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Quasi-Keynesian Model of Growth in Sanctioned Economies: Summarizing Experience of Iran and Russia

Nataliya Smorodinskaya & Daniel Katukov
Institute of Economics,
Russian Academy of Sciences
(Centre for Innovation Economy and Industrial Policy)

Российская академия наук

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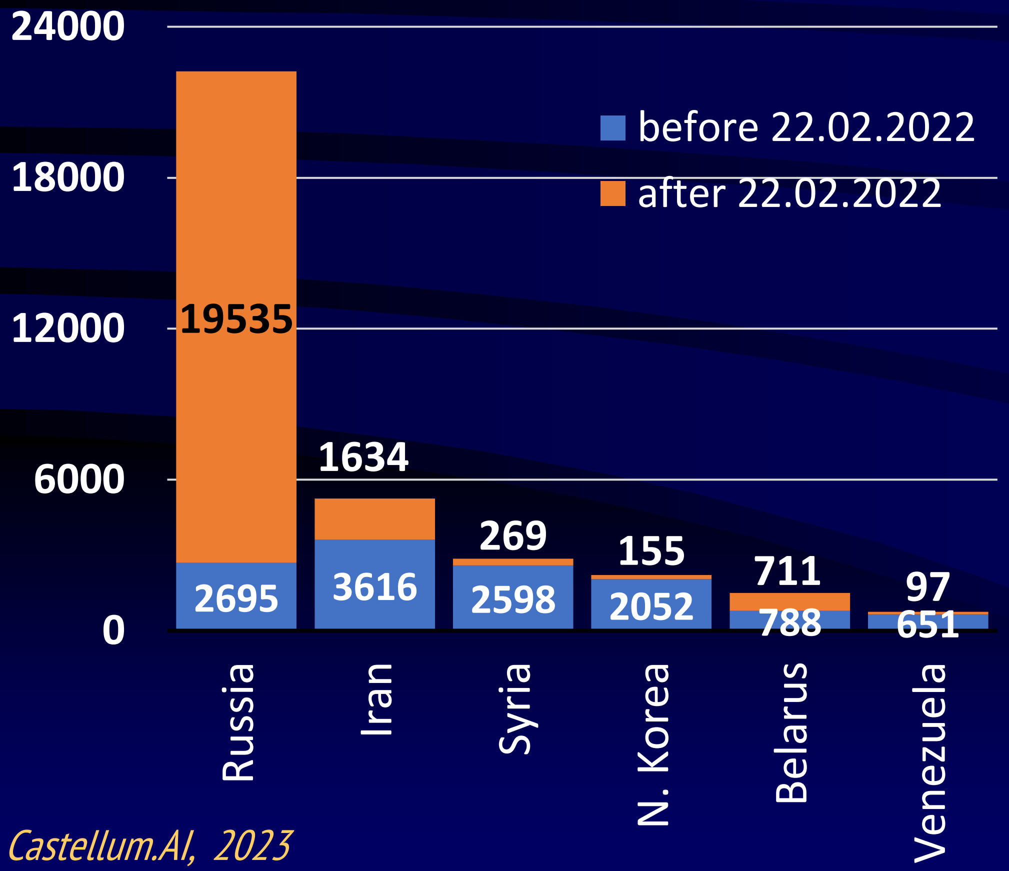
Our studies allow us to suggest that **collective sanctions affect oil-exporting economies mostly indirectly,** through pushing them to **a cost-intensive growth model that erodes their production capacity and public finances from within**

Cumulative number of sectoral and targeted sanctions on key target countries (as of **02.08.2024**)



Castellum.AI, 2023

The 2.5 years of sanctions against Russia are now marked by almost **22 000 direct restrictions and a growing number of secondary sanctions.** Nevertheless, Russia continues to run high growth rates without changing its behaviour

- It has promptly switched to Eastern partners and realizes its advantages as a global energy supplier
- It circumvents technological and critical import sanctions with the help of China and intermediation of the Global South countries
- In 2022, the abnormal rise in energy prices enabled Russia to earn windfall export profits and transfer them into a sharply increased military spending that happened to become a powerful driver of economic growth

➢ Since the 1st year of sanctions, **Russia has occasionally shifted to a system heavily dependent on fiscal stimulus,** which is typical for sanctioned countries and could be qualified as **quasi-Keynesian model**

Quasi-Keynesian model of growth under sanctions

The Keynesian idea: a sharp increase in budget allocations is meant to trigger a ripple and sustainable rise in market growth drivers *(consumer demand, private investment, export demand),* which allows the economy to grow, and the state, to reduce its role in investments *(Hartwig, 2008).* However, sanctions distort market self-regulation , making this multiplier effect weak and limited. **Sanctioned economies have to rely on the state as a single growth driver and depend on *a permanent fiscal stimulus*** *(growing subsidies, procurements, government orders, etc.).*

- As literature tells *(Hemming et al., 2002; Ramey, 2011; Elveren, 2022)*, a long-term reliance on fiscal stimulus gives rise to imbalances, causing the opposite effect **– slowdown in growth, acceleration of inflation**, **a fall in productivity**.

This problem may arise in any economy, but **sanctions aggravate it:**

1. Under shrinking oil and gas revenues and no access to international capital markets, governments are pushed to finance **their budget obligations in pro-inflationary way** (through emissions, tax increases, bonuses from inflation and currency devaluations).. This generates **a spiral of mutually reinforced factors that can destabilize the economy** (including high interest rates suppressing business activity).

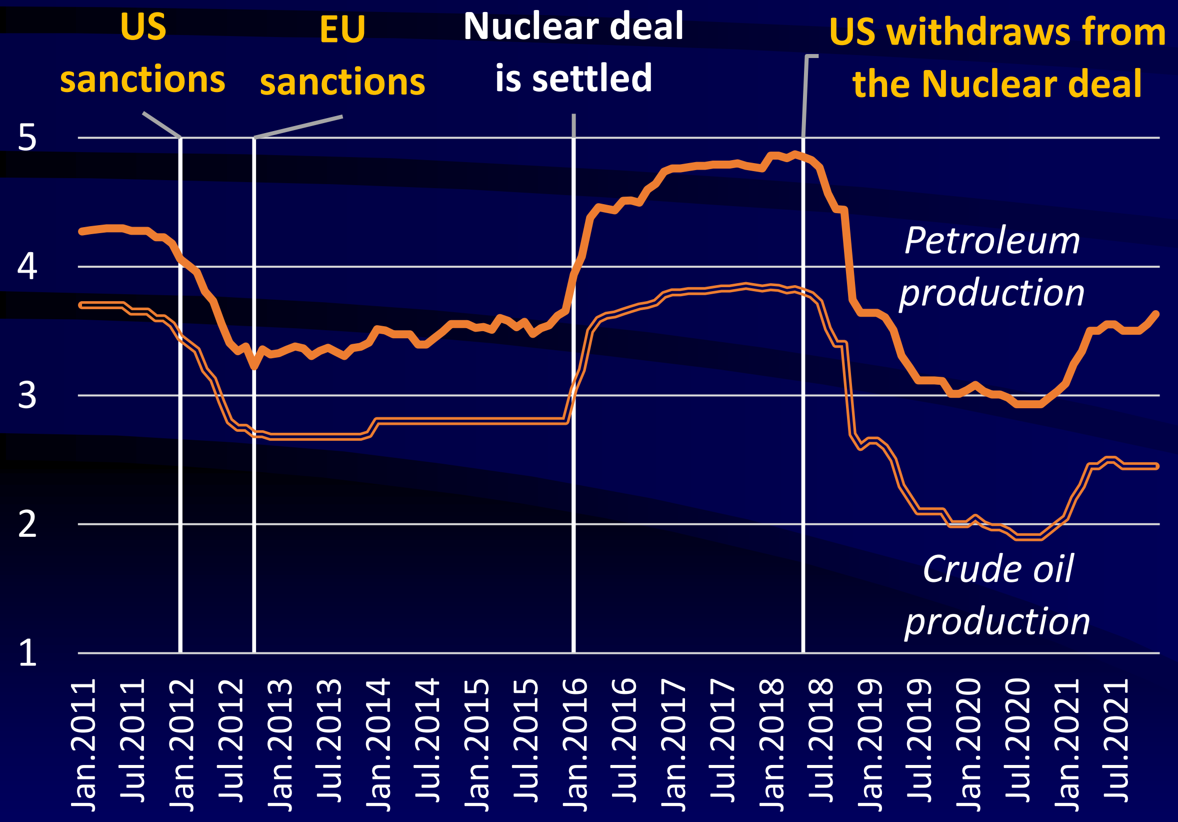
2. Skillful circumvention of sanctions may not save the economy from transformation shifts towards lesser complexity and greater transaction costs, which leads to **a persistent cost-push inflation** – a structural problem that cannot be mitigated even by double digit interest rates. As a result, the economy can plunge into **a chronic state of stagflation** (stagnation + inflation)

3. Growth model based on a permanent fiscal stimulus presents **a macroeconomic trap: it's easy to enter it under sanctions but difficult to exit.** As costs continue to rise under high inflation , an ever-increasing portion of budget injections is required to stimulate further growth. But any reduction in public spending may result in a deep downfall with loss of production facilities and labor force.

Smorodinskaya, Katukov, Malygin., 2023

Iran is a typical example of the quasi-Keynesian model deprived of the Keynesian multiplier effect.
Facing collective sanctions since 2011 (of US, EU and United Nations), it has become **a cost-intensive and imbalanced economy** deeply dependent on a permanent fiscal stimulus

Decline, recovery and further decline in Iran's oil sector, **2011-2021** (million barrels per day)



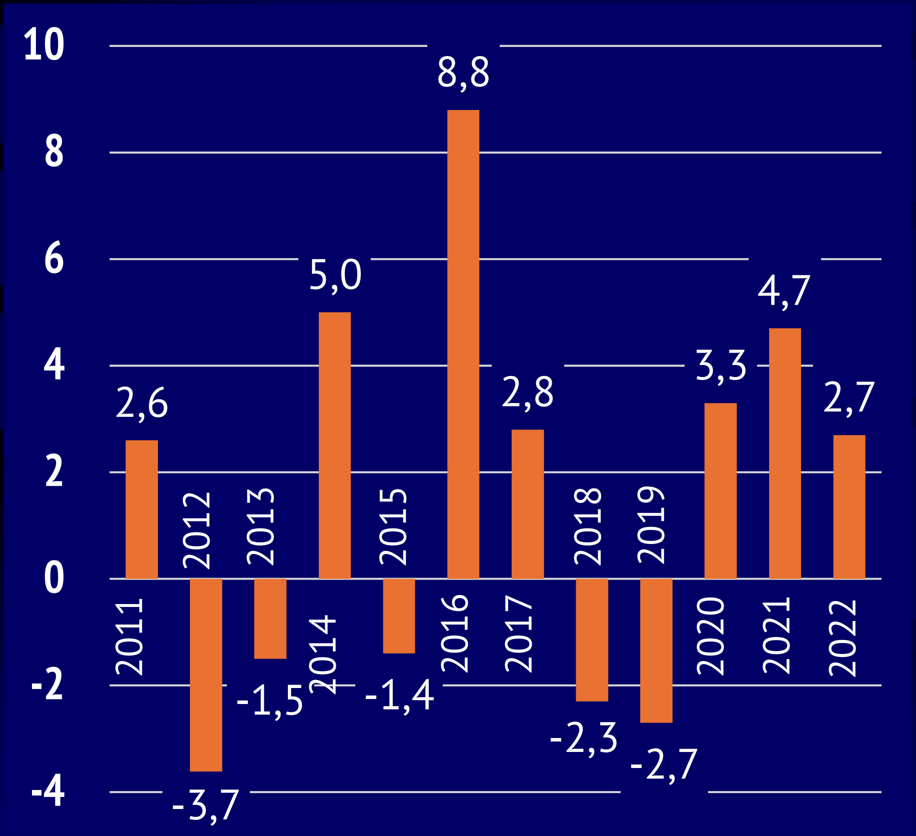
Energy Information Administration, 2022

- Iran's oil sector, and the entire economy, **could return to growth only when embargo was temporary lifted during the nuclear deal** (2016-2018,), and upon reintroduction of embargo, it slipped below the initial decline and had not recovered yet
- By 2021, Iran has lost about 80% of its annual oil export earnings (in current prices, ac. to OPEC), and practically its rich gas industry, lacking technologies and financial recourses to modernize its worn-out production base.
- In **2014,** Iran adopted **the "resistance economy«' doctrine** to replace critical imports, diversify exports, get out of recourse dependence, and develop innovations *(which became a benchmark for today's Russia)).* But it failed . IT and petrochemistry raised by fiscal stimulus remain unprofitable, **Iran's budget runs deficits** (at 4.5% of GDP, ac. to IMF) and **now is even more dependent than before on the oil prices dynamics**

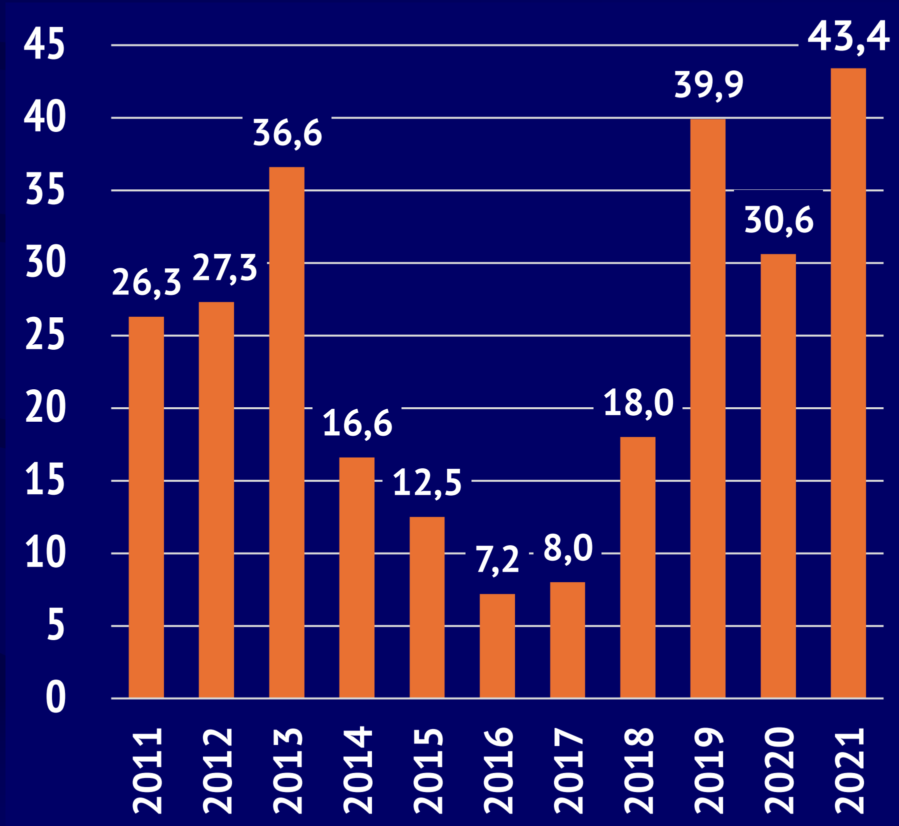
In Iran, long-term stagflation manifests itself in:

- chronically high inflation (30-40% per year) despite double-digit interest rates (prices have lifted 10 times in total for 10 years)
- frequent devaluations (the Rial has depreciated **8.5** times in total for 10 years),
- high volatility in GDP dynamics – downfalls alternate with rapid rebounds and new recessions, which results in **near-zero stagnation of 0.6% on the average** *(World bank, 2023)*

Volatile GDP dynamics, 2011–2022, % (YoY)



Two-digit inflation, 2011–2022, % (YoY)



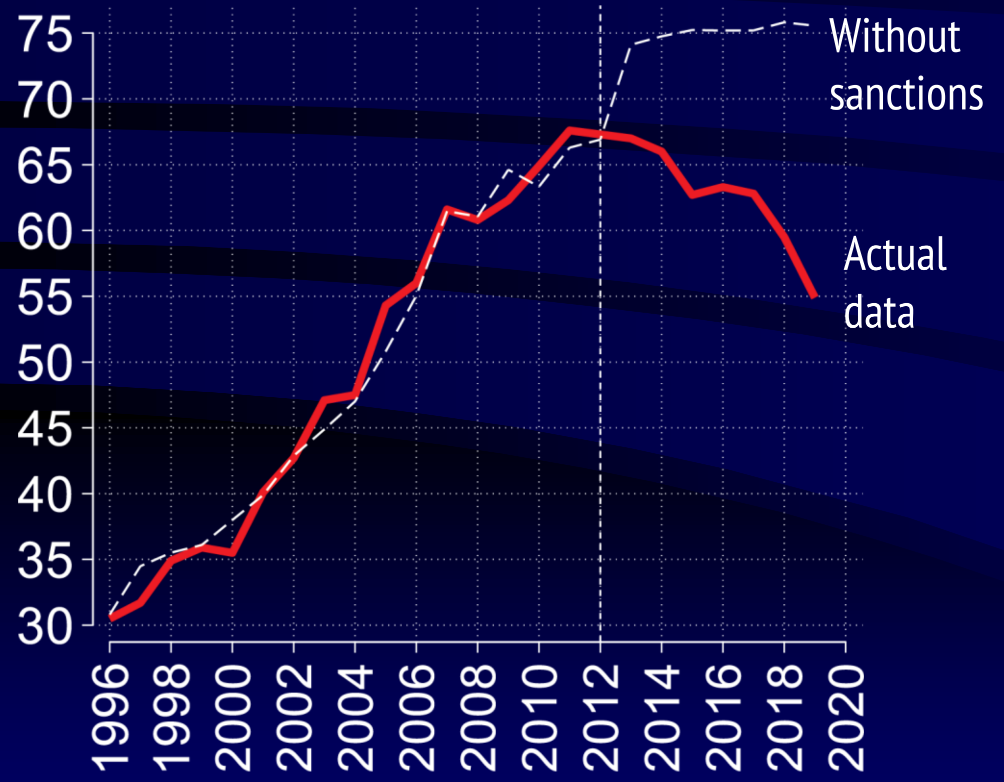
Authors' design from interactive databases of World Bank and OPEC

Iran faces years of lost output and wellbeing

- by 2022, Iranian real GDP remained at the 10 years ago level (2011), while **per capita GDP had fallen back to the level of 2005** (less $ 6000 at exchange rate) *(Kozhanov, 2022; World Bank, 2023).*

The share of middle class in Iran's population, %

Its upward trend started to decline in 2012. If not sanctions, it could rise to 75% instead of current falling to 55% , making a loss of 20 pp,, according to counterfactual modelling



Farzanegan, Habibi, 2024

The prolonged reliance on fiscal stimulus led to **dominance of quasi-state structures profiting from shadow earnings**, to greater corruption, to **erosion of middle class under decreased living standards, and to increased social inequality**

- minimum **40%** of labour force works in shadow sector (running salaries below minimal), and more than **60%** Iranians live below the social security line
- It looks like that **authorities can no longer afford their huge programs for social benefits and price subsidies** (for fuel, worth 1.6% of GDP) , facing growing social protests since 2019

In Russia, quasi-Keynesian model emerged as a special version of military Keynesianism, when GDP growth directly correlates with expansion of fiscal spending for military needs *(Elveren, 2022).* However, it **differs from traditional military Keynesianism** exactly as much as the quasi-Keynesian model in a sanctioned economy differs from the Keynesian one in an open market system

Regarding **the military spending effects,** modern economists **highlight the positive US experience during the Roosevelt era and the following Cold War** (when defense orders prompted the simultaneous development of civilian industries due to capital and technology transfers). But at the same time, they **recognize the unproductive nature of military output** – statistically, it is included in the increased GDP volume but actually, excluded from public consumption (*Elveren, 2022).*

Recent research in this area has found **two common trends across all countries:**

1. Increased defense spending **stimulates current GDP growth only temporarily** **(with a peak impact at the two-year level), and then positive impulse fades,** which halts growth, requiring even more government spending as with any other fiscal stimulus (Carter, 2021),

2. High defense spending has **a powerful squeezing effect on potential GDP and welfare**: military production diverts resource flows from more productive civilian sectors, which **reduces aggregate productivity.** These negative effects are **cumulative** and most pronounced over the long term *(Dunne, Tian, 2016).*

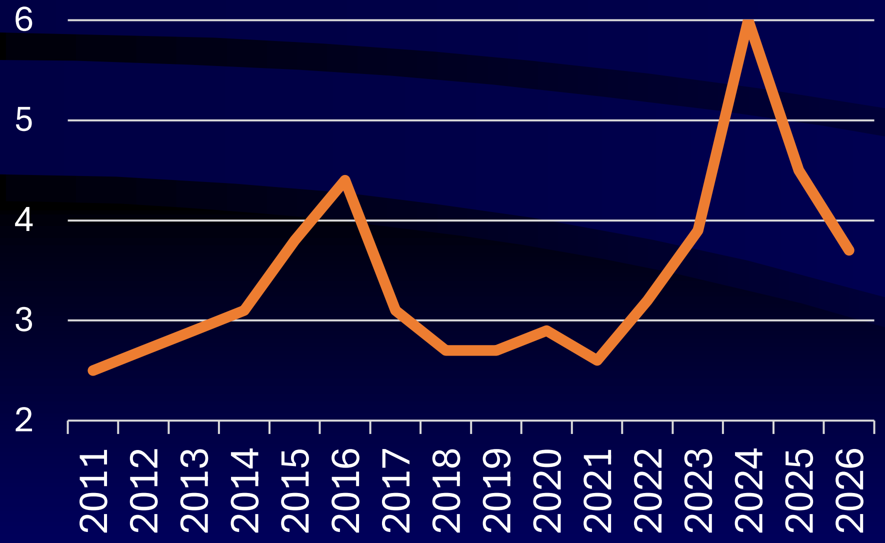
- the today's Russian economy seems a no exclusion from these trends

Russia's federal budget (tn. RUB)

	2021	2022	2023	2024 (plan)	%, YoY	Jan-Jul %, YoY
Revenue	25.3	27.8	29.1	35.0	**+20.3**	**+35.9**
Oil revenue	9.1	11.6	8.8	11.5	**+30.7**	**+61.6**
Non-oil revenue	16.2	16.2	20.3	23.5	**+3.2**	**+25.5**
Expenditure	24.8	31.1	32.3	36.7	**+13.6**	**+23.3**
Balance	0.5	−3.3	−3.2	**-1.7**	+1.5 tn.	+1.2 tn.

Ministry of Finance operational data

Military spending (national defense), **% of GDP**



2011-2021: Ministry of Finance ; 2022-2023: estimations (Law on fed. budget) ; 2024-2026: federal budget plan

Six key features of the Russian fiscal stimulus

1) **a sharp and steady rise in budget expenditures from 2022**, expected to be covered by oil rents and, even to a greater extent, by growing tax revenues. Extra money is attracted from NWF, bond loans, and emissions

2) **the share of military spending in GDP has doubled** from **3%** in 2022 to **6%** in 2024 *(which is higher than 5%-spending on social needs).*

3) **the stimulus includes two components:** defense orders and high military contract payments. Orders have revived the military-industrial complex (MIC) and are supporting industrial output, while payments support consumer demand and living standards in some depressed areas

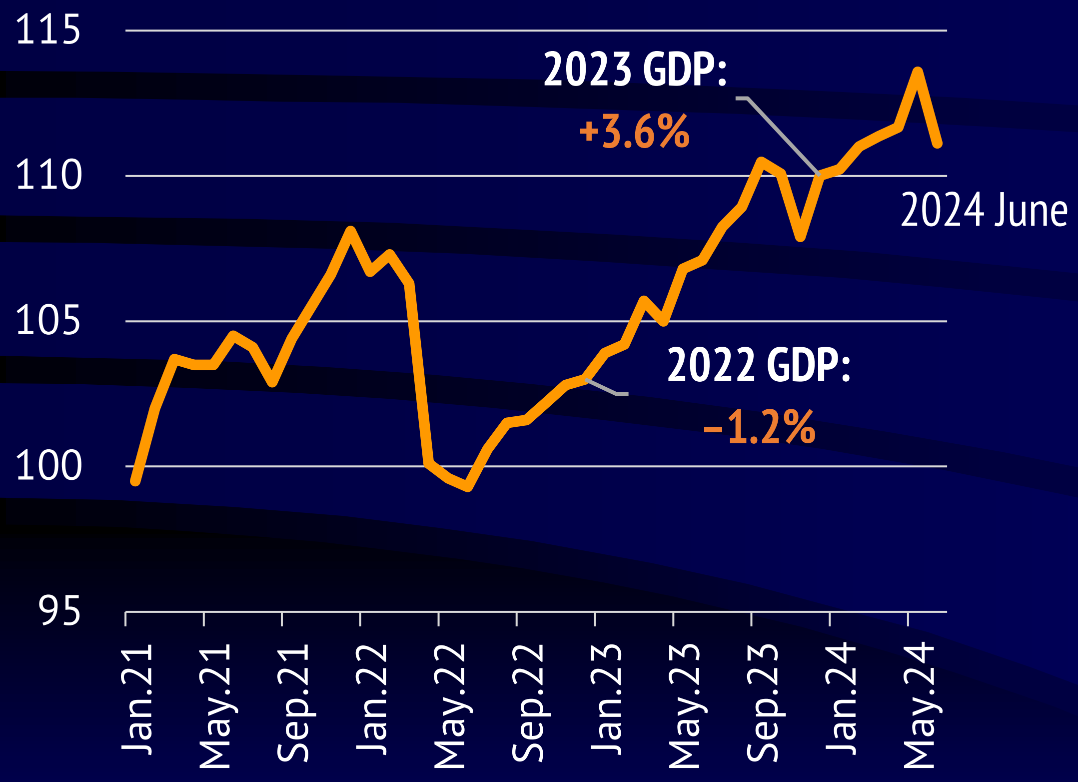
4) meeting the needs of MIC by the state became **the anchor of economic stabilization** at the end of the 1st year of sanctions and **the main driver of accelerated GDP growth in the 2nd and 3d years** *(Salnikov et al., 2023; Salnikov, Galimov, 2024; Vedev et al., 2024).*

5) historically, Russia has not seen technology and capital transfers from the non-market military enterprises to market-based companies. So, **defense orders do not entail an equivalent rise in civilian manufacturing sectors –** they lag behind the military sectors.

6) since 2022, **the economy has been increasingly fragmented into two parts** – **a growing segment of low-profit** (often unprofitable) **enterprises** whose costs are covered by the state, and **a declining segment of commercial enterprises** that are not linked with defense orders and bear the full burden of sanctions and inflation.

Budget allocations and defense orders provided **higher employment, incomes and wages for dozens of manufacturing enterprises within long military production chains**. This helped Russia sharply soften the 2022 recession, ensure accelerated recovery in 2023 (at a rate higher than the world average), and enjoy two years of GDP upsurge, despite sanctions.

Monthly index of economic activity in Russia, %
(Jan 2021 -Jun 2024, in real term, **2019 = 100**)



NRU HSE, 2024

- At the same time, this impressive dynamics in output was accompanied by **increasing structural disbalances, the Rb devaluation, upsurge of inflation.**, **and the wave of rising key interest rates.**
- Concentration of financial and labor resources in military sectors impeded possible rise in labour productivity.

In Russia, **growth stimulation has acquired a special, jagged cycle**

1) at the start of the year, large budget injections sharply accelerate investments and industrial output. But **in 5-6 months the multiplier effect gets exhausted, and the economy slows down**.

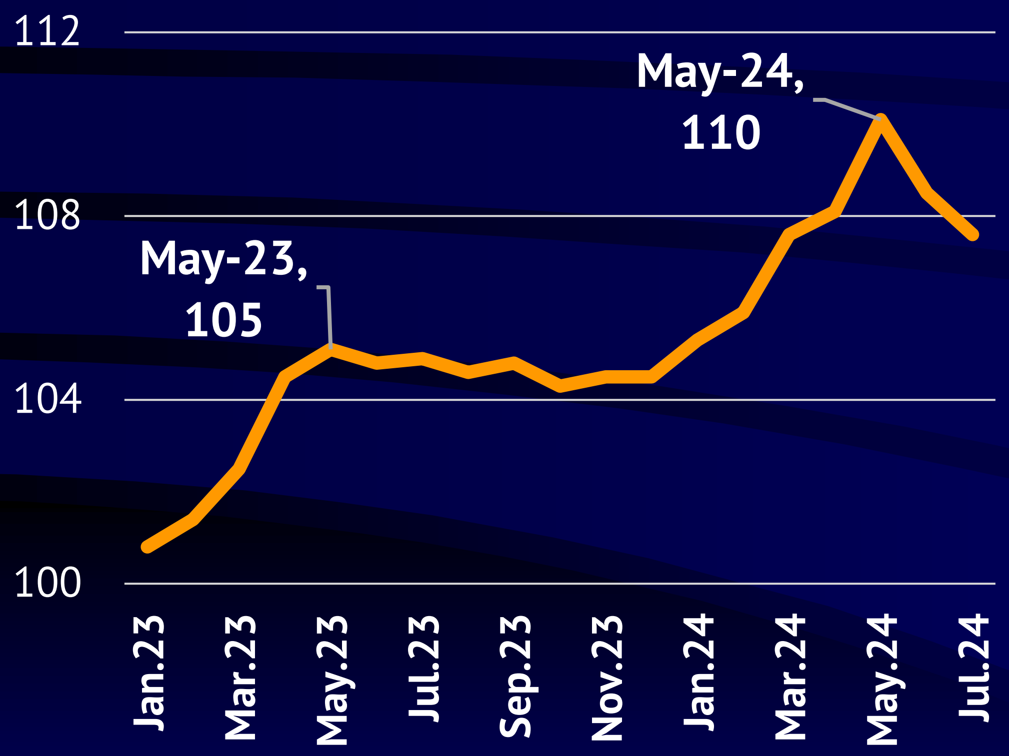
2) the initial boom gives an impressive increase in GDP at the end of each year, while in practice most industries are already in stagnation by this time.

3) then **the next budget injections keep the economy afloat and the round of industrial boom starts again**.

This jagged cycle of stimulating output is clearly visible in **the intermittent dynamics of the Russian industrial sector**

Upswings and stagnations in Russian industry

(average monthly index, %, **2021 = 100**)



Rosstat, August 2024

In the first months of 2023, industry experienced a rapid recovery. But **since May,** it has got into a protracted multi-month stagnation. **In January 2024**, a new round of budget spending provided another boom in industrial activity. But **after the top May upsurge**, most sectors have again experienced a serious slowdown.

The same is true for the whole economy *(CMASF data on 1.08. 2024)*
In the 1Q of 2024, Russia faced a new wave of industrial boom (4.6%). Since June, many sectors (raw materials, civilian manufacturing, construction, transport) showed stagnation.

- **This year annual GDP rate will again be impressive**, according to forecasts **(3.5 - 4.0%)** . But to avoid a stagflationary recession, Russia will most likely need another portion of military procurements.

Who does drive growth in the Russian economy (in booming phases)?

Within Russian industrial output, the **miming industry,** most affected by sanctions, is facing a slow decline trend since mid-2023, while **the main increase in output is provided by manufacturing industry**

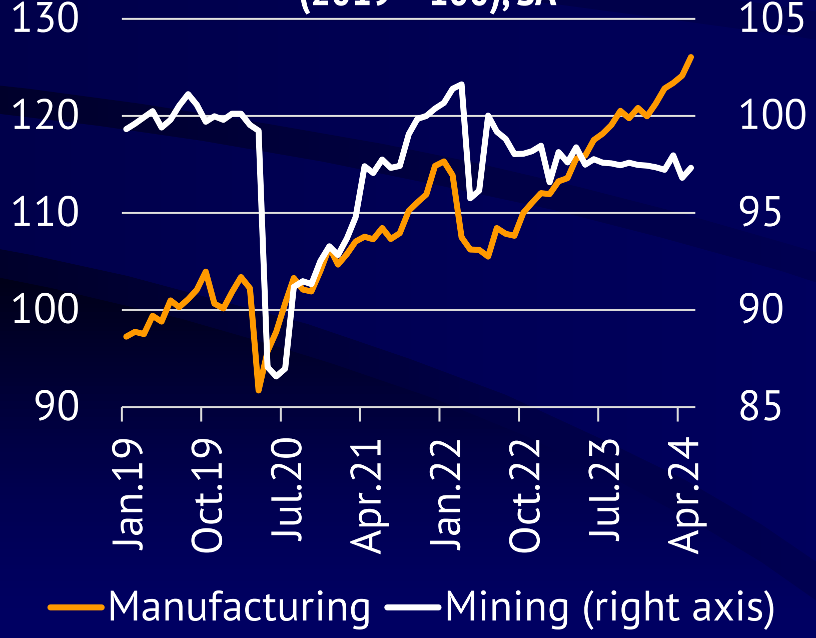
Within manufacturing industry itself the main growth driver is the sector of investment goods (‘*means of production*’), and within it – **the fast-growing “heavy” industries** associated with defense orders and needs of military-industrial complex. Meanwhile, **the dynamics of the consumer goods sector lags far behind** the sector of investment goods and especially, sharply behind “heavy” industries.

- **The growth is primarily driven by non-productive industries**
- **This poses the risks of inertial return to a closed Soviet-type system**

(output in means of production outpaces that of consumer goods, etc.)

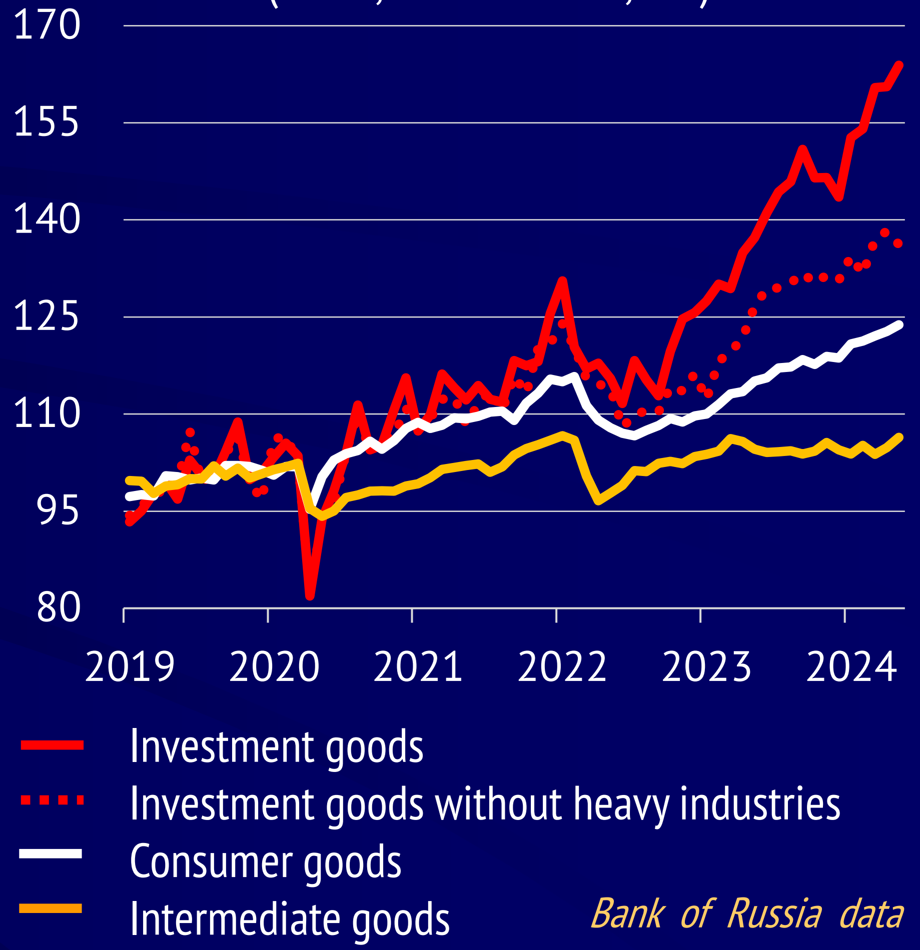
Mining and manufacturing indices, %

(2019 = 100), SA



Output in manufacturing industry by sectors, %

(Index, 2019 = 100 , SA)



Bank of Russia data

What is the main specific challenge for Russia's economic growth?

The economy entered a new growth model under **serious labor shortage** (demography gap in working age was aggravated by people's departure to the front and abroad).. The increased demand for labor under defense orders led to **abnormally low unemployment (2.4%)** and to **a wage race across all sectors** during the poaching of workers. Coupled with payments to military personnel, the wage race has sharply upsurged consumer demand. But **the production of consumer goods could not keep pace with the output of military products**

Russia has no reserves of free labour force left

(mln people, SA)

Bank of Russia data

- the economy faced **artificial overheating** and **fiscal overhang**, when the infusion of additional budget money does not create the supply of civilian goods to cover the increased demand of business and households
- **cost-push inflation was supplemented by demand inflation**, causing the key rate radical raising by the Bank of Russia (up to 18%, expected **20%** this September). Double-digit rate brings no relief, but suppresses business activity in civilian sectors
- simultaneously, **the growing utilization of production facilities has lifted to a critical level** (over **80%** on average across the economy by the moment)

- *As the Bank of Russia chair warns (July 2024)*, **the depletion of labor reserves and production facilities** may sharply cool the overheated economy, with the entire fiscal stimulus translating into accelerating inflation, i.e. **the economy may fall into stagflation in 2025**

Sanctioned economies lack sources for development. The cumulative effects of sanctions undermine their potential and welfare. However, they can **demonstrate growth and maintain previous behaviour under diminishing productivity and wellbeing.**

Oil exporters can keep afloat for years, as long as fiscal stimulus is enough to periodically boost demand and output, while governments can redistribute decreased export earnings to meet the most essential social needs.

- **In Russia**, **military spending has remained a powerful growth driver by the moment.** Even official forecasts failed to predict its boosting effects and have been regularly revised since 2022 for greater GDP growth next year.

Dynamics of Russia's macroeconomic indicators, %,
(year on year, **2024 - forecast, revised in August**)

	2022	2023	2024 f. *(Feb.)*	2024 f. *(Aug)*	2025 f.
GDP	**−1.2**	**3.6**	**0.9**	**3.5**	**1.6**
Industry	0.7	**3.5**	**1.6**	**3.4**	2.3
Manufacturing	0.3	**7.5**	…	…	…
Investment	4.6	**10.5**	3.1	5.8	3.1
Exports	17.7	−28.3	5,3	**-1.0**	2.5
Imports	−8.2	11.7	−0,8	**-2.0**	2.0
Inflation	11.9	**7.4**	**5.5**	**6.9**	4.7

However, **the two years, when the military spending stimulus is expected to work best of all, are expiring.** In many civilian Russian industries leading companies (like Gazprom, Kamaz or Aeroflot) seek for increased budget subsidies.. The August Rosstat data reveals economic slowdown, and so are the Bank of Russia forecasts for the nearest years

- **Iran has long been caught in a stagflationary trap,** while **Russia seems to get trapped into ramping up military spending to support further growth.** It gets increasingly difficult for the Government to finance this spending without strong pro-inflationary impulses. But any reduction of defense orders or military contract payments carries risks of a production shock with unpredictable social consequences.

Rosstat, Bank of Russia, CMASF, Consensus forecast (HSE)

Economists have no consensus on resilience of today's Russian growth model. It runs numerous risks, but parameters of their realization are largely unpredictable.

Thank you for your attention!

smorodinskaya@gmail.com
katukov@gmail.com