Geopolitical Risks and Monetary Policy in Ukraine

National Bank of Ukraine 2025-11-27

S V E R I G E S R I K S B A N K

Oleksandr Faryna (National Bank of Ukraine)

Magnus Jonsson (Sveriges Riksbank)

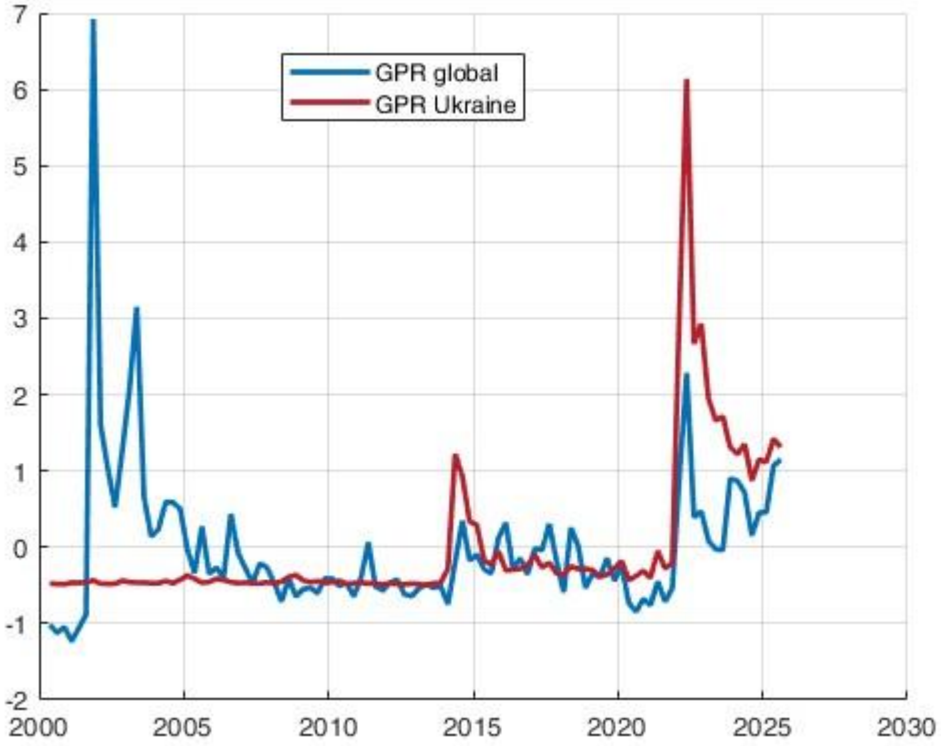
Nadia Shapovalenko (National Bank of Ukraine)

Ingvar Strid (Sveriges Riksbank)

Geopolitical tensions at elevated levels

- Geopolitical tensions have surged—wars, sanctions, trade conflicts
- Geopolitical risks in Ukraine are central
  - Russian annexation of Crimea 2014
  - Russian full-scale invasion 2022
- Global geopolitical risk index is at historic highs

Geopolitical risk index (Caldara & Iacoviello) globally and in Ukraine



Ukraine offers a unique case study

- Inflation targeting under wartime conditions—policy trade-offs
  - Inflation surged due to supply disruptions and currency depreciation
  - Output collapsed amid war-related destruction and migration
- A rich case for policy analysis
  - Use of capital controls, FXI, and other unconventional measures
- Combines domestic and global dimensions of GPR shocks
  - Energy and grain markets –> inflation in Europe
  - Capital flows and risk premia –> tightening global financial conditions
- Monetary-fiscal interactions—war financing

Geopolitical risk and monetary policy

- GPR shocks propagate through multiple channels
  - Increased uncertainty about future economic conditions
  - Capital outflows and currency depreciation
  - Higher risk premia and credit spreads may widen
  - Disruption of energy and commodity markets—cost push inflation
  - Higher government spending and debt
- Complicate monetary policy trade-offs
  - Inflation, output stabilisation, exchange rate stability (financial stability, monetary-fiscal interactions)

Overall purpose

- Examine economic consequences of rising geopolitical risk
- Specifically, how does geopolitical risk affect for monetary policy trade-offs
    - Price stability (inflation)?
    - Real economy (output gap)?
    - Exchange rate?
- Focus on Ukraine’s GPR index, but also global spillovers

Related literature

- Few studies have formally integrated GPR into monetary DSGE models
- A number empirical studies—(B)VAR studies
- Dario Caldara and Matteo Iacoviello, "Measuring Geopolitical Risk“, American Economic Review, 2022

Agenda

- What we (plan to) do
- Estimation **(very preliminary and work in progress)**
- Some results on identifying the GPR-shock **(very preliminary and work in progress)**

What we (plan to) do, step 1

- Estimate IMF's Quantitative model for the Integrated Policy Framework (IPF)
    - Bayesian estimation on Ukrainian data 2003Q1-2021Q4
- **Conceptual IPF**: Basu, Boz, Gopinath, Roch, and Unsa (2020)—3-period SOE setup, optimal policy analytically derived
- **QIPF:** Adrian, Erceg, Kolasa, Lindé, and Zabczyk (2021)—Fully dynamic 2-country setup with detailed price and wage blocks, numerical welfare analysis
    - Commodities, fiscal policy, macroprudential, 3-country model
- **Empirical formulation:** Chen, Kolasa, Lindé, Wang, Zabczyk, and Zhou (2023)—Linearised SOE version of QIPF, estimated with Bayesian methods

What we (plan to) do, step 1

- Two-country New Keynesian model—similar to DSGE models used by central banks
  - Nominal rigidities
  - Large and persistent exchange rate pass-through,
  - International financial frictions: shallow FX markets and occasionally binding debt limit –> motive joint use of multiple tools in certain situations
    - Interest rate policy
    - Foreign exchange interventions
    - Capital flow management – tax on capital inflows
  - Analyse international policy spillovers

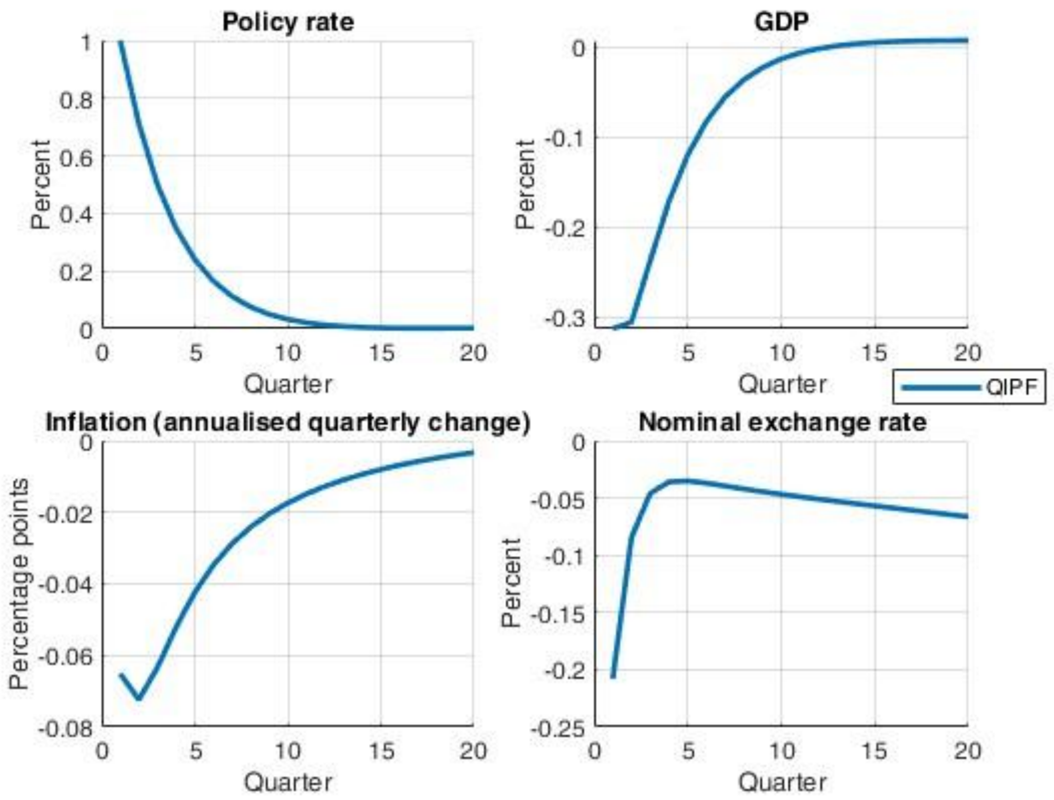
What we (plan to) do, step 2

- Identify a GPR-shock
  - Which shocks (innovations) are associated with Ukrainan GPR-index, focus on
    - Crimea annexation 2014
    - Full-scale invasion 2022
  - Construct a composite GPR shock with shocks associated with GPR-index
  - Possible to examine how the geopolitical risk shock 2014 may differ from 2022

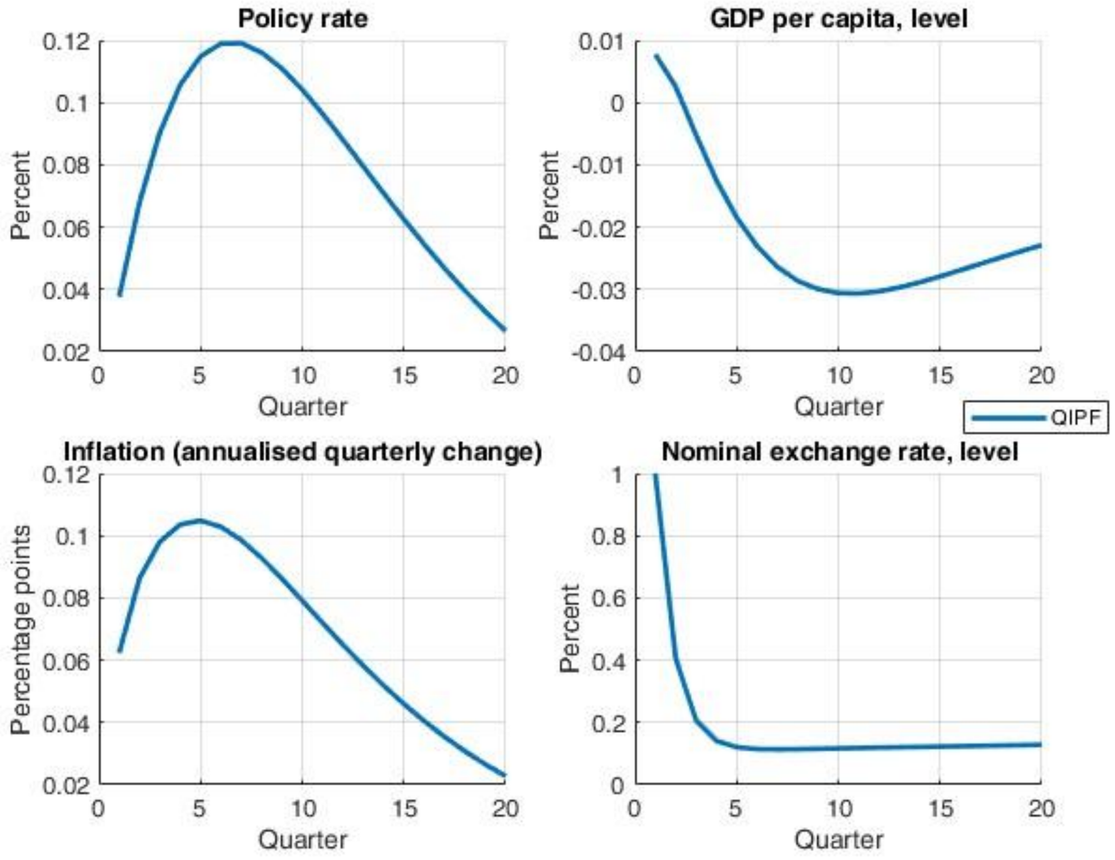
What we (plan to) do, step 3

- Illustrate policy interactions in response to the GPR-shock(s)
  - Interest rate policy, FXI, CFM (and perhaps fiscal policy)
- Examine how monetary policy *should* react to the GPR-shock(s), assuming perfect knowledge of shock transmission
- Optimised (or perhaps optimal) rules responses to the two events

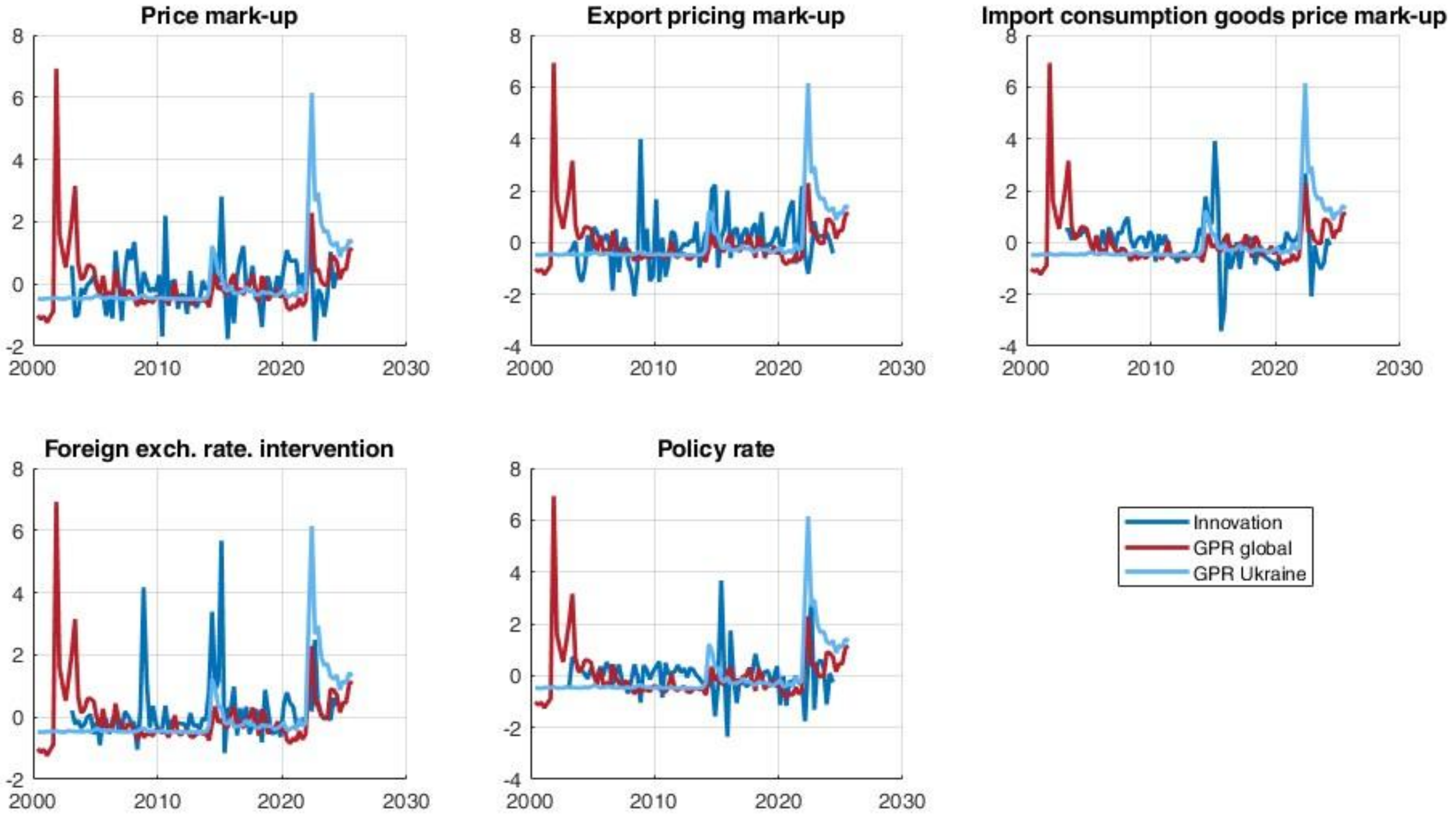
Monetary policy shock



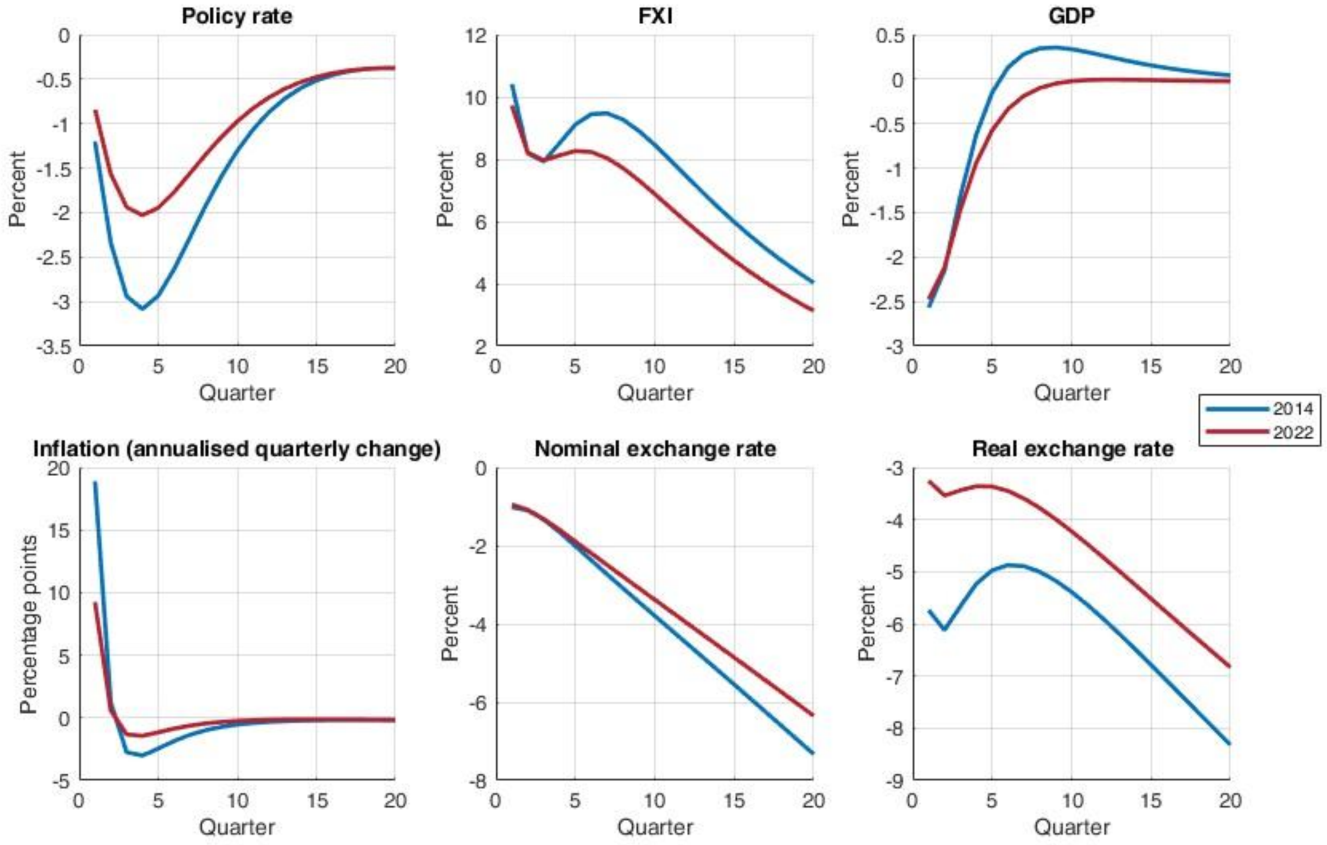
Exchange rate shock



Estimated innovations associated with geopolitical risk



The effect of the geopolitical risk shock without policy shocks



The effect of the geopolitical risk shock with policy shocks (policy rate and FXI)