The Economics of Sanctions

From Theory into Practice

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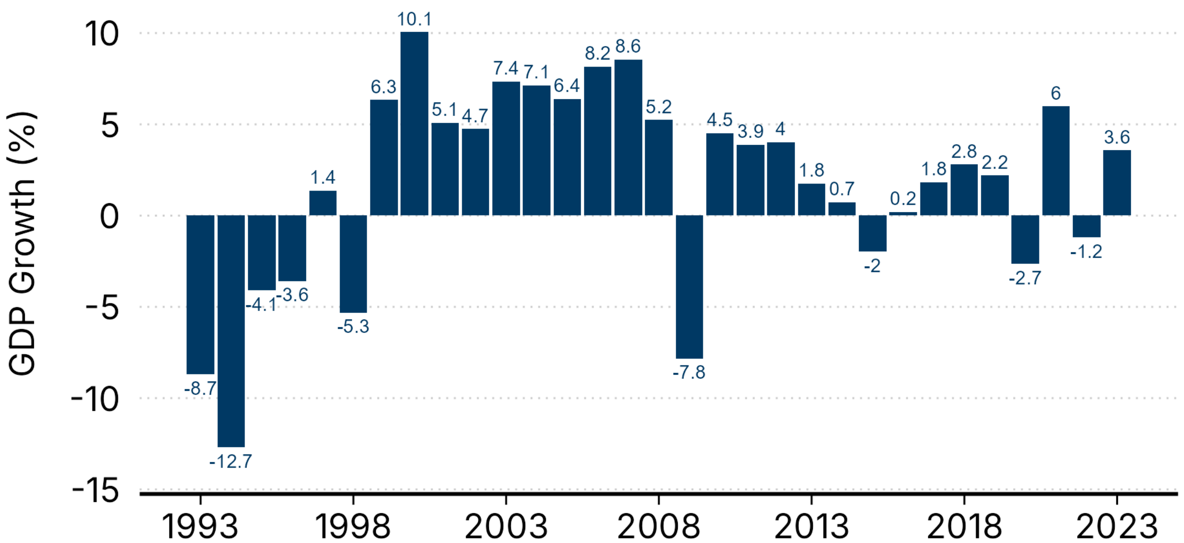
Key Takeaways

- What is the paper about? This paper examines the effectiveness of economic sanctions imposed on Russia, particularly following its 2022 full-scale invasion of Ukraine
- What is new? Combines empirical assessment with a theoretical framework to understand sanction complexities
- Key takeaways:
    1. Sanctions are a critical tool but not a guaranteed method to end wars or change behavior
    2. Need a comprehensive, technocratic approach with clear, measurable objectives
    3. Efficacy depends on:
        - Target country's size and global integration
        - Unity and enforcement by sanctioning coalition
        - Economic burden on sanctioning nations

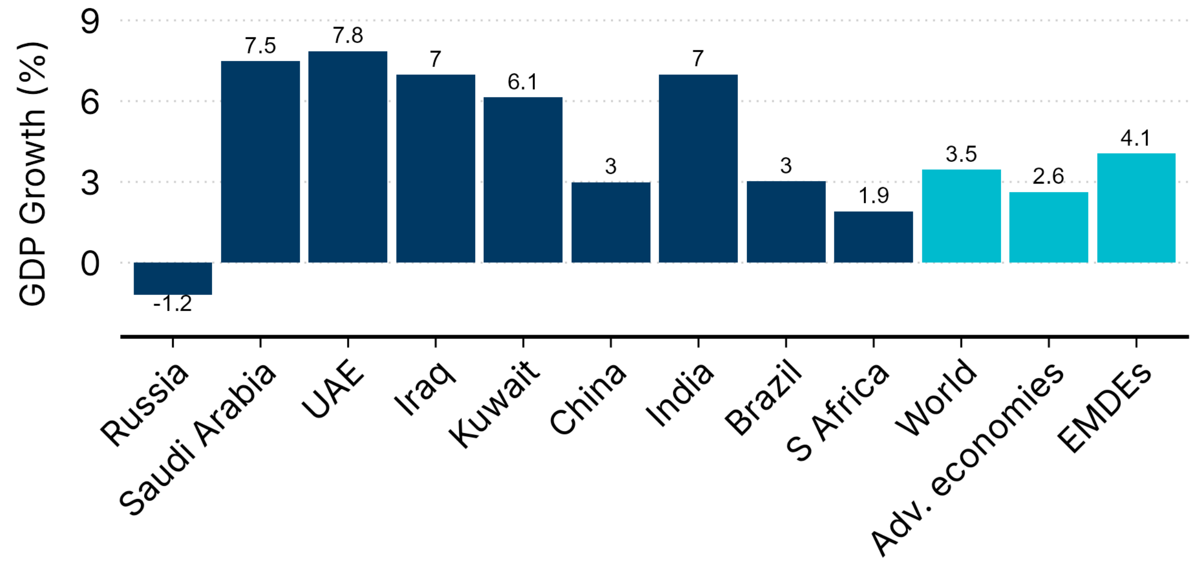
Russia Under Sanctions: Moderate Economic Contraction

Russian GDP Growth



Source: IMF World Economic Outlook, KSE Institute

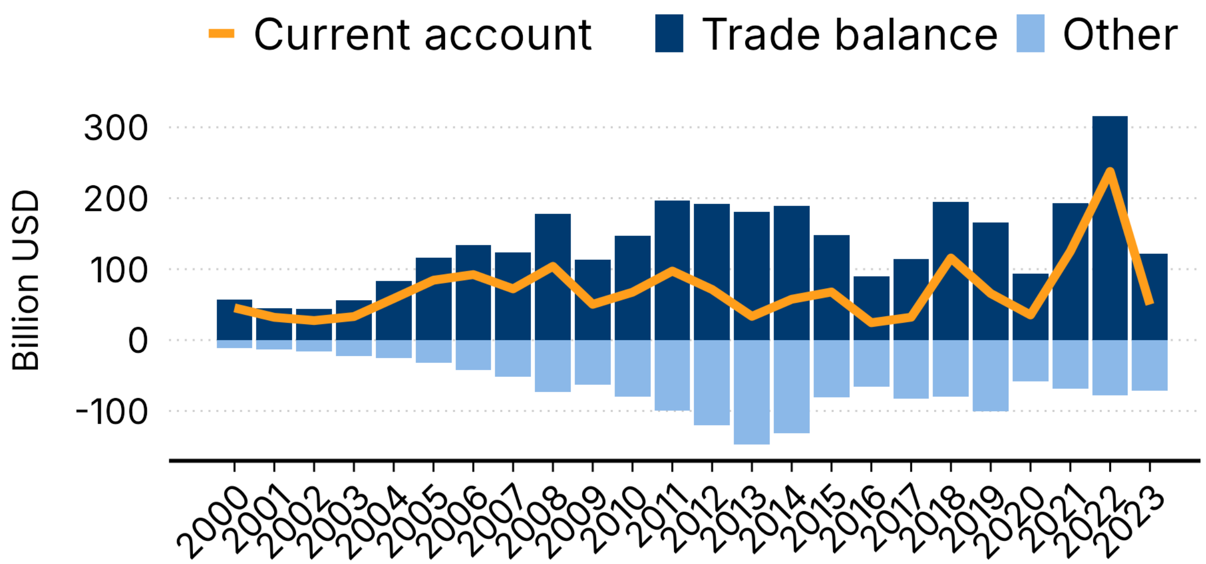
Real GDP Growth in 2022



Source: IMF World Economic Outlook

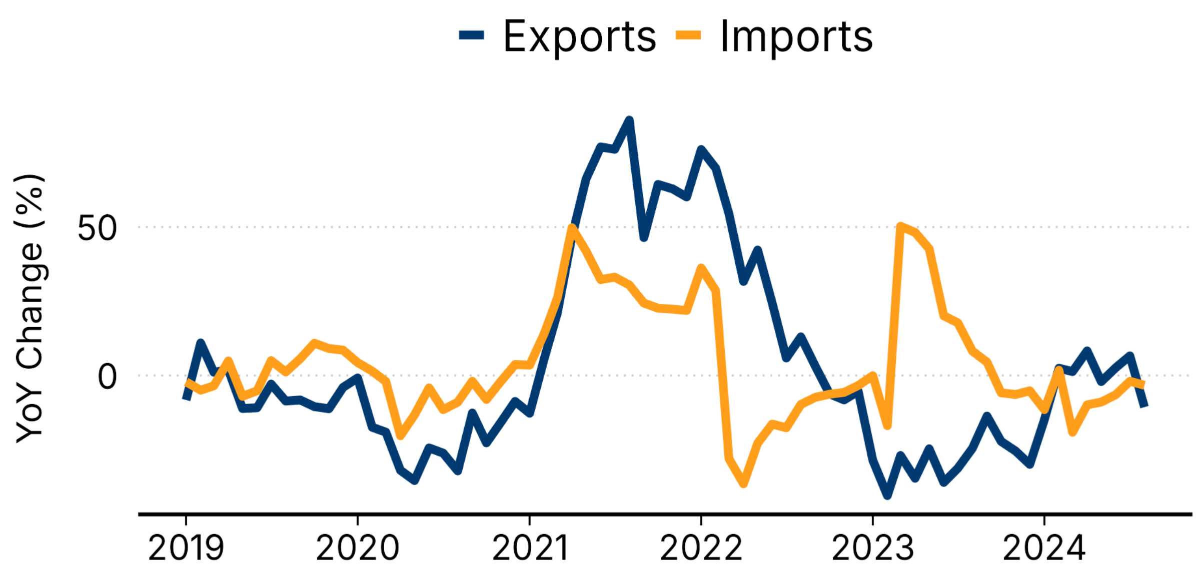
Russia Under Sanctions: Strong Current Account

Current Account and Components



Source: Bank of Russia

Change in Exports and Imports



Source: Bank of Russia

Literature Review

- Economic statecraft: Hufbauer et al (2009), Zarate (2013), Blackwill and Harris (2016), Baldwin (2020), Miller (2022), Mulder (2023)
- Strategic consequences: Farrell and Newman (2019, 2023), Demarais (2022), Mohsin (2024)
- Sanctions on Russia: Ahn and Ludema (2019, 2020), Hilgenstock et al (2023), Keerati (2022), Balyuk and Fedyk (2023), Nigmatulina (2023), Baker (2024)
- Enforcement: Hilgenstock et al. (2023, 2024), Van Nostrand and Morris (2024), Bilousova et al (2024)
- Estimated impact: Felbermayr et al (2019), Gutmann et al (2023), Hausmann et al (2024), De Souza et al (2024)
- Theoretical models: Itskhoki and Mukhin (2022), Clayton et al (2023), Bianchi and Sosa-Padilla (2023), Becko (2024), Becko and O'Connor (2024)
- Quantitative models: Crozet and Hinz (2020), Moll et al (2023), Ghironi et al (2024), Kilian et al (2024), Alekseev and Lin (2024)

Theory of Sanctions

- Direct goals:
  1. Limit overall production capacity or production in certain sectors
  2. Limit financing and payment capacity
     - ➢ Trigger a swift financing or balance-of-payment crisis (limit liquidity)
     - ➢ Tighten long-run budget constraint (limit purchasing power)
- Additional indirect goals:
  1. Compel to change course by signaling greater future sanctions
     - ➢ Cheap option that allows to delay conflict
     - ➢ Provides a head-up and eliminates the surprise effect when sanctions are imposed
  2. Impose overwhelming/prohibitive costs to keep deviations off-equilibrium
  3. Limit technology transfer and capital goods in the long run

Trade Sanctions

- To limit welfare and productivity gains from international trade

- The impact is proportional to:

  1. Sectoral import-to-expenditure ratio
     - Role of relative country size for both impact effect and cost to sender
     - Equivalence between long-run import and export sanctions (Lerner symmetry)

  2. Elasticity of substitution towards alternative suppliers
     - Role of coalition formation and enforcement (incl. secondary sanctions)
     - Adjustment is costlier than the LR effect, although evidence of fast adjustment

- Optimal sanctions

  1. International market power and optimal terms of trade manipulation
  2. Additional Pigouvian tax on trade in certain key industrial

Finance and Payment Sanctions

- Limit the ability to finance trade
  + disrupt domestic financial and payment system

- Freezing accumulated foreign assets has lowest direct cost to sender
  – apart from reputational costs

- Disrupt ability to finance imports and receive cash flows from exports
  - ➢ large impact, associated with a cost to sender
  - ➢ need to finance breaks equivalence between import and export sanctions

- Transmission to domestic financial sector
  - ➢ via exchange rate depreciation and financial balance sheet effects
  - ➢ in particular, in the presence of foreign-currency debt

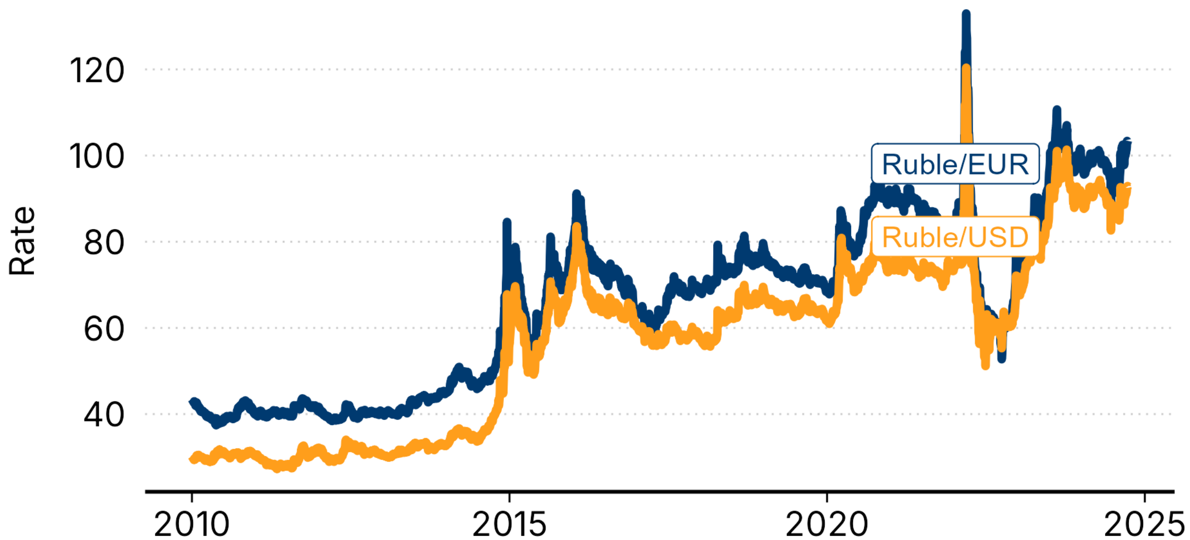
Russia: Timeline of Events

- 2014: focused on deterrence
  1. Financial sector sanctions
  2. Long-term investment and technology transfer, including in energy
  3. Export controls on military use/user

- 2022: impose a cost, undermine Russia’s ability to continue the war
  1. Financial sanctions
  2. Export controls
  3. Oil embargo and price cap (other Russia’s exports)

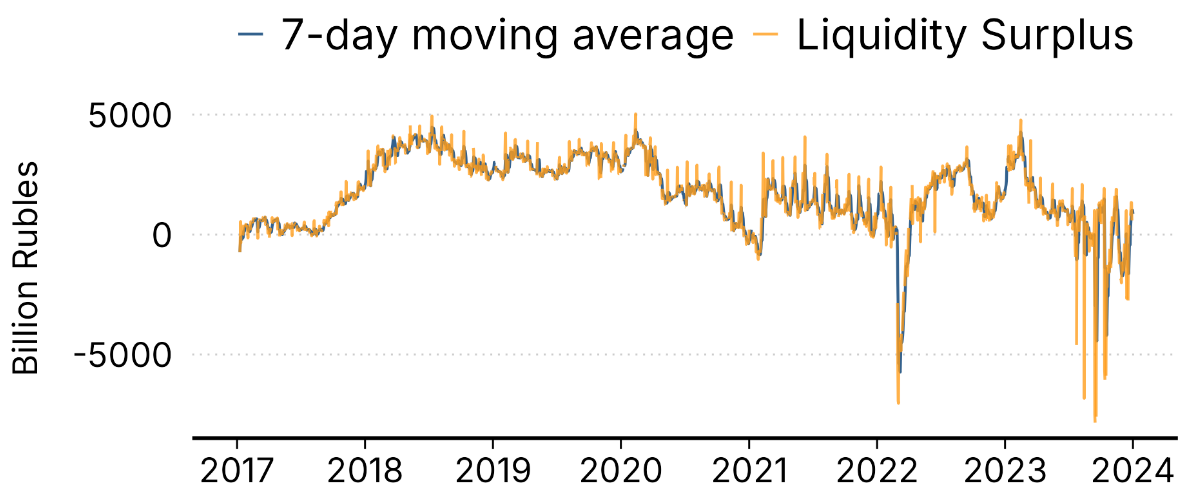
Russia Under Sanctions: Financial Markets

Ruble Exchange Rate



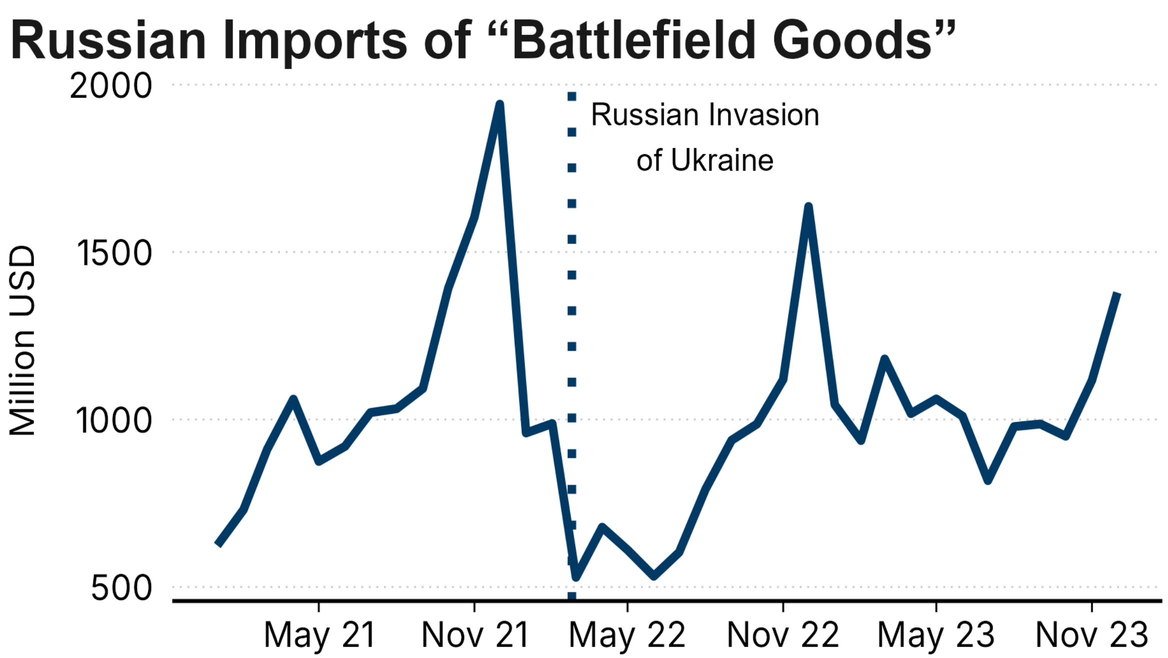
Source: Bank of Russia

Structural Liquidity Surplus of the Banking System

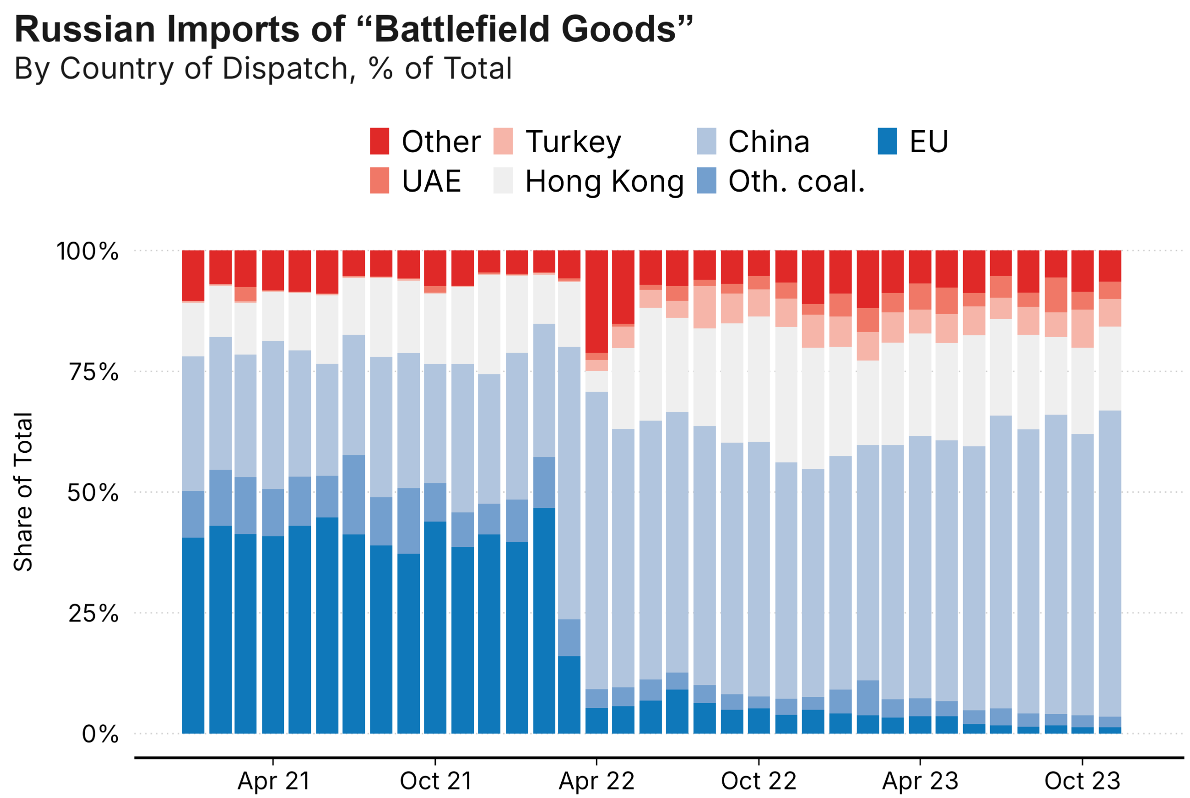


Source: Bank of Russia

Russia Under Sanctions:
Access to Critical Components



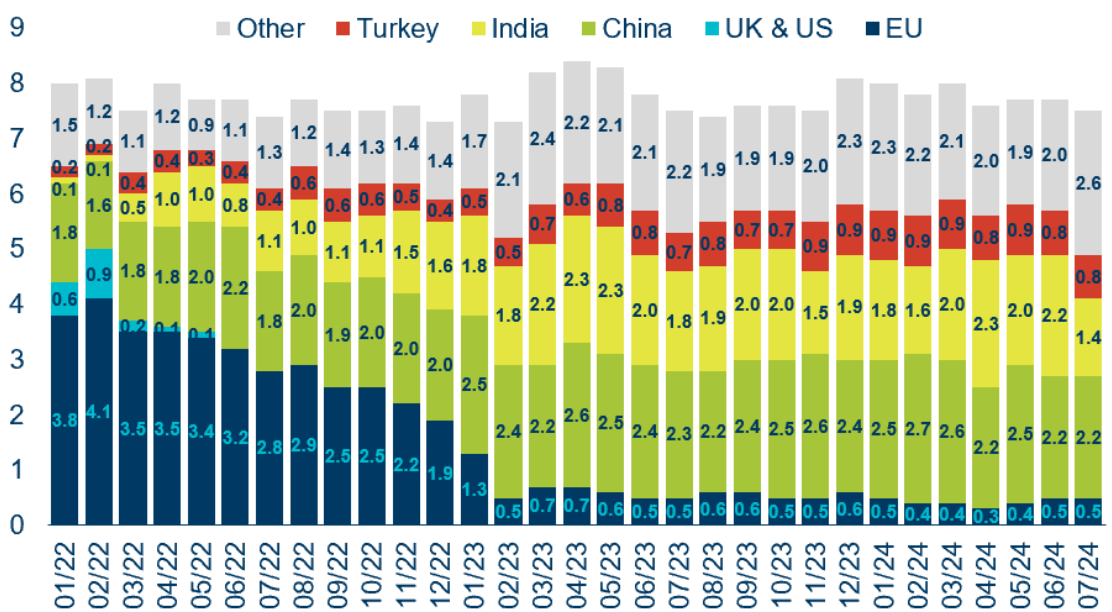
Source: KSE Institute



Source: KSE Institute

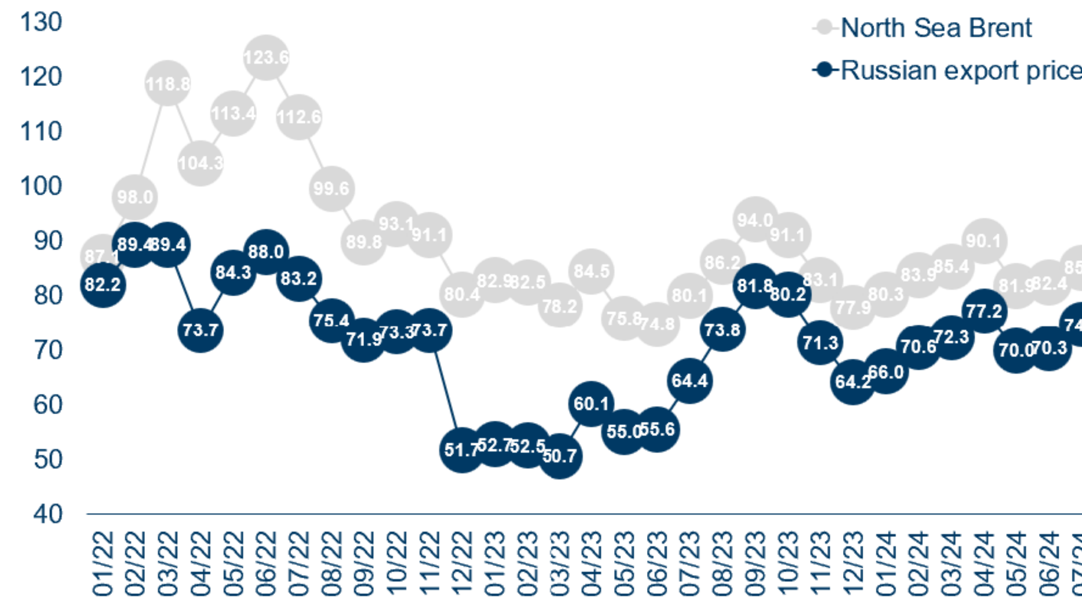
Russia Under Sanctions: Oil Exports

Russian oil export volume by destination, in million barrels/day*



Source: International Energy Agency, KSE Institute *no March data from IEA

Crude oil prices, in U.S. dollar/barrel*



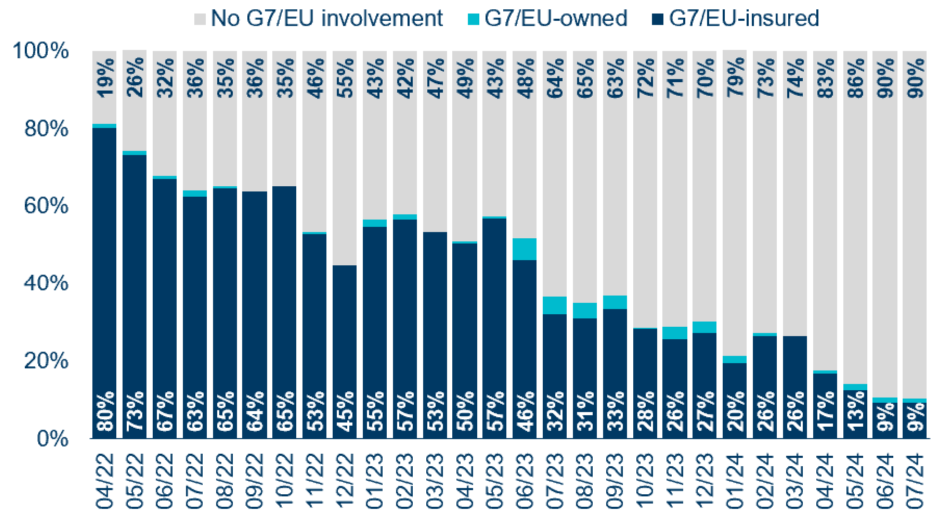
Source: Federal Customs Service, International Energy Agency, KSE Institute
*export price until November 2022 from Russian customs, all other numbers from IEA

Conclusion

- Optimal Sanctions Mix
  - ➢ for immediate impact, financial and payment system sanctions combined with sanctions that limit export revenues
  - ➢ complemented with narrow targeted import restrictions on bottle-neck sectors
  - ➢ broad import restrictions alleviate financing need and impact of other sanctions
- Coalition formation and enforcement are critical
  - ➢ financial & payment sanctions easier to enforce than trade sanctions
- Russian 2022- sanctions
  - ➢ suboptimal and subject to political constraints with missed opportunities
  - ➢ but they shaved off a non-trivial portion of export revenues
  - ➢ and made procurement of imports, esp. in key sectors, more difficult

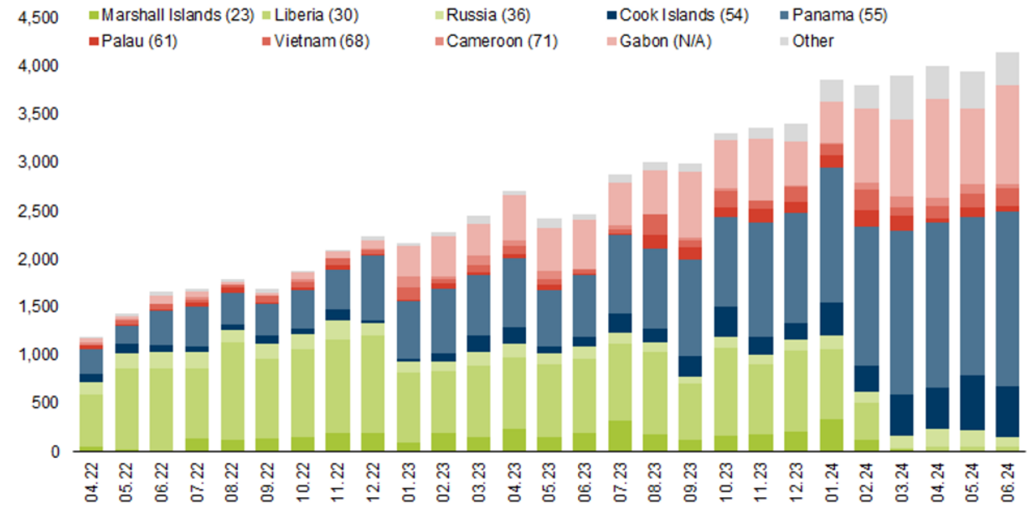
Additional slides

Composition of seaborne crude oil exports, in %



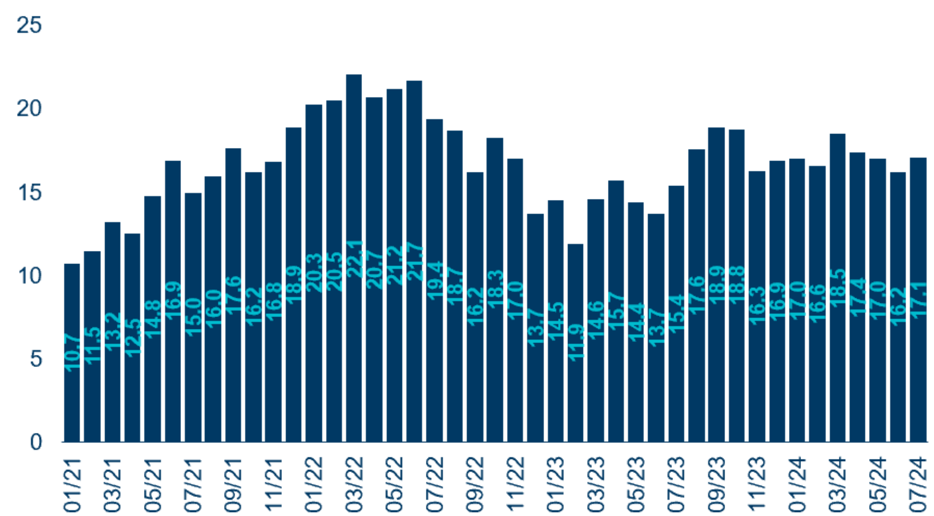
Source: Equasis, Kpler, P&I Clubs, KSE Institute

Flag states of the Russian shadow fleet, in thousand barrels/day



Source: Equasis, Kpler, KSE Institute *Numbers in legend display Paris MoU flag state ranking.

Oil export earnings, in U.S. dollar billion



Source: Federal Customs Service, International Energy Agency, KSE Institute
*2021 data from Russian customs service, 2022-23 data from IEA

Federal budget oil revenues, in ruble billion*

Source: Ministry of Finance, KSE Institute *includes extraction tax and export duty