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Research Report

Russia's wartime investment boom

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Heli Simola

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Heli Simola

Russia's wartime investment boom

Abstract

A sharp increase in fixed investment has been a key factor supporting Russia's economy in recent years. This brief highlights the drivers of Russia's recent investment boom. During 2022, the first year of the full-blown war in Ukraine, investment growth was dominated by increased budget spending, war-related investment in construction of transport and warehouse infrastructure, as well as investment in oil & gas production in western Siberia. In 2023, the emphasis in investment growth shifted to firms funding investment out of pocket and manufacturing, particularly firms involved in war-related or resource-intensive branches. Although intellectual property (IP) only represents a small share of Russia's total investment, IP investment has increased sharply in recent years.

Keywords: Russia, war, economy, investment

1. Introduction

A key factor in Russia's GDP return to growth in 2023 was robust growth in fixed-asset investment. The level of gross fixed capital formation (GFCF) was nearly 17 % higher in 2023 than in 2021. Such high GFCF growth is striking particularly in Russia's case as GFCF only grew by 2 % between 2011 and 2019. Indeed, GFCF only averaged 21 % of GDP in the 2011–2019 period. The lack of fixed investment has long been a key factor depressing Russia's long-term growth prospects (Korhonen, 2021; Simola, 2021).

In this brief, we examine Russia's recent investment boom as recorded in the investment data provided by Russia's state statistical office Rosstat. While uncertainty related to Russian statistics has increased since the invasion of Ukraine, we have yet to see evidence of systematic or large-scale manipulation of statistical information. While the growth numbers can be imprecise, Russian investment has clearly increased in recent years. Thus, examining the structure of investment growth should yield insights into future economic output and the growth potential of the Russian economy.

Our analysis suggests a shift in the drivers of investment growth between 2022 and 2023. In 2022, investment growth was characterized by higher share of budget financing, construction of transport and warehouse infrastructure (particularly in regions bordering Ukraine or hosting military industry), as well as investment in mining & quarrying activities (particularly oil & gas production) in Western Siberia. In 2023, companies were more likely to finance fixed investment out of pocket, and there was a shift to investment in manufacturing (especially war-related manufacturing). The emphasis in mining & quarrying investment shifted to eastern Siberia. Investment in intellectual property (IP) sharply increased in recent years, but still only represents a small share of overall investment.

Section 2 of this brief examines the investment growth drivers more generally by funding sources, investment types, regions and industries. Section 3 presents more detailed analysis of investment at the regional level, budget funding and IP. Section 4 concludes.

2. General drivers of investment growth

We start by examining some of the more salient features of Russian fixed investment in recent years, particularly funding sources, types of investment and emphasis by region, industry and category.¹ Our focus is on changes in investment patterns since the Russia's invasion of Ukraine.

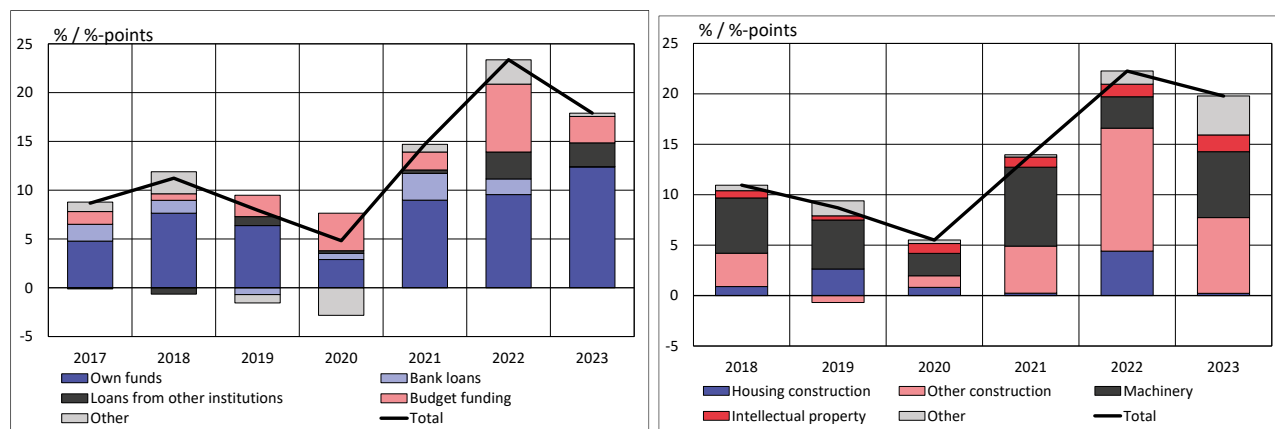
Turning first to *funding sources*, we see a major shift in 2022 in the contribution of budget financing to fixed investment growth (Figure 1, panel A). Contributions from financing by loans from other institutions than banks and other financing sources were also higher than in preceding years. In 2023, the growth contribution of budget-financed investment declined and was partly replaced by out-of-pocket corporate investment. The share of foreign financing has always been small in Russian investment, but in recent years it has dwindled to negligible levels.

Regarding growth contributions by *investment type*, we see construction activity boomed in 2022 (Figure 1, panel B). While housing construction was up from previous years, the main driver of growth by far was "other construction", including e.g. infrastructure. The importance of construction

¹ Due to Rosstat's varying reporting conventions, we use data in both nominal and constant prices. Moreover, some statistics are reported for all companies (including an estimate for small and medium-sized enterprises), while some data cover only large corporations and exclude small and medium-sized enterprises (SMEs).

as a driver of investment declined in 2023, while the importance of machinery investment increased. IP investment soared, but still only represented 5 % of total investment in 2023.

Figure 1. Contributions to growth in (nominal) fixed investment by A) funding sources and B) type of investment.



Note: Rosstat reports these data only in nominal terms. Investment by funding sources does not include SME investment, while investment by investment type includes an estimate of also this investment.

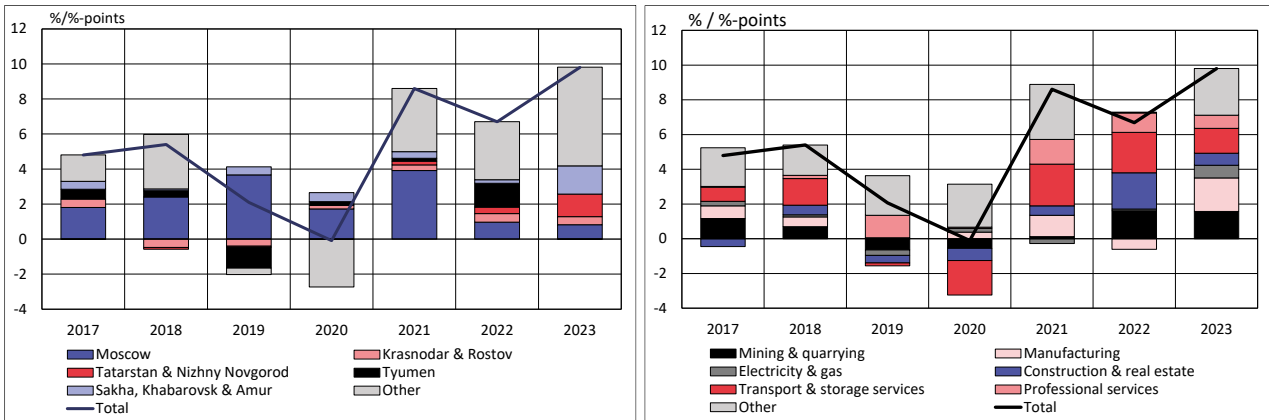
Source: Rosstat.

Moscow, long the top *regional driver* of investment growth, lost its spot in 2022–2023 (Figure 2, panel A). In 2022, the largest contribution in regional terms came from the Tyumen region as an aggregate (equally split between Khanty-Mansiisk and Yamalo-Nenets) for the first time in many years. Relatively large contributions were also recorded for Krasnodar and Rostov regions bordering Ukraine.² The top regions driving investment growth shifted again in 2023, with the role of the Tyumen region waning and the Far Eastern regions of Amur, Khabarovsk and Sakha making substantial contributions to investment growth. The military industry hubs of Nizhny Novgorod and Tatarstan also became important drivers of investment growth in 2023.

Looking at the *industry-level distribution of investment*, we see that in 2022 and 2023 the role of mining & quarrying industry as a driver of investment growth reached its highest level in many years (Figure 2, panel B). In 2022, other key investment drivers included construction and real estate services, as well as transport and storage services. The role of construction and real estate services declined in 2023, with manufacturing replacing those sectors as a key driver of growth. The contribution of transport and storage services was, however, still substantial in 2023. Professional services also contributed significantly to investment growth, although this sector had already recorded large contributions in the years preceding the war.

² For more on war-related construction in Russian regions bordering Ukraine, see Vesala (2023).

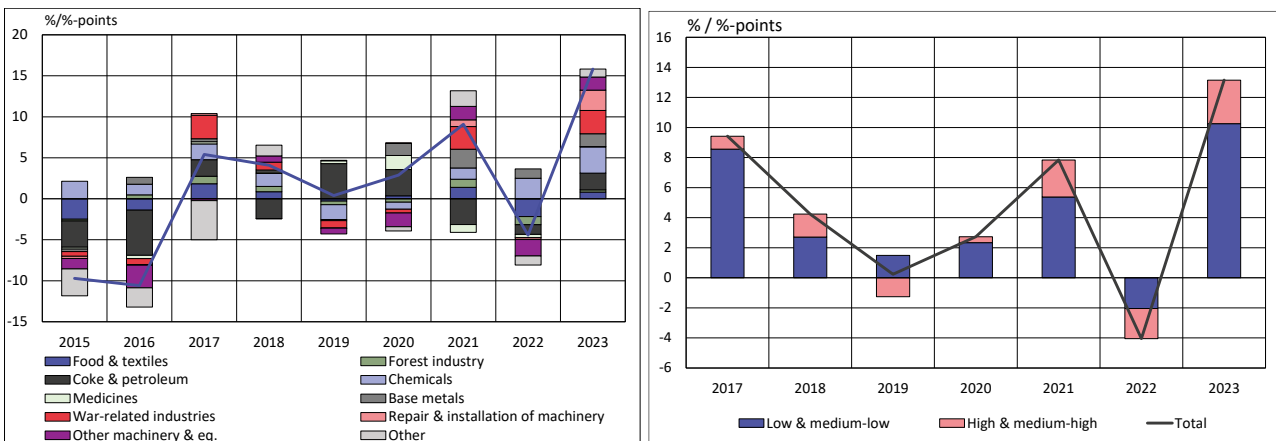
Figure 2. Contributions to growth in (real) fixed investment by A) regions and B) industries.



Note: Investment reported in constant prices.
Source: Rosstat.

Focusing on *manufacturing*, we see that in both 2022 and 2023, the big contributors to manufacturing investment growth were chemicals and base metals (Figure 3, panel A). War-related industries and repair of machinery rose again in 2023 as major drivers of investment growth similar to 2021 after dipping in 2022.³ The coke & petroleum industry made a relatively large contribution to investment growth in manufacturing in 2023. Investment growth mainly originated from Russia's most raw-material-intensive manufacturing industries. Simply dividing the manufacturing sector into low- and high-technology industries reveals that investment growth largely relied on low-tech industries, particularly in 2023 (Figure 3, panel B).⁴

Figure 3. Contributions to growth in (real) fixed investment in manufacturing industry by A) industry and B) technology intensity.



Note: Investment reported in constant prices.
Source: Rosstat.

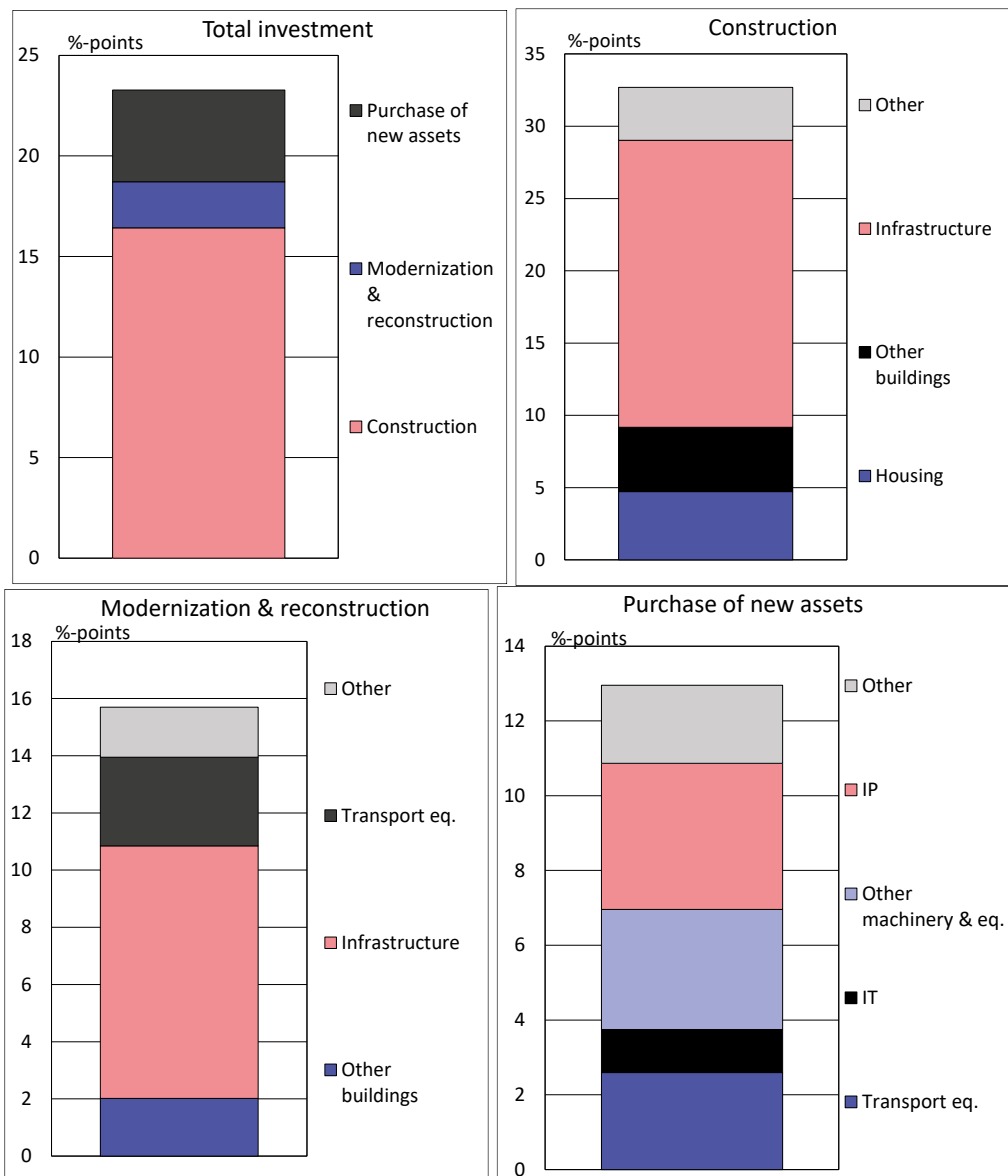
Rosstat provides additional information on the distribution of investments. Here, we focus on 2022 for which we have detailed data (2023 detailed data were not yet available at the time of writing).

³ War-related industries refer to manufacturing of fabricated metal products, manufacturing of computers and electronics and manufacturing of other transport equipment (Simola, 2023).

⁴ We follow the classification used by Eurostat, with the exception that in the Russian case we define the chemicals industry as a medium low-technology industry rather than medium high-technology industry.

The detailed data also suggest that construction (and infrastructure construction in particular) was the main growth driver of investment in 2022 (Figure 4). This applies to new construction, modernization and reconstruction. Airports saw particularly sharp growth in investment spending, with the value of investment more than doubling in 2022. The growth in investment in roads and railways was about 50 % (in nominal terms). For modernization and reconstruction investment, the growth contribution of transport equipment was relatively large. Transport equipment also made a relatively large contribution to growth in investment for purchasing new assets. The largest contribution came, however, from acquiring IP-related assets.

Figure 4. Contributions to (nominal) fixed investment growth by category in 2022.



Note: Investment reported in nominal prices.
 Source: Rosstat.

So our analysis suggests that the drivers of investment growth have been quite different in 2022 and 2023. In 2022, investment growth was led by budget funding and construction, particularly non-

housing construction. In regional terms, Tyumen, Krasnodar and Rostov recorded unusually high growth contributions. In industry terms, main drivers of growth were mining & quarrying, construction & real estate and transport & storage services.

However, the contribution of firms' own financing in 2023 was the highest in years. Machinery investment also became more important as a growth driver than construction. Unusually large growth contributions were recorded for the Far East regions of Amur, Khabarovsk and Sakha, as well as Nizhny Novgorod and Tatarstan in the Volga region. In industry terms, the largest growth contribution came from manufacturing in 2023, particularly from the chemical and metal industries, while mining & quarrying and transport & storage services remained important investment growth drivers.

3. Specific investment trends

In this section we examine in more detail certain more specific issues. First we take a closer look on distribution of investment by regions and industries. Then we focus on investment funded by budget spending. Finally we also examine intellectual property investment in more detail.

3.1 Investment by regions and industries

We now examine the distribution of investment by region and industry in 2022. Slightly more than half of the investment in mining & quarrying went to the Tyumen region (almost evenly split between Khanty-Mansiisk and Yamalo-Nenets). Khanty-Mansiisk has long been Russia's largest oil production region, while Yamalo-Nenets accounts for the majority of Russia's natural gas production. In addition, 14 % of the mining & quarrying investment went to the Far East Federal District, mainly to Sakha, Habarovsk and Sakhalin regions. Another 13 % of mining & quarrying investment was directed to the Siberian Federal District, specifically the Irkutsk, Krasnoyarsk and Kemerovo regions. Kemerovo is one of Russia's main coal producing regions.

For construction and real estate service investment, the main cities and their surrounding regions (Moscow, Moscow region, St. Petersburg and Leningrad region) accounted for over half of the investment in 2022. Their share in transport and storage services was about 30 %. Other major regions for both construction and transport service investments were largely the same as for mining & quarrying investment, which suggests that these investments were also related to the mining & quarrying sector. For transport & storage investments, the shares of the Nizhny Novgorod, Tatarstan, Krasnodar and Rostov regions were also relatively large.

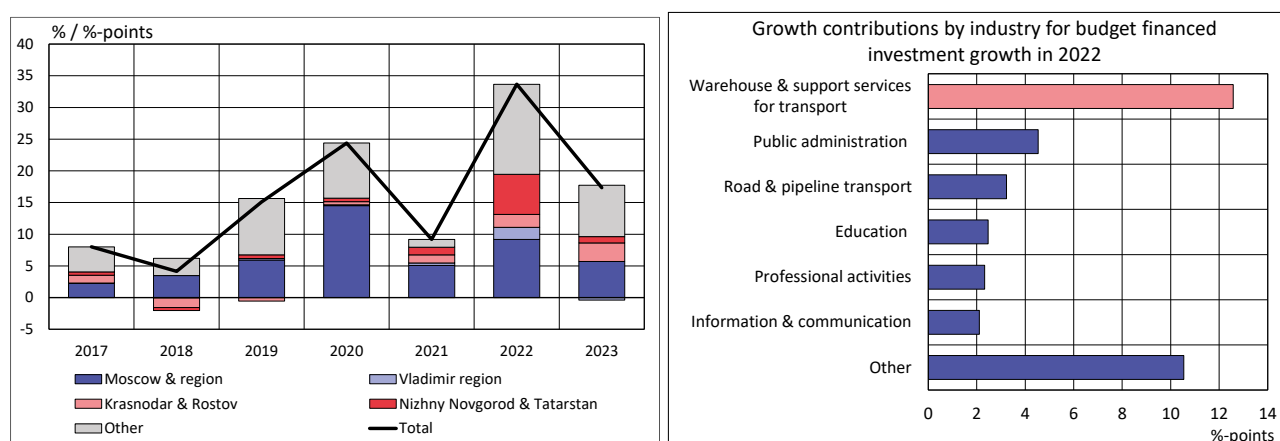
3.2 Budget-financed investment

Taking a closer look at investment financed by budget funding shows that there was an exceptional spike in the growth contribution of Nizhny Novgorod, Tatarstan and Vladimir region in 2022 (Figure 5, panel A). These contributions fell considerably already in 2023. The contribution of Moscow and Moscow region was also atypically high in 2022 (similar to the pandemic year 2020) but returned close to the level of previous years in 2023. The contributions of the Krasnodar and Rostov regions increased further in 2023.

In terms of industries, we only have data on budget-financed investment for 2021–2022. The largest growth contribution by far originated from warehouse and support services for the transport

sector (Figure 5, panel B). Other major growth drivers have been public administration (including defense), land transport & pipelines, education and professional, scientific and technical activities. This suggests that budget-financed investment in 2022 largely went to transport infrastructure supporting the military-industrial complex (Nizhny Novgorod and Tatarstan regions) and the war effort itself (Krasnodar and Rostov regions).

Figure 5. Contributions to growth in budget-funded investment by A) regions in 2017–2023 and B) industries in 2022.



Note: Investment reported in nominal prices.

Source: Rosstat.

3.3 Intellectual property and technology investment

A notable development in recent years has been the sharp increase in Russia's investment in intellectual property, albeit from a very low starting point. In regional terms, Moscow accounts for the lion's share of IP investment. The contribution of Moscow to IP investment growth has slightly increased during the past years (Figure 6, panel A).

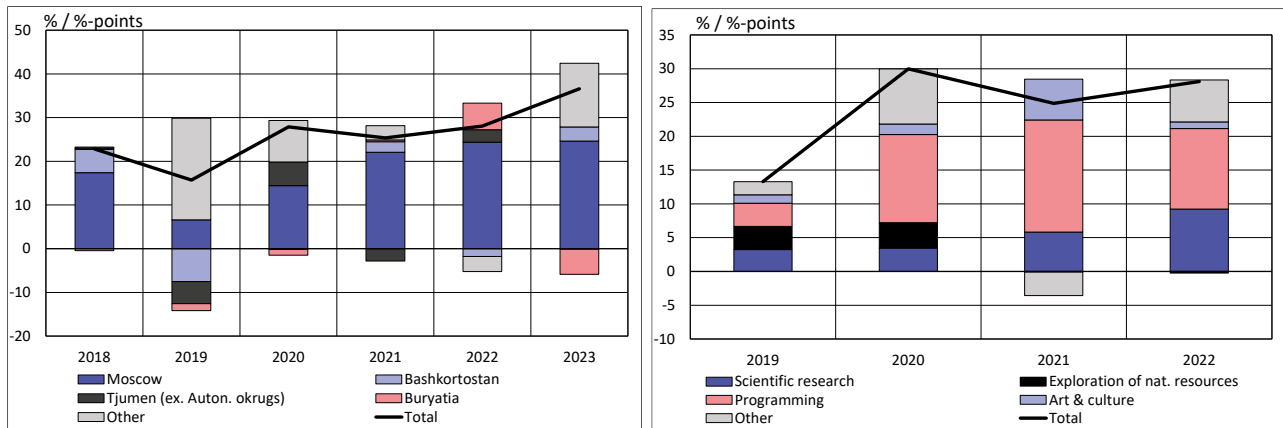
The most notable change in 2022 is the sharp increase in the contribution of Buryatia. The value of IP investment more than trebled in 2022 by what appears to be a one-off investment. Buryatia is a key production hub of aviation equipment in Russia, mainly serving the military industry. Other spikes in growth contributions were seen for Tyumen region (excluding Khanty-Mansiisk and Yamalo-Nenets) in 2022 and for Bashkortostan in 2023. Bashkortostan is an important producer of oil and products and services for the military industry.

In terms of regional specialization, Moscow unsurprisingly differs from other regions. The share of IP investment in total fixed investment was much higher in Moscow than the average for Russia. Other high-investment regions include Magadan, St. Petersburg, Orenburg and Astrakhan. The share of IP investment is relatively high in several raw-material intensive regions, including the Nenets autonomous okrug (apparently reflecting IP activities related to oil and gas production).

For the type of IP investment, we have data only up to 2022. In 2022, there were no huge changes compared to the previous years. The contribution of scientific research increased somewhat, while the contribution of programming declined (Figure 6, panel B). In contrast to previous years, the contributions of both exploration of natural resources and the arts were marginal in 2022. The sector-level data reveal that budget financing for computer programming and scientific research increased sharply in 2022. (In the case of computer programming, it was three times higher than in 2021.) In

these sectors, the share of budget funding in the total funding was well above the average (20 % of total investment in 2022): 28 % for computer programming and 36 % for scientific activities.

Figure 6. Contributions to (nominal) intellectual property investment growth by A) regions and B) investment type.



Note: Rosstat reports these data only in nominal terms. Investment by type does not include SME investment, while investment by regions includes an estimate of such investment.

Source: Rosstat.

4. Conclusions

The drivers of Russia's recent investment boom appear have shifted between 2022 and 2023. Our analysis highlights several important changes from the years preceding Russia's invasion.

In 2022, investment growth was supported by budget-financed investment in infrastructure construction in the sector of warehouse and support services for transport in Moscow area and military-industrial production hubs of Nizhny Novgorod and Tatarstan in the Volga federal district. A second growth driver was mining & quarrying investment in the traditional oil & gas supply regions of Khanty-Mansiisk and Yamalo-Nenets. This was accompanied with investment in related transport infrastructure in these regions. A third growth driver was construction investment in regions bordering Ukraine. Some of this investment was budget-financed and went to warehousing and support services for the transport sector.

In 2023, the main growth drivers shifted. While support from budget financing was still important, its contribution declined. Companies increased their out-of-pocket investment, and manufacturing replaced construction as the main growth driver. Within the manufacturing sector, the largest contributions came from raw-material-intensive industries, particularly the chemicals, metals and coke & petroleum industries. War-related industries and repair of machinery were also major drivers of investment growth.

While mining & quarrying still had an important contribution to growth in 2023, investment was directed at different regions than in 2022. The contribution of Tyumen region faded in 2023, while the Far East regions of Amur, Khabarovsk and Sakha rose as important growth drivers. Sakha, in particular, is a major raw-material-producing region. The contribution of military industry hubs of Nizhny Novgorod and Tatarstan increased further together with higher contribution from manufacturing industry which is probably related to increased investment in the military-industrial complex in 2023.

Our analysis highlights the surprisingly strong growth in investment in intellectual property. While the share of IP investment is still small relative to overall investment, budget-financed IP investment has grown notably. Computer programming has been the main driver of growth, but in 2022 the contribution from scientific research also increased. IP investment has traditionally focused heavily in Moscow, but in recent years there have been substantial IP investment peaks in certain individual regions, including Buryatia in 2022 and Bashkortostan in 2023. These spikes may reflect investments in military-related R&D.

Investment in Russia has increased substantially during the war years in a striking contrast to the preceding decade. Investment has been largely directed at various assets supporting Russia's war efforts in terms of infrastructure construction, military industry and intellectual property. In addition, resource-intensive industries such as mining & quarrying, manufacturing of coke & petroleum products and the chemical industry have been important drivers of investment growth. While such investment likely boosts Russia's output and war capabilities over the short run, it is unlikely to enhance Russia's long-term growth prospects.

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