Geoeconomic Fragmentation and Commodity Markets

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The views expressed herein are those of the author and should not be attributed to the IMF, its Executive Board, or its management.

New restrictions on commodity trade spiked in 2022

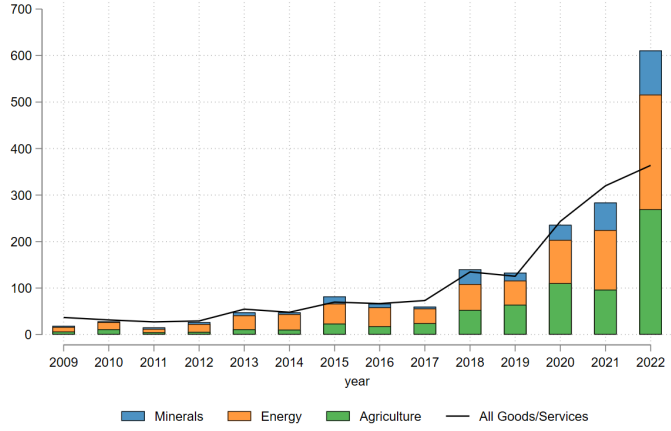

Figure: New trade restrictions (Index, 2016-2018 = 100). Source: Global Trade Alert.

This Paper

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Results:

- Minerals and some agricultural goods most vulnerable.
- Driving factors: High market concentration, low price elasticities of supply and demand.
- Heterogeneous and partially offsetting economic effects across countries; main driver: net import expenditure shares.

A Multi-Country Commodity Market Model

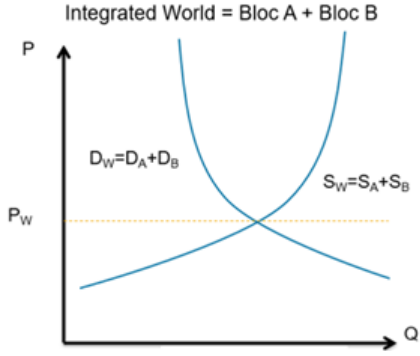

Figure: Integrated Commodity Market Equilibrium.

A Multi-Country Commodity Market Model

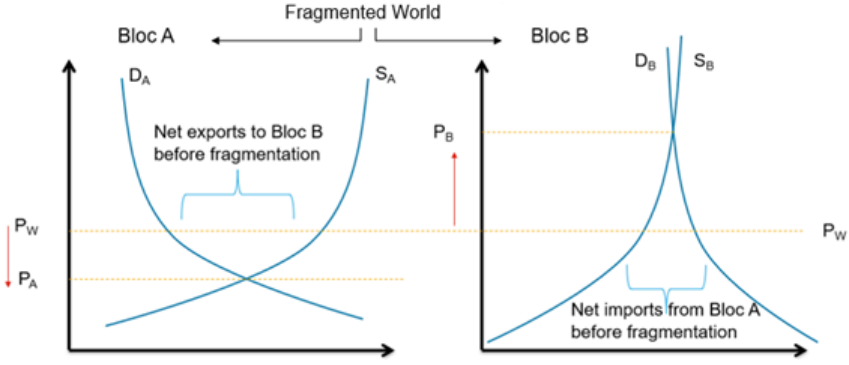

Figure: Fragmented Commodity Market Equilibrium.

A New Data-Set

- Sample: 48 commodities: energy, agriculture and minerals.
  - Among the most largely traded.
  - Identified as critical by the EU or US.
- Annual, by-country production and trade data, base-year: 2019.
- Sources: British Geological Survey, US Geological Survey, BACI and others.
- New adjustment factors to link trade and production data.

→ Computation of by-country commodity consumption and market equilibria.

Large Price Changes Due to Fragmentation

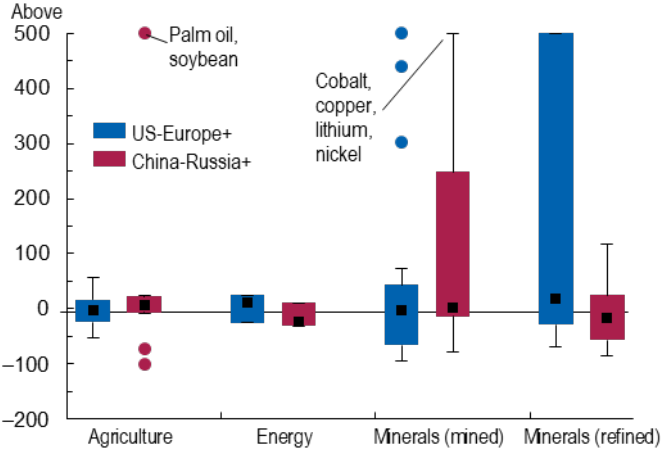

Figure: Distribution across Blocs and Commodities in the Baseline Scenario (Percent).

Notes: Price effects are capped at 500 percent for readability.

Countries Switching Blocs Could Induces Volatility

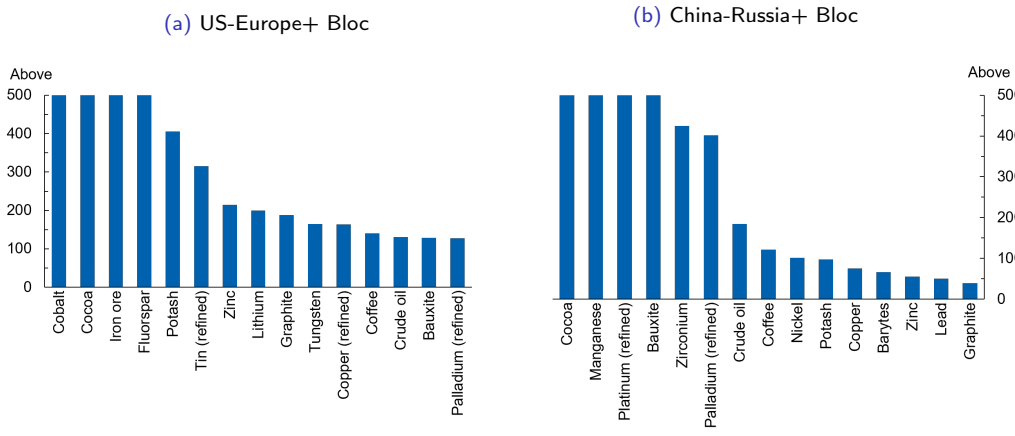

Figure: Top 15 Largest Price Increases from a Single Exporter Switching Blocs (Percent).

Modest Output Effects at Bloc Level

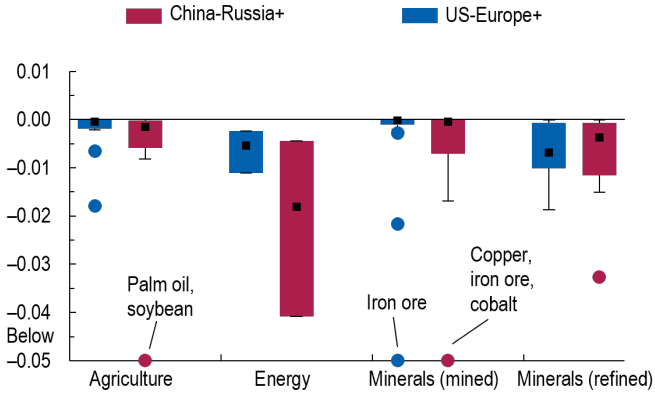

Figure: Bloc-Level Surplus Changes by Commodity Groups (Percent of Bloc-Level GNE).

Substantial Within Bloc Heterogeneity

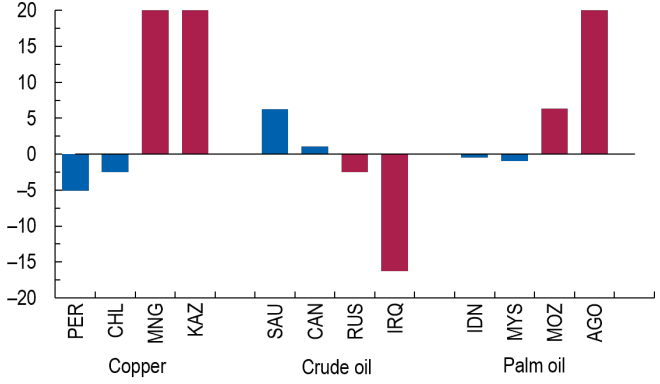

Figure: Surplus Changes for Top 2 Net Exporters (Selected Commodities, Percent of Country GNE).

Conclusion

- Minerals and some agricultural goods most vulnerable in the event of more severe fragmentation.
- Driving factors: High market concentration, low price elasticities of supply and demand.
- Modest global economic effects hide offsetting economic effects across producer and consumer countries.