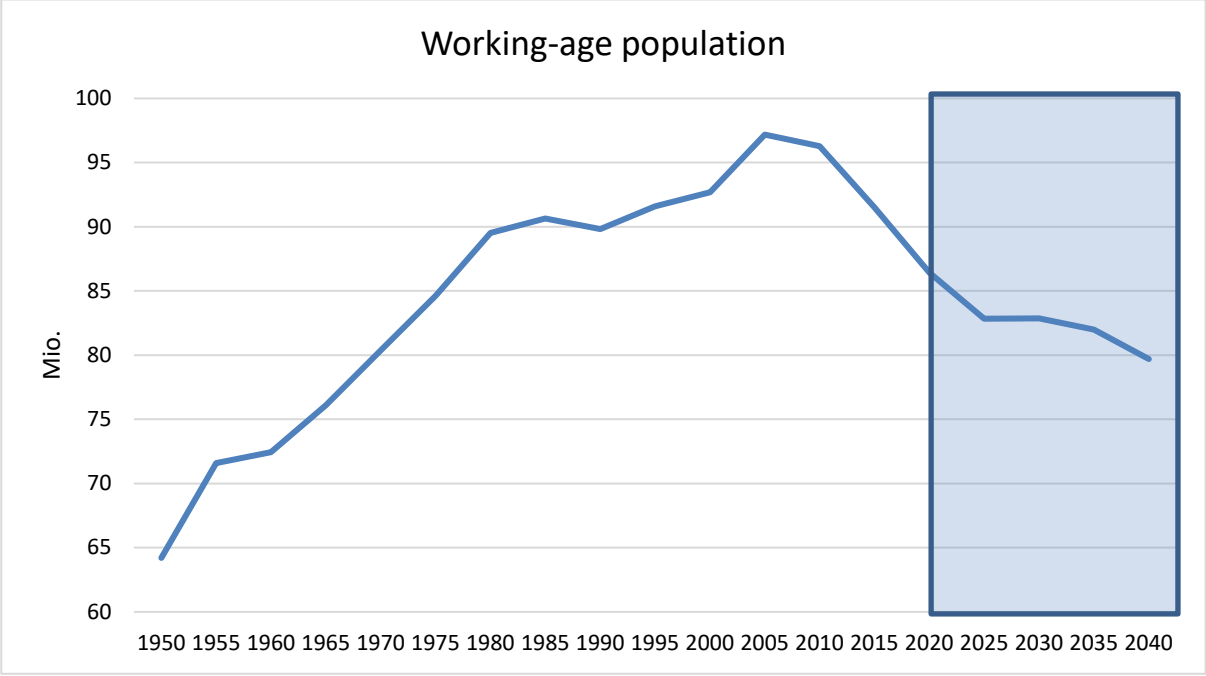
3. Long-run growth

In this section, I assess Russia's growth potential for the next two decades with a Cobb-Douglas production function. I write (in logarithms) growth in GDP y_t as a function of growth in labor supply l_t and capital stock k_t. Additional, an increase in total factor productivity a_t can help economic growth by allowing more efficient ways of combining labor and capital, often with the help of more advanced technology, but also with organizational innovations. I denote labor share in total output with α and capital share as β.[2] The Cobb-Douglas production function is:

$$y_t = a_t + \alpha l_t + \beta k_t.$$

Figure 3 shows evolution of Russia's working age (ages 15–59. With the pension age reform, Russia's official pension age was set at 60 for men and 55 for women up to 2018, thereafter increasing by six months each year until it reaches 65 for men and 60 for women in 2028. Forecasts from 2020 to 2040 are the "medium variant" from the United Nations (published in July 2019). While the accuracy of all demographic forecasts decreases as the forecast horizon increases, we can foresee the evolution of Russia's working-age population over the next 20 years relatively clearly as almost all people that will reach working-age have already been born. According to the UN's July 2019 prediction, Russia's working-age population is expected to decline from 86.4 million in 2020 to 79.7 million in 2040, which translates into −0.4% change annually on average.[3]

Figure 3. Russia's working-age (15-59) population, millions



Source: United Nations.

[2] I set labor share of income to 0.65, which corresponds to Russian national accounts. I also perform the same exercise with a labor share of 0.55. The results are nearly identical.

[3] Ignoring for a moment the illegal nature of annexing Crimea, adding population of that region to the calculation does not change any of the results – at least for the better. The United Nations population forecast expects net positive inward migration for Russia, but migration on the whole remains relatively small. In this regard, Rosstat's forecast ("median variant") is different as it presupposes much greater net inward migration every year between 2020 and 2040.

Estimating capital stock of any country is fraught with difficulties, but these problems are accentuated in countries that underwent the transition from a socialist command economy to a more market-based system. Nevertheless, we can hope that two decades after the start of transition also Russia's capital stock can be estimated with some degree of accuracy.

In Korhonen (2015) I used data calculated by Berlemann and Wesselhöft (2014), who use perpetual inventory method to estimate capital stocks for a wide selection of countries. While they updated their results in Berlemann and Wesselhöft (2017), I use even more up-to-date capital stock data from the latest version of Penn World Table (10.0, latest update February 18, 2021, PWT 10.0 | Penn World Table | Groningen Growth and Development Centre | University of Groningen (rug.nl).

Data from the PWT show a deep decline in Russia's capital stock from the start of economic transition to 2005. (A similar observation can be made using the data from Berlemann and Wesselhöft, 2017.) Russia's antiquated capital stock accumulated during the socialist era was simply not suited to a more market-based system, and thus needed to be drawn down. In addition, the economic and political turmoil of the 1990s was hardly conducive to long-term productive investment. In early 2000s, greater macroeconomic stability and higher oil prices induced resumption of fixed investment. By the mid-2000s, most of the economic transition away from the structures of the Soviet economy had likely happened. Since the mid-2000s, Russia's capital stock has grown between zero and 1.1% per annum. Between 2015 and 2019, the average growth rate of capital stock was 0.3%. I use this growth rate in the calculations. In an alternative "low" scenario, I assume that capital stock declines by 1% per annum for the next five years. In this scenario, Russia suffers protracted effects from the COVID-19 pandemic and possibly heightened geopolitical tensions.

There are a number of studies trying to estimate Russia's total factor productivity growth. Voskoboynikov and Solanko (2014) estimate that it grew 2.5% per annum between 1995 and 2008. Kuboniwa (2011) estimates TFP growth to have been 2.6% per annum between 1995 and 2010. Data from the Penn World Table indicate that TFP in Russia grew on average 0.9% per annum from 2015 to 2019. We can assume that this somewhat disappointing development has at least partially been caused by volatility in oil prices, sanctions and general geopolitical tensions, which have further rendered Russia less attractive as an investment destination.

With these assumptions, I formulate two scenarios for Russia's GDP growth in Table 1. In the baseline scenario, current geopolitical tensions have no negative effects on Russian economy in 2022 and beyond. In the low scenario, Russia continues to suffer from the COVID-19 pandemic in 2022–2025. Obviously, these two scenarios are the same from 2026 onwards. Total factor productivity growth bounces back from its recent lows in both scenarios, but eventually decelerates. Here, the assumption is that TFP growth decelerates as Russia slowly approaches the global technological frontier. It should be noted that TFP growth in this exercise is clearly higher in 2036–2040 than in recent years, which may be somewhat optimistic.

Table 1a. Baseline scenario for Russian growth

	Labor	Capital	TFP	GDP
2021-2025	-1.0 %	0.3 %	2.0 %	**1.5 %**
2026-2030	0.0 %	0.3 %	1.9 %	**2.0 %**
2031-2035	-0.2 %	0.3 %	1.7 %	**1.6 %**
2036-2040	-0.6 %	0.3 %	1.5 %	**1.2 %**

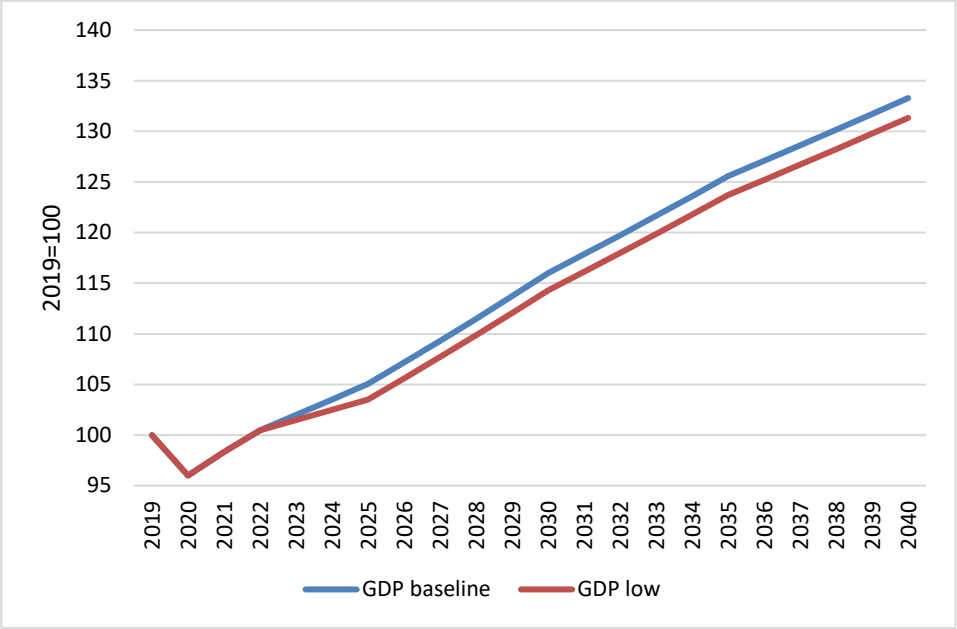
Table 1b. Low scenario for Russian growth

	Labor	Capital	TFP	GDP
2021-2025	-1.0 %	-1.0 %	2.0 %	**1.0 %**
2026-2030	0.0 %	0.3 %	1.9 %	**2.0 %**
2031-2035	-0.2 %	0.3 %	1.7 %	**1.6 %**
2036-2040	-0.6 %	0.3 %	1.5 %	**1.2 %**

Looking towards 2040, under the baseline scenario Russia's real GDP would be almost 35% higher than it was in 2019. If the first five years have less favorable developments as in the low scenario, GDP would be approximately 30% higher than today (Figure 4). One must assume a relatively fast productivity growth or a long-lasting investment boom in Russia to counter the adverse effects of demography. Thus, even TFP growth close 2% p.a. could be overly optimistic.

Is this slow or fast development? Between 2000 and 2008 Russian real GDP expanded by approximately 75%. Therefore, growth will be much slower than before, and slower than the growth to which Russians have become accustomed. But with lowered expectations, it is not a priori clear that even growth under the low scenario is intolerably slow. While both scenarios imply a significant drop in Russia's share of global GDP, it remains to be seen whether this reduction carries any political consequences.

Figure 4. Baseline and low scenarios for Russian GDP growth



Source: Own calculations.

4. Concluding remarks

The Russian economy entered in a low-growth mode a decade ago. With the COVID-19 pandemic, GDP in 2020 contracted about 3%. Prospects for speedy short-term recovery depend to a large extent on how long the pandemic continues and oil prices.

During the coming two decades, we should witness relatively low growth in the Russian economy. This is probably true for most of the world's economies, but compared to boom years between 2000 and 2008, Russia's growth slowdown is quite spectacular. Long-term factors like demography are beyond current administration's control, but, for example, the investment ratio could be higher in an environment with an improved business climate. Allowing more competition would foster productivity. In turn, potential enhancements in the business climate and productivity would help Russia diversify its economy. It should be noted that productivity growth is currently very low almost everywhere, which may mean that domestic reforms alone are not enough to lift Russia's productivity growth.

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