

Geopolitical Risks: Measurement and Implications for Financial Stability

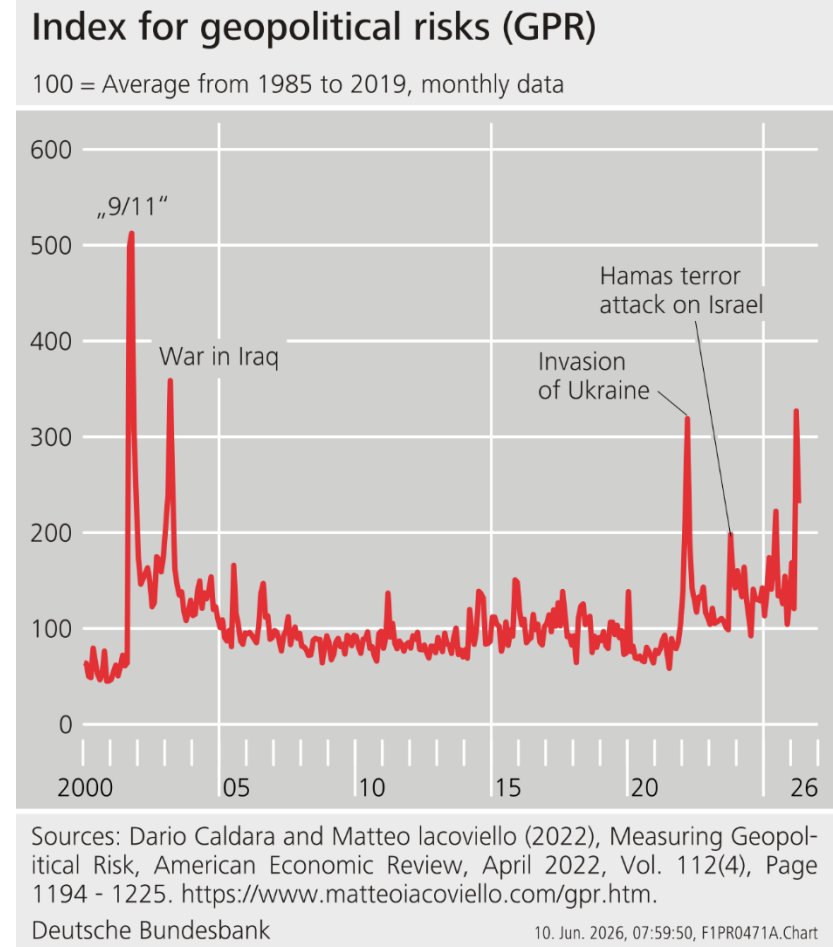
Norbert Metiu, Deutsche Bundesbank

25 September 2026

Disclaimer: The presentation represents personal views and does not necessarily reflect the views of the Deutsche Bundesbank or the Eurosystem.

Geopolitical risk: A multidimensional challenge.

- **The 2020s have challenged long-standing assumptions and brought the world into a new, uncertain geopolitical era.**
- **Geopolitical competition** involves pursuing national interests, power, and influence through multiple instruments:
 - **Conventional tools:** Armed conflict, military force or threats, and nuclear coercion.
 - **Hybrid tools:** Irregular operations, espionage, sabotage, cyberattacks, and disinformation—often used below the threshold of open conflict to weaken or destabilize states
 - **Goeconomic tools:** Tariffs, sanctions, export controls, investment restrictions, and financial measures used to advance geopolitical objectives
- **Geopolitical risk is therefore multifaceted and difficult to quantify.** News-based indices provide timely proxies for perceptions of, and developments related to, geopolitical threats and adverse events



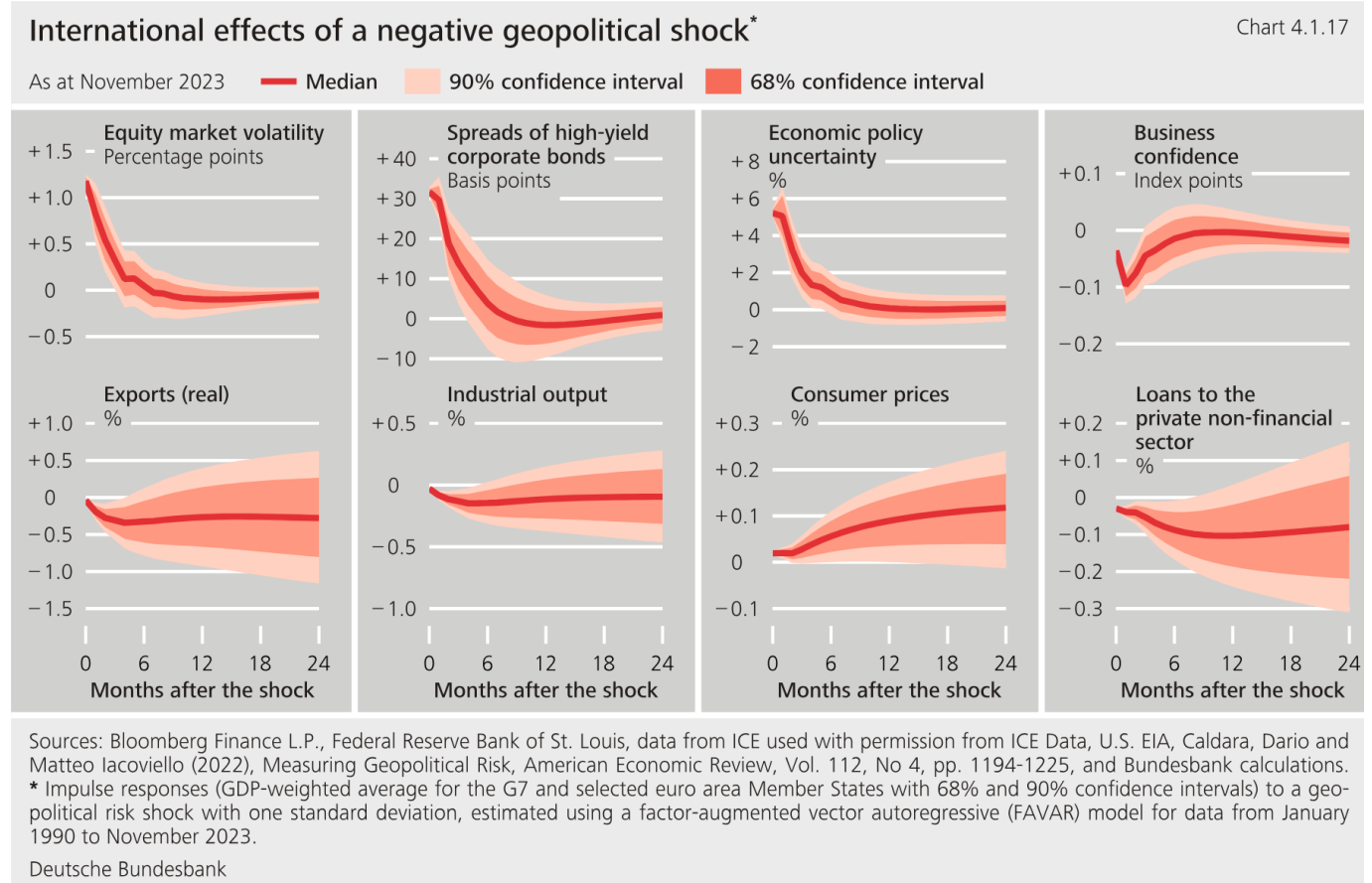
Geopolitical risks can spread across borders and markets, disrupt critical infrastructure and supply chains, increase uncertainty and volatility, and undermine economic and financial stability.

How do geopolitical tensions affect global macro-financial conditions?

- **GPR shocks weigh on output and lending** from both the demand and the supply side:
 - **Demand side:** GPR shock raises volatility, credit spreads, and policy uncertainty, while weakening confidence and trade.
 - **Supply side:** It raises consumer prices, generating inflationary pressures.
- **Existing vulnerabilities** in the financial system can **amplify** these effects and generate **systemic risks**.

Methodology:

- **Factor-augmented VAR model** linking the GPR index to latent global factors.
- **Data:** 185 monthly time series for G7 and selected EA countries (1990m1-2023m11).

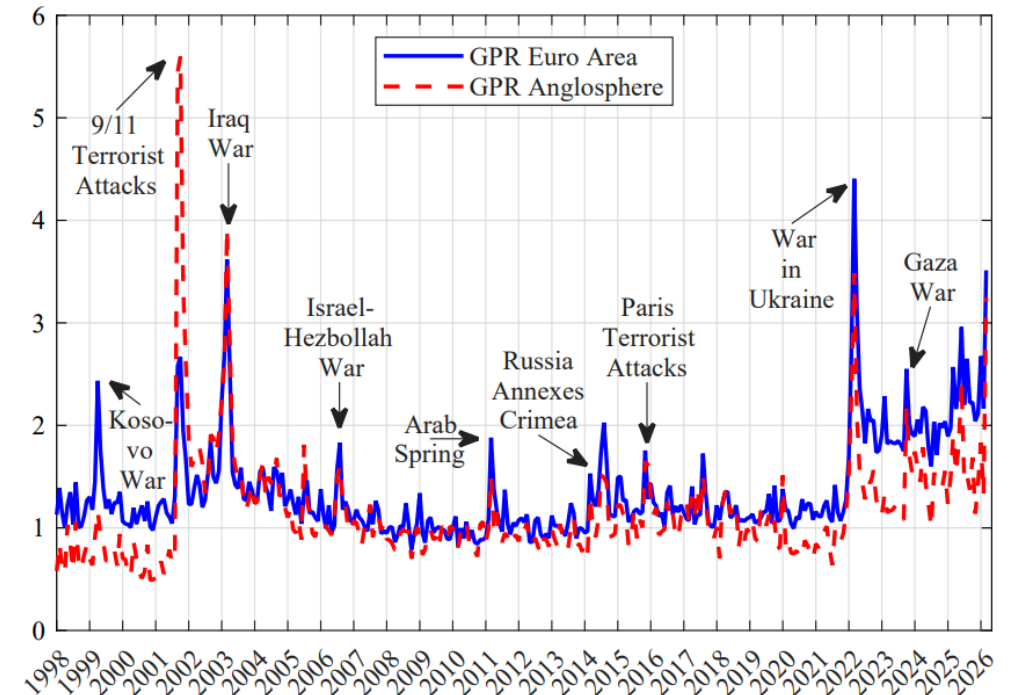


See: Deutsche Bundesbank, Financial Stability Review 2024

Conventional GPR: War in Ukraine. Geopolitical risk perceptions vary across regions: EA GPR index signals elevated risk since Russia's invasion of Ukraine, reflecting geographic proximity and local narratives.

- **U.S. bias:** The GPR index mainly reflects U.S. perceptions based on Anglosphere news outlets.
- **Euro area GPR:** A local-news-based index developed by Bundesbank researchers.
- **Different peaks:** Euro area GPR peaked during the Ukraine war; U.S. GPR after 9/11.
- **Proximity matters:** The euro area index reacts more strongly to nearby conflicts.
- **Persistent elevation:** Euro area GPR remains high since Russia's 2022 invasion.

News-based GPR indices, January 1998 – March 2026



Source: Caldara, D. and Iacoviello, M. (2022), Measuring geopolitical risk, *American Economic Review*, April 2022, Vol. 112(4), Page 1194-1225. Bondarenko, Y., Kang, N., Lewis, V., Rottner, M., Schüler, Y. (2026), Geopolitical risk in the euro area: measurement and transmission, Deutsche Bundesbank Discussion Paper No. 14/2026.

Notes: The Anglosphere GPR index is a news-based measure using ten leading English-language newspapers. The euro area GPR index is an aggregate of five country-level GPR indices (DE, FR, IT, ES, NL) based on local newspapers in the respective languages. Both indices are normalized to equal 1 in January 2010.

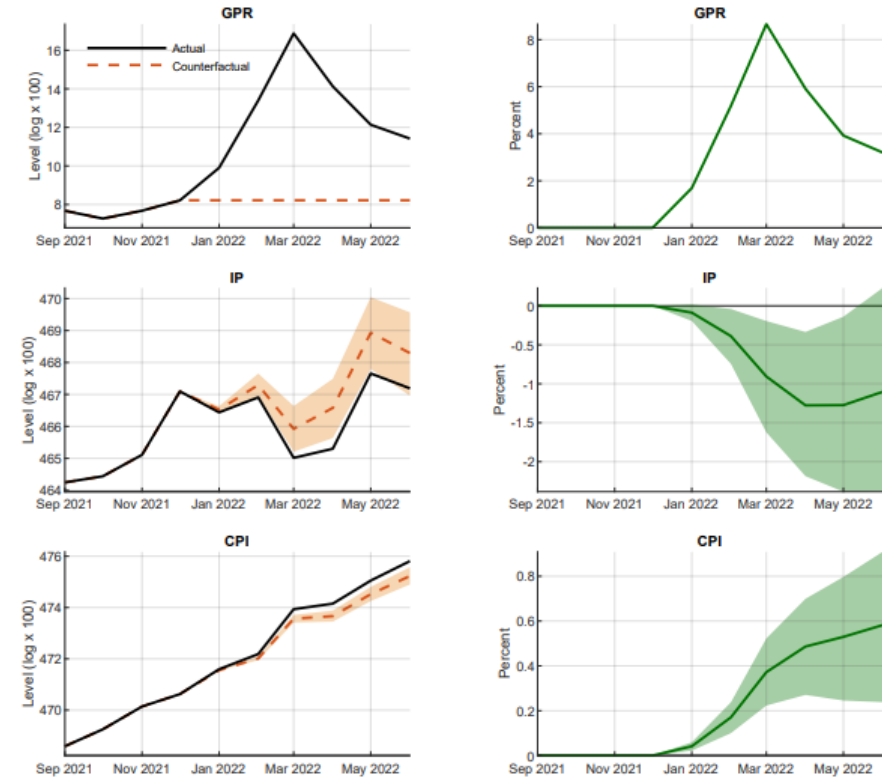
Conventional GPR: War in Ukraine. The rise in geopolitical risk from Russia's full-scale invasion of Ukraine had substantial recessionary and inflationary effects on the euro area economy.

- What if the war in Ukraine had not occurred?
- **“No-war” counterfactual scenario:** Hold the euro area GPR index at its December 2021 level through June 2022, eliminating the post-invasion surge.
- **Counterfactual paths:** Estimated economic trajectories without the GPR surge, holding all other factors constant.
- **Estimated impact:** Compare actual outcomes with the “no-war” counterfactual.
 - **Industrial production:** ~1.3% lower by May 2022
 - **CPI:** ~ 0.6% higher by June 2022
- **EA banks more exposed** to the geopolitical risk resulting from the Russian invasion of Ukraine **reduced both lending volumes and new lending relationships more** than their peers (see ECB-ESRB analysis in Appendix).

Methodology:

- **Bayesian VAR model;** monthly EA sample: 1998m1-2025m12; Cholesky identification (Bondarenko et al., 2026)

‘No-war’ counterfactual for the euro area



Source: Bondarenko, Y., Kang, N., Lewis, V., Rottner, M., Schüler, Y. (2026), Geopolitical risk in the euro area: measurement and transmission, Deutsche Bundesbank Discussion Paper No. 14/2026.
Notes: Left panel shows the original data and the counterfactual path of the GPR index, assuming constant levels as of December 2021. Right panel gives the deviation of the actual data minus the counterfactual data. The counterfactual data are based on a Bayesian VAR with Cholesky identification, ordering the EA GPR index first. Shaded areas denote the 68% credible intervals.

Conventional GPR: War in Middle East. Under a severe stagflation scenario, a prolonged energy shock could severely reduce EA GDP and bank capital ratios.

– Scenario assumptions

- Fossil-energy price shock: +43% on average in the first year (+33% initially, +49% at peak). This corresponds to peak increases of 101% for oil prices and 34% for gas prices.
- Monetary policy tightens in response to the shock.

– Results:

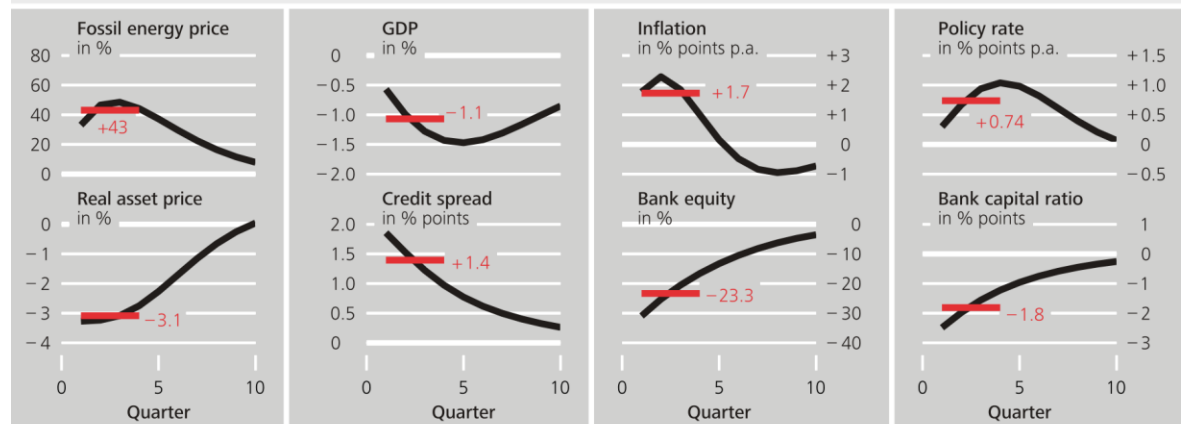
- Shock lowers GDP and raises inflation, reflecting higher production costs.
- Falling asset prices and the endogenous monetary policy rate tightening reduce bank profits and thus bank equity and equity ratios.
- Wider lending spreads help restore bank profitability, but not enough to offset the loss of equity.

Methodology:

- **EA DSGE model** with financial frictions and fossil energy as a production input; household energy demand is excluded (Frankovic and Kolb, 2024).

Effects of a severe stagflation scenario on financial variables in the euro area*

Deviations from steady state in percent or percentage points — Average 1st year

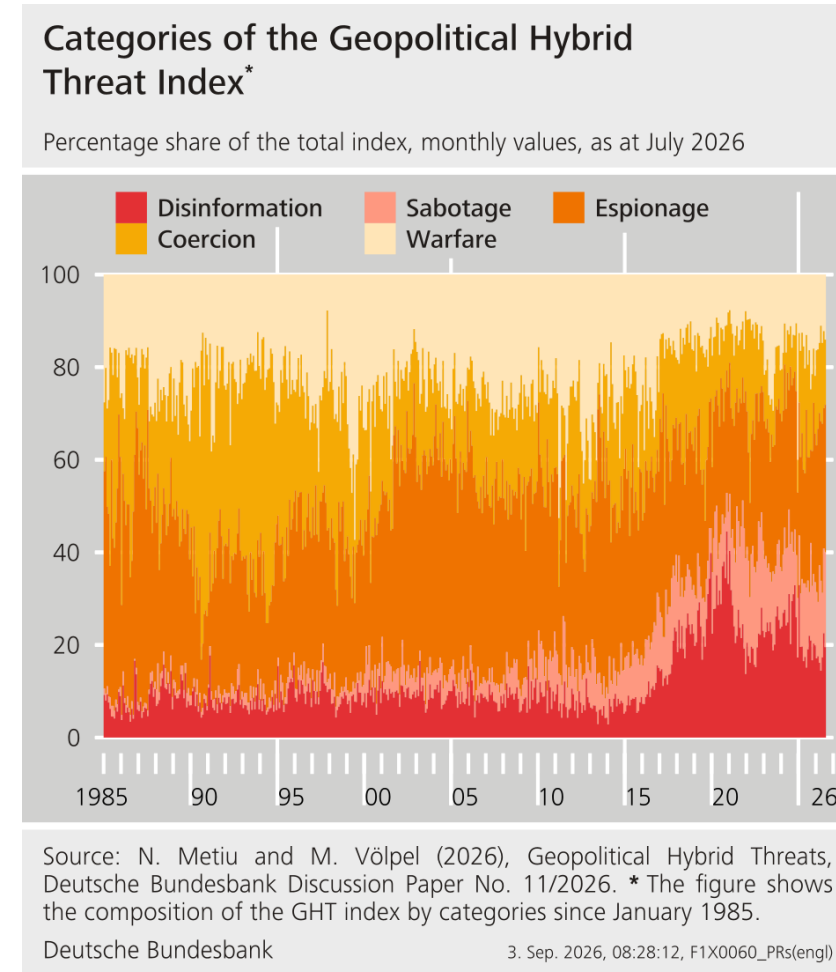
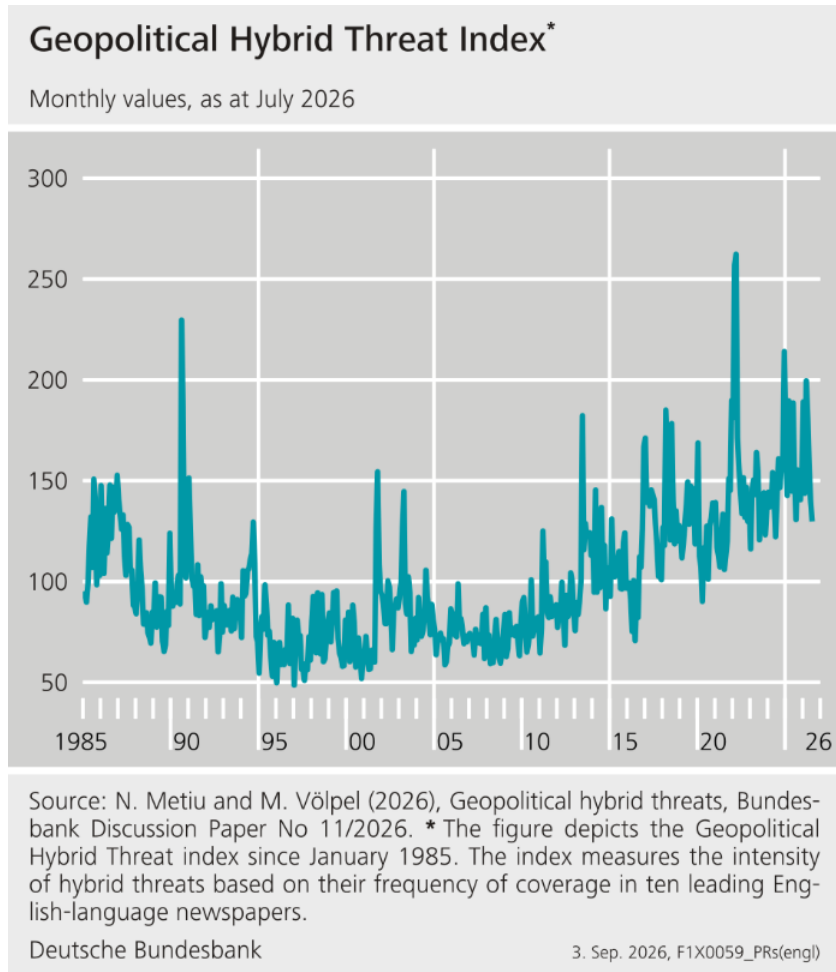


Source: Bundesbank calculations with the DSGE model in Frankovic and Kolb (2024, EER). * Simulation of an unexpected, persistent increase in the price of fossil energy (oil and gas) by 33% in the first and by up to 49% in the third quarter. The shock implies an increase of the policy rate by around three policy hikes and a GDP decrease by 1.1% on average in the first year. The calibration follows the one for the euro area in the paper by Frankovic und Kolb (2024). In the model, fossil energy is used in production, but not consumed by households.

Deutsche Bundesbank

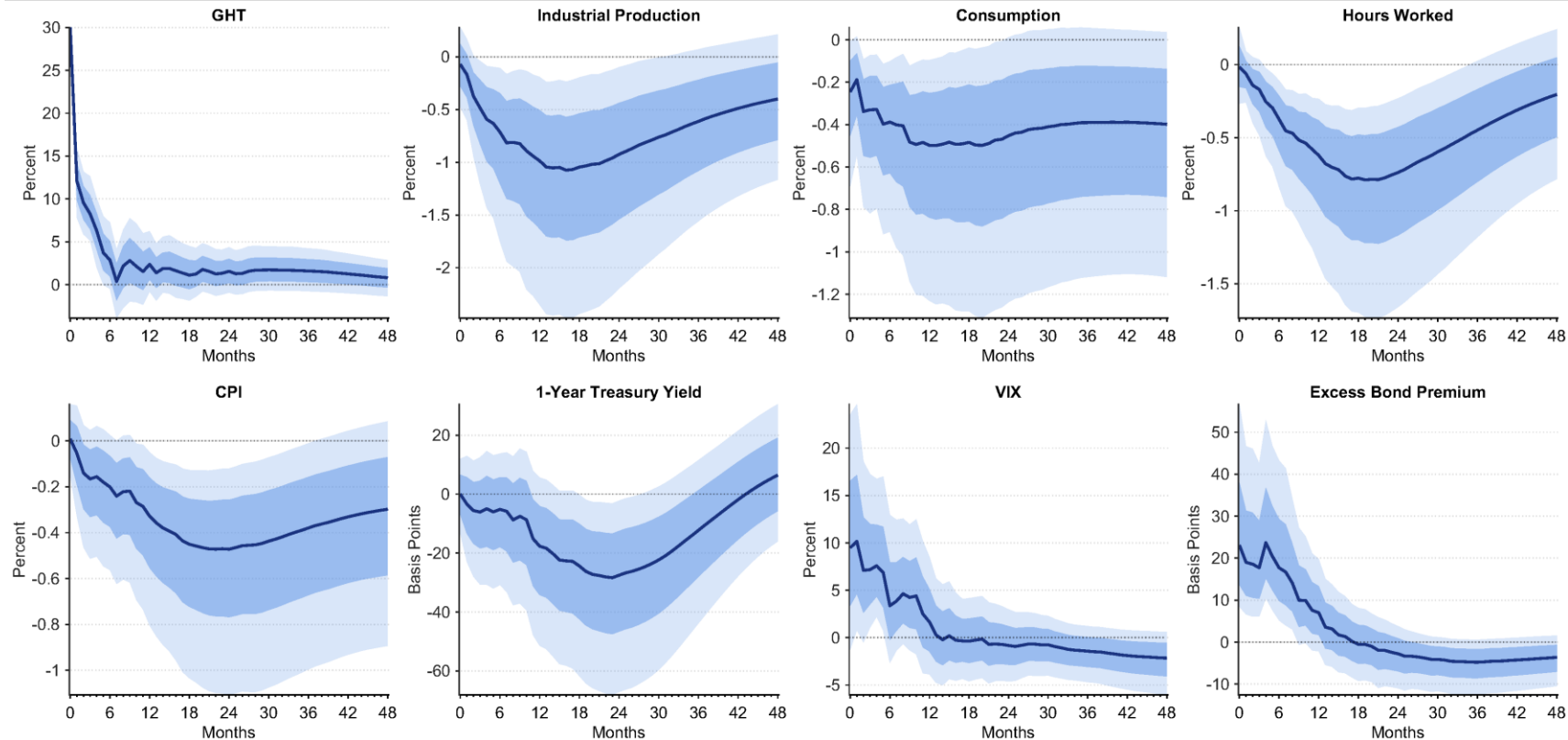
8. Jun. 2026, 12:34:14, FSX0047B_PRB(engl)

Hybrid Threats. As geopolitical tensions escalate, hybrid threats are becoming increasingly prevalent, driven by rising sabotage and disinformation, as reflected in our novel news-based GHT Index.



Hybrid Threats. Hybrid threat shocks raise uncertainty and tighten financial conditions, weakening economic activity and lowering prices.

U.S. Economic and Financial Responses to a Hybrid Threat Shock



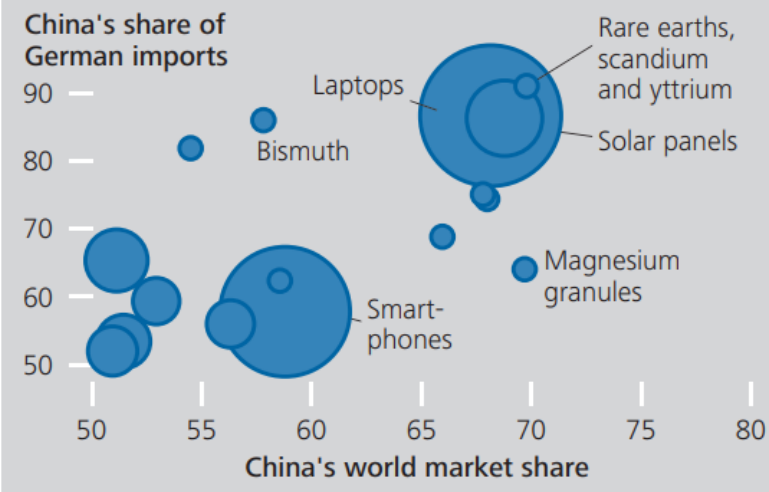
Source: N. Metiu and M. Völpe (2026), Geopolitical Hybrid Threats, Deutsche Bundesbank Discussion Paper No. 11/2026. **Notes:** The figure reports impulse responses to an exogenous 30% increase in the natural logarithm of the GHT index, estimated using a proxy-SVAR model using U.S. data. Sample period: January 1986 – June 2026.

Goeconomic Risks. Germany's economy could suffer greatly if an abrupt economic decoupling from China were to occur in an extreme scenario.

- **Rising U.S.-China tensions heighten Germany's goeconomic risks:** China is its largest import source, while the U.S. is its top export market.
- **Abrupt decoupling from China**—such as from a geopolitical crisis—would **severely impact German industry**.
- **Large firms with direct investments in China could lose a substantial share of their sales and profits.**
 - Key sectors have significant FDI exposure in China:
 - **Automotive:** nearly 30% of FDI goes to China
 - **Mechanical engineering:** 13%
 - **Chemicals:** 8%
- **Disruption of Chinese intermediate goods imports would disrupt downstream production and cause widespread production losses in Germany.**
 - Germany relies on China for critical intermediate inputs:
 - **Electronics and electrical components** (e.g., laptops)
 - **Pharmaceutical ingredients** (e.g., antibiotics)
 - **Raw materials** (e.g., rare earths)
 - China's dominance in global production makes **switching suppliers difficult**.

Germany's important and critical imports from China*

Percentage data for 2022¹



Sources: Trade Data Monitor and Bundesbank calculations.
* HS 6-digit codes that either account for more than 0.1% of total German imports or contain critical raw materials. ¹ The bubble size shows what share of total German imports each product category accounts for.

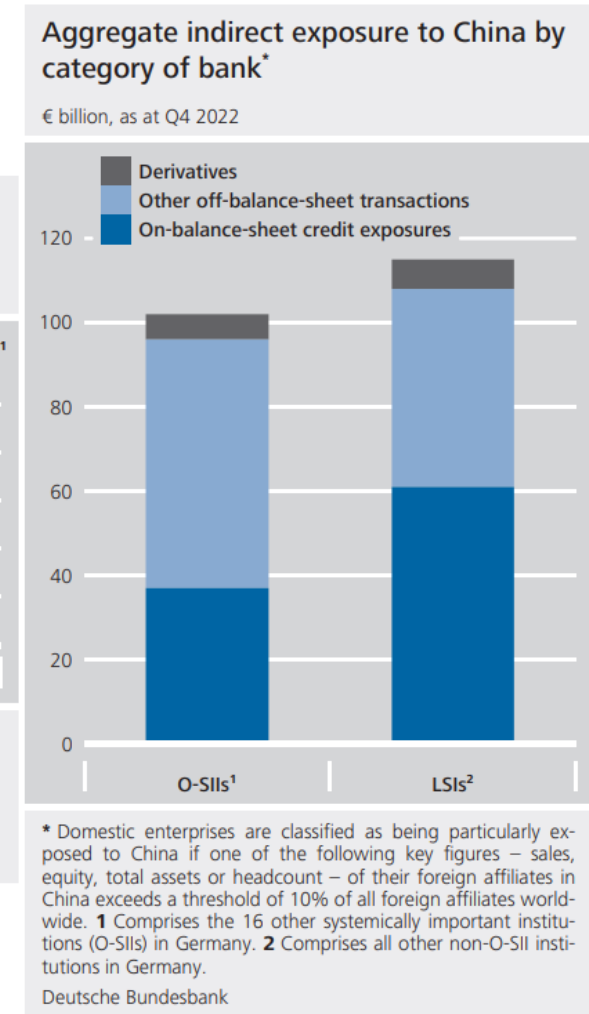
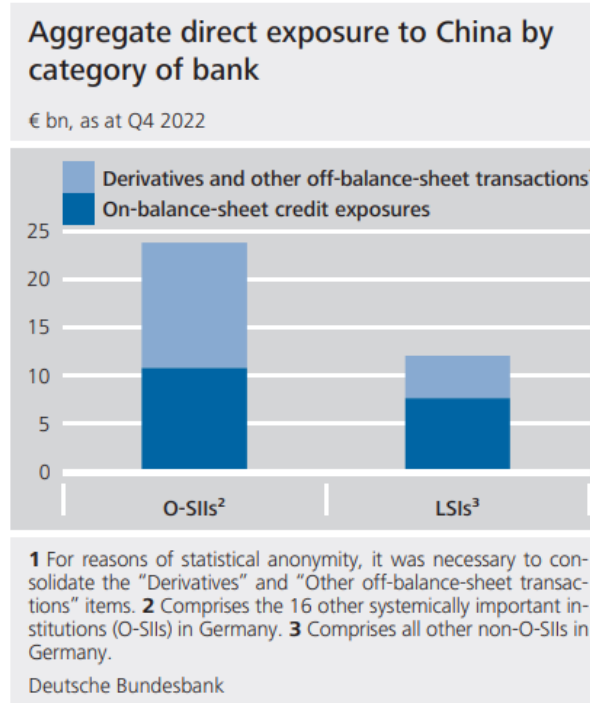
Deutsche Bundesbank

See: Deutsche Bundesbank, Monthly Report, January 2024.

Geoeconomic Risks. Although German banks have limited direct exposure to China, they face larger indirect credit risks through firms heavily reliant on the Chinese market.

Indirect financial risks exceed direct exposures.

- **Direct exposures** total **€36 bn** (end-2022 data),
 - Chinese credit institutions (€18 bn), enterprises and households (€11 bn), and public authorities (€7 bn).
 - China ranks only 20th among foreign borrowers.
- **Indirect exposures arise through German firms highly exposed to China.**
 - Nearly 760 such firms, with total bank exposure of **€220 bn** (end-2022 data).
 - This represents about **7% of RWA and 42% of CET1 capital** in the German banking system.
 - Around 90% of banks have credit relationships with at least one such company.



See: Deutsche Bundesbank, Monthly Report, January 2024.

Key messages

- **Geopolitical risks are diverse and evolving**, with the potential to transmit rapidly across borders, markets and the financial system.
- **Their impact can be amplified by existing vulnerabilities**, including sectoral, geographical and counterparty concentrations.
- **Authorities and financial institutions** should integrate geopolitical and concentration risks into risk monitoring, business decisions and financial-stability assessments.
- **Forward-looking stress tests and scenario analyses** should assess the impact of severe but plausible geopolitical and hybrid threats on solvency, liquidity and lending.
- **Maintaining adequate capital and liquidity buffers** is essential to preserve resilience and sustain the provision of critical financial services during geopolitical shocks.
- **Strengthening operational resilience, contingency planning and crisis-management capabilities** is essential to mitigate disruptions and support the continuity of critical services.

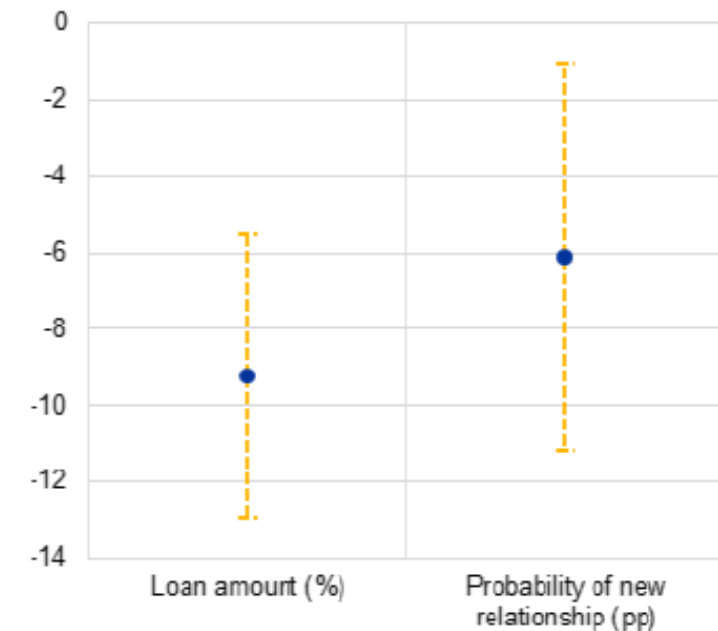
Appendix

ECB/ESRB Analysis. EA banks that were more exposed to geopolitical risk from the invasion of Ukraine reduced their lending to non-financial firms significantly more than less exposed banks.

- **Bank-level lending impact analyzed in ECB/ESRB Report.**
- **Data:** Quarterly bank–firm loan data for 363 euro-area banks (2021Q1–2022Q4).
- **Method:** Estimate responses to a one-standard-deviation increase in bank-level GPR exposure.
- **Exposure measure:** Change in country-level GPR index in 2022Q1, weighted by banks' average 2021 asset exposures using ECB supervisory data.
- **Interpretation:** Captures banks' exposure to the geopolitical risk shock through international assets.
- **Outcome:** EA banks more exposed to geopolitical risk from the Russian invasion of Ukraine contracted both their lending volumes (intensive margin) and the probability of establishing new lending relationships (extensive margin) more than their peers.
- Controlling for other factors, a 1-std-deviation increase in a bank's GPR exposure is associated with an almost 10% lower loan volume relative to less exposed banks.

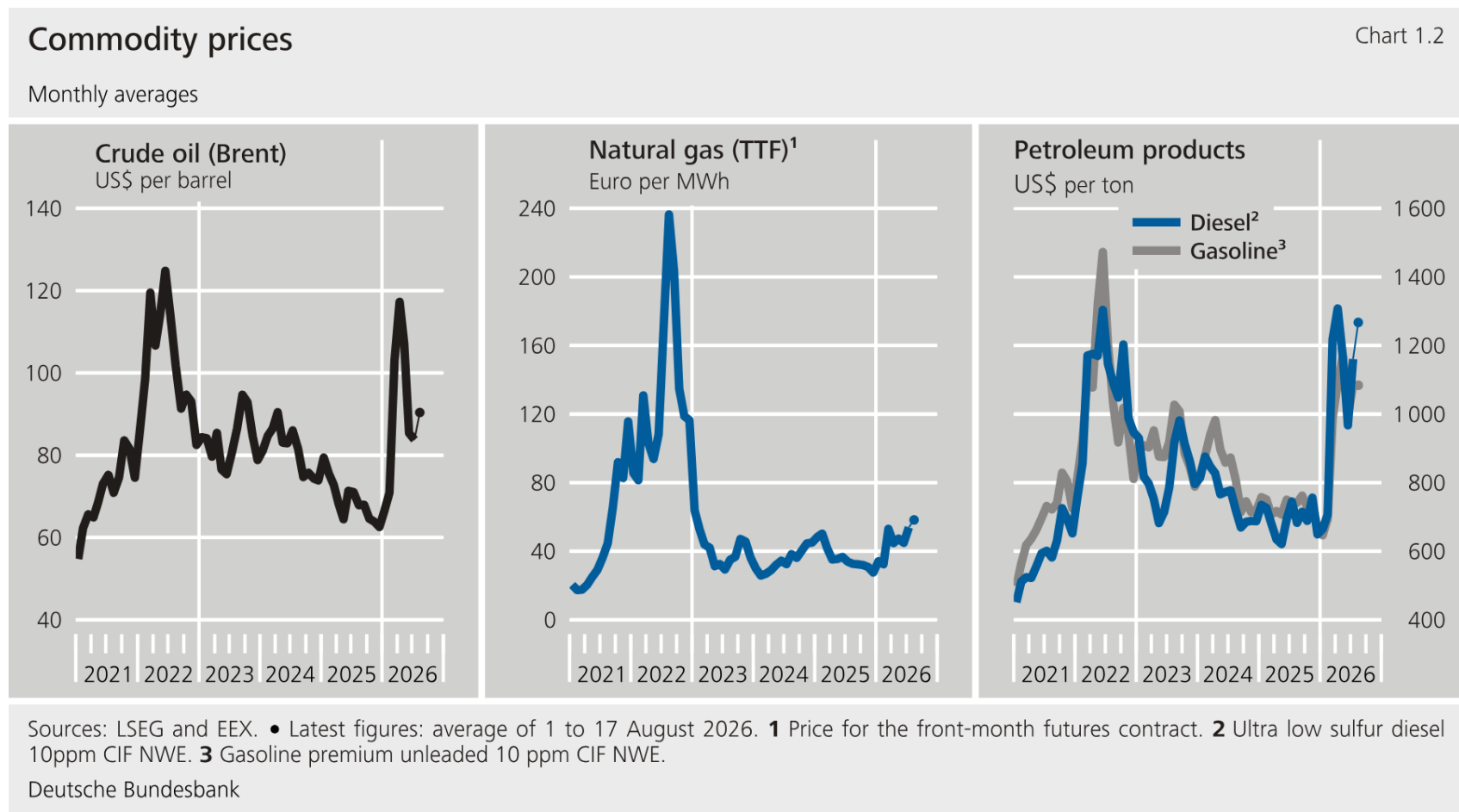
Effects of bank GPR exposure on lending supply after the Russian invasion of Ukraine

(in percent, percentage points)



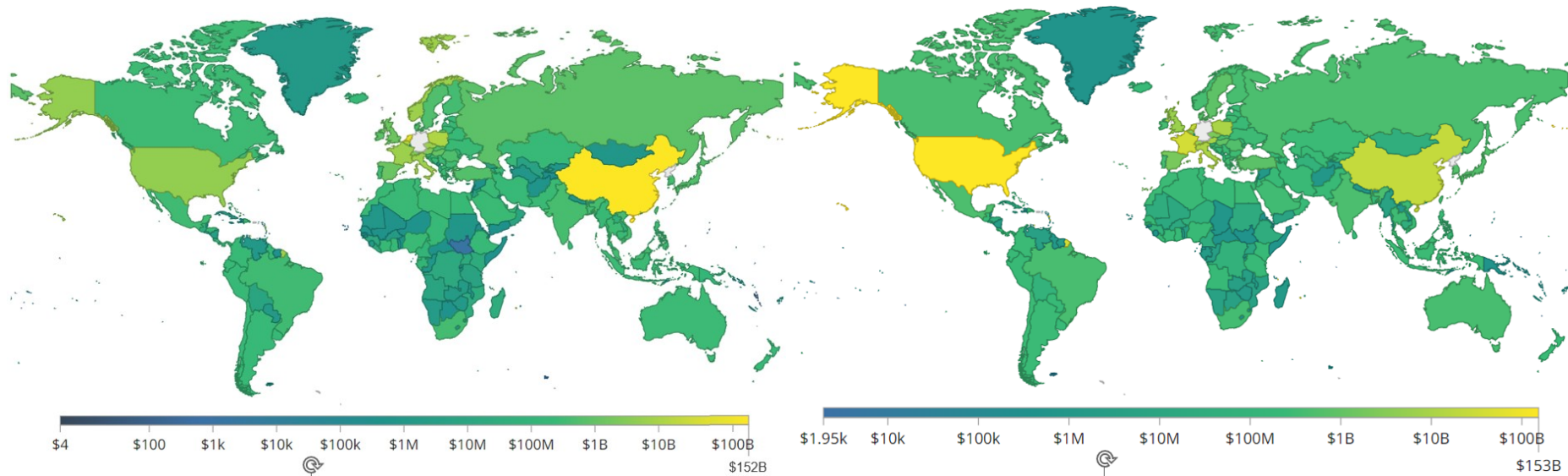
Source: ECB/ESRB Report on Financial Stability Risks from Geoeconomic Fragmentation, January 2026. **Notes:** The figure shows the estimated response of bank-firm loan amounts to a one-standard-deviation increase in bank-level GPR exposure and the probability of new lending relationships being established following the Russian invasion of Ukraine. The regressions are estimated on a sample of 363 euro area banks, with quarterly data for 2021:Q1-2022:Q4. 90% confidence intervals are shown.

Conventional GPR: War in Middle East. The war in the Middle East has driven up energy prices, creating headwinds for the global economy.



Geoeconomic Risks. Rising U.S.-China tensions expose Germany to growing geoeconomic risks through its trade dependencies, as China is Germany's top import source, while the U.S. its top export destination.

German trade flows: Leading import sources and export destinations (2022)



a) Source countries of German imports

b) Destination countries of German exports

Source: Observatory of Economic Complexity (OEC), 2022. **Notes:** Left map shows source countries of German imports (USD billions); right map shows destination countries of German exports (USD billions).