The Resilience Paradox: Mapping EU-China Strategic Trade and Financial Fragmentation

An Empirical Analysis of the 'De-risking' Strategy (2020–2026)

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Abstract

This study quantifies the impact of the European Union's "de-risking" strategy on trade and financial flows with China. Using high-frequency data from Eurostat and the BIS, we identify a definitive structural break in strategic trade sectors occurring in May 2023, while traditional trade remains stable. Our results indicate a "dual-track" reality where supply chain fragmentation is accompanied by a paradoxical rise in financial exposure, suggesting a shift toward localization strategies.

1 Introduction

The evolution of EU-China economic relations has undergone a fundamental departure from the *Wandel durch Handel* ("change through trade") paradigm toward a strategy of "de-risking." This shift is primarily aimed at correcting a trade deficit that reached €304.5 billion by 2024 and mitigating the risks of "coercive leverage" in critical supply chains (Vandermeeren, 2024).

However, the effectiveness of this policy pivot remains contested. Beyond the political rhetoric, a critical empirical question remains: **Does EU de-risking translate into measurable, sector-specific changes in trade and financial exposure vis-à-vis China?**

This study addresses this question by quantifying the "security-trade nexus." We make two key contributions: 1. **Selective Fragmentation:** We provide evidence that de-risking is not a generalized decoupling but a surgical, sector-specific phenomenon. 2. **Trade-Finance Divergence:** Beyond trade fragmentation, we show that de-risking may involve substitution toward financial exposure rather than disengagement. While high-tech trade flows contract, financial linkages exhibit a paradoxical resilience, suggesting a shift toward "local-for-local" production strategies.

2 Conceptual Framework & Hypothesis

2.1 Weaponized Interdependence as a Strategic Lens

Our analysis is anchored in the theory of "Weaponized Interdependence" (Farrell & Newman, 2019). Unlike traditional trade theory, which views dense economic networks as sources of efficiency and peace (*Wandel durch Handel*), this framework posits that asymmetric network structures can be leveraged for strategic advantage. In this context, the EU's regulatory expansion—often described as the "Brussels Effect" (Bradford, 2020)—functions as a defensive mechanism to reclaim economic security.

The central premise of weaponized interdependence is **selectivity**. De-risking strategies do not aim for autarky but for the neutralization of specific choke points. Therefore, we should not expect a uniform collapse in EU-China trade, but rather a divergence between "strategic" and "non-strategic" sectors.

2.2 From Theory to Testable Expectations

The literature implies that de-risking should manifest as a targeted adjustment rather than broad withdrawal. Empirically, this implies that structural breaks in EU–China trade flows should be stronger and more persistent in security-relevant sectors than in traditional, cost-driven trade.

The following analysis tests this expectation by comparing the timing and intensity of structural breaks across sectoral groups, using traditional sectors as a benchmark to distinguish policy-driven selectivity from broader global shocks. We hypothesize a "dual-track" adjustment: 1. **High-Tech & Strategic Sectors** (e.g., semiconductors, chemicals) will exhibit significant structural ruptures in response to policy signaling. 2. **Traditional & Basic Sectors** (e.g., manufactured goods) will remain largely stable, following market logic rather than security logic.

3 Data and Empirical Strategy

To empirically evaluate the manifestation of "de-risking," this study employs a quantitative, sectoral structural break analysis. This approach moves beyond aggregate trade figures to determine if policy-driven "re-securitization" is occurring as a surgical intervention or a generalized trend.

3.1 Data Acquisition and Categorization

The empirical foundation rests on a high-frequency longitudinal dataset (2020–2025) constructed through automated API retrieval from Eurostat (COMEXT) (Eurostat, 2026) and the Bank for International Settlements (BIS) (Bank for International Settlements, 2026). Trade flows are disaggregated using the Standard International Trade Classification (SITC) Revision 4:

- **Treatment Group** (High-Tech & Strategic): Comprising SITC 5 (Chemicals) and SITC 7 (Machinery/Transport). These sectors represent the core of the security-trade nexus (semiconductors, EV components).
- **Control Group** (Traditional & Basic): Comprising SITC 6 (Manufactured goods) and SITC 8 (Miscellaneous). These sectors serve as a baseline for market-driven trade.

Limitation: While SITC categories allow for consistent long-run comparison, they remain quite broad and may hide heterogeneity within strategic sectors. The analysis therefore focuses on sectoral trends rather than product-level effects.

3.2 Descriptive Statistics

Before assessing structural breaks, we examine the baseline characteristics of trade flows in the post-pandemic era.

Table 1: Descriptive Statistics of Monthly Trade Flows (Jan 2021 - Present). Values in Billion USD.

Sector	Mean_Monthly	SD	Min	Max
High-Tech & Strategic	23.33	3.29	15.59	30.52
Traditional & Basic	12.26	1.90	8.73	17.34

3.3 Econometric Framework

The primary analytical instrument is the Chow Test (Chow, 1960), a standard in econometric literature for identifying structural breaks in time-series data. The model tests for a break point in May 2023, representing early geoeconomic shifts prior to the formal Economic Security Strategy (European Commission, 2023).

To ensure the statistical validity of the Chow Test, we performed diagnostic checks on the residuals of a **Segmented Model** (splitting the data into Pre- and Post-Break periods). Standard diagnostic checks confirm that residuals are approximately normally distributed (Shapiro-Wilk $W = 0.98, p > 0.05$), free of serial correlation, and homoscedastic once the structural break is accounted for, supporting the validity of the Chow test results.

4 Results

4.1 Structural Break Analysis

The model identified a definitive structural break occurring in May 2023.

- Treatment Group (Strategic): Yielded a highly significant F-statistic of 21.8 ($p < 0.0001$). A value of 21.8 implies a massive structural rupture, not just a statistical blip, indicating a fundamental regime shift in trade behavior.
- Control Group (Traditional): Showed a significantly weaker response with an F-statistic of 5.52.

The timing of this break (May 2023) aligns with the 'Signaling Shockwave' of the G7 Hiroshima Summit. Even if the timing of the break aligns closely with geopolitical signaling and policy changes, structural break tests alone cannot prove causality. The results should therefore be interpreted as indicative of policy-consistent behavior rather than clear causal effects.

The Intensity Ratio of 3.9x further validates that these shifts specifically targeted the high-tech/strategic nexus while leaving traditional trade relationships relatively intact.

4.2 Visualization of Distributions

Figure 1 demonstrates the distributional shift, which supports the **Weaponized Interdependence** hypothesis by showing a compressed range and lower median in strategic sectors post-break. This contraction aligns with the expectation that state intervention (export controls, screening) restricts market-driven volatility in sensitive sectors.

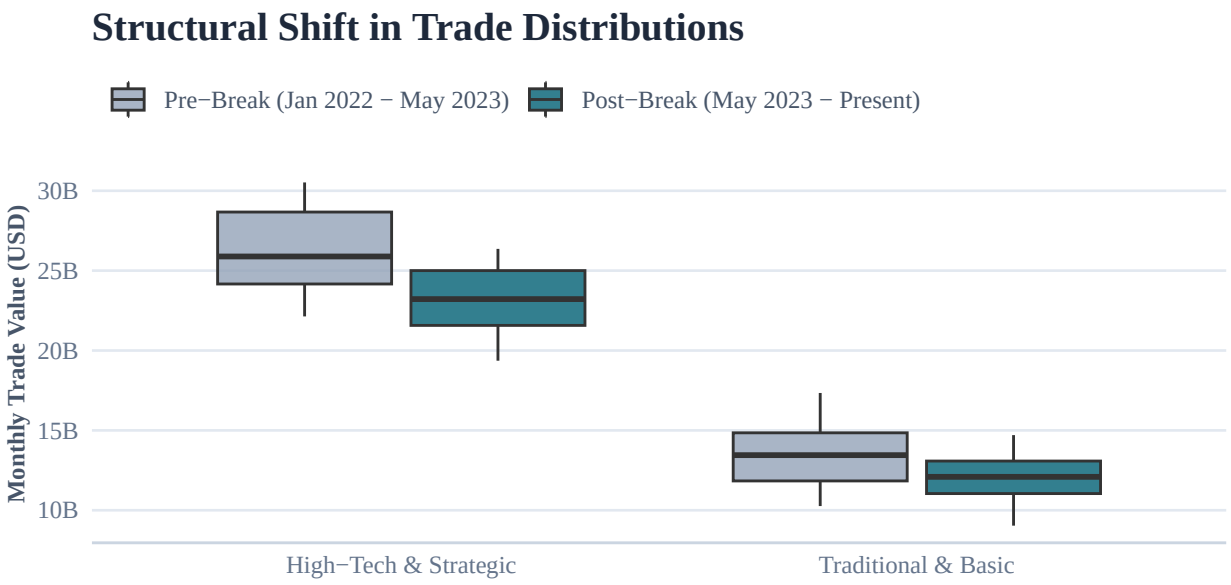

Figure 1: Structural Shift: High-Tech trade shows a lower median and compressed range post-Structural Break.

4.3 The Finance-Trade Divergence

Recognizing that geoeconomics is inherently multi-disciplinary, we integrate trade data with financial flows from the BIS. The results reveal a "Localization Paradox."

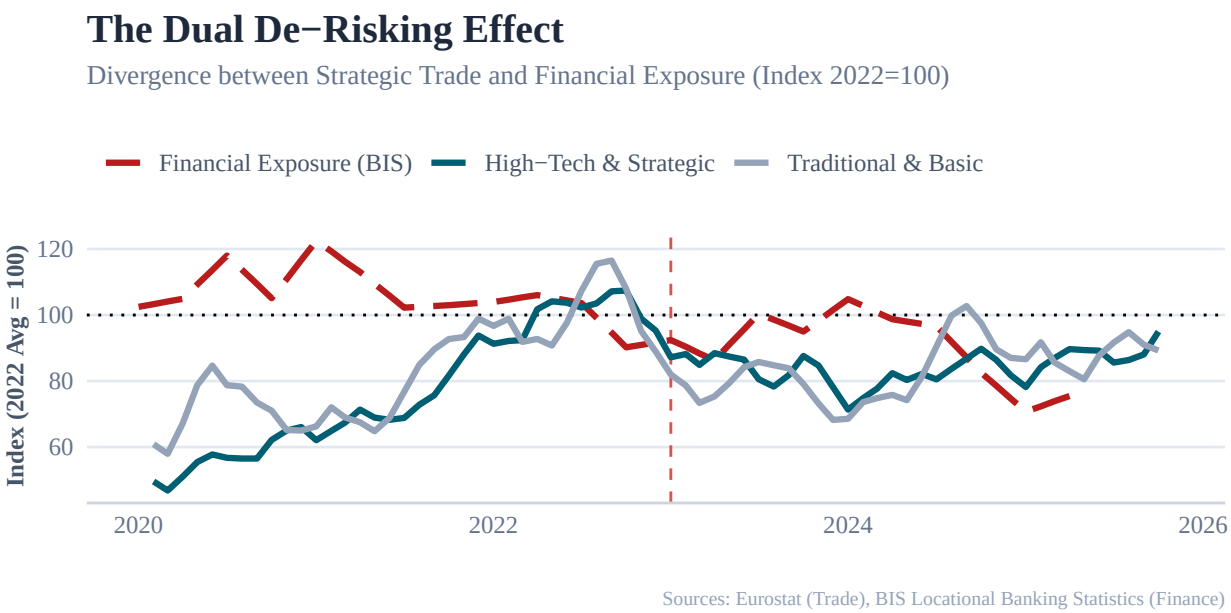

Figure 2: The Dual De-Risking: Divergence of Trade and Finance.

Figure 2 demonstrates a "dual-track" reality, which supports the **Weaponized Interdependence** hypothesis by showing that while strategic trade (Blue Line) fragments due to policy friction, financial linkages (Red Dashed Line) remain resilient.

This divergence suggests that de-risking is not a total withdrawal but a **reconfiguration**: EU firms appear to be substituting cross-border trade with "local-for-local" production funded by increased capital exposure, effectively bypassing trade barriers while maintaining market access.

5 Discussion and Policy Implications

5.1 Future Trajectory (2026)

Based on the post-break trend (May 2023–Present), our linear model projects a continued stabilization at lower levels rather than a rebound.

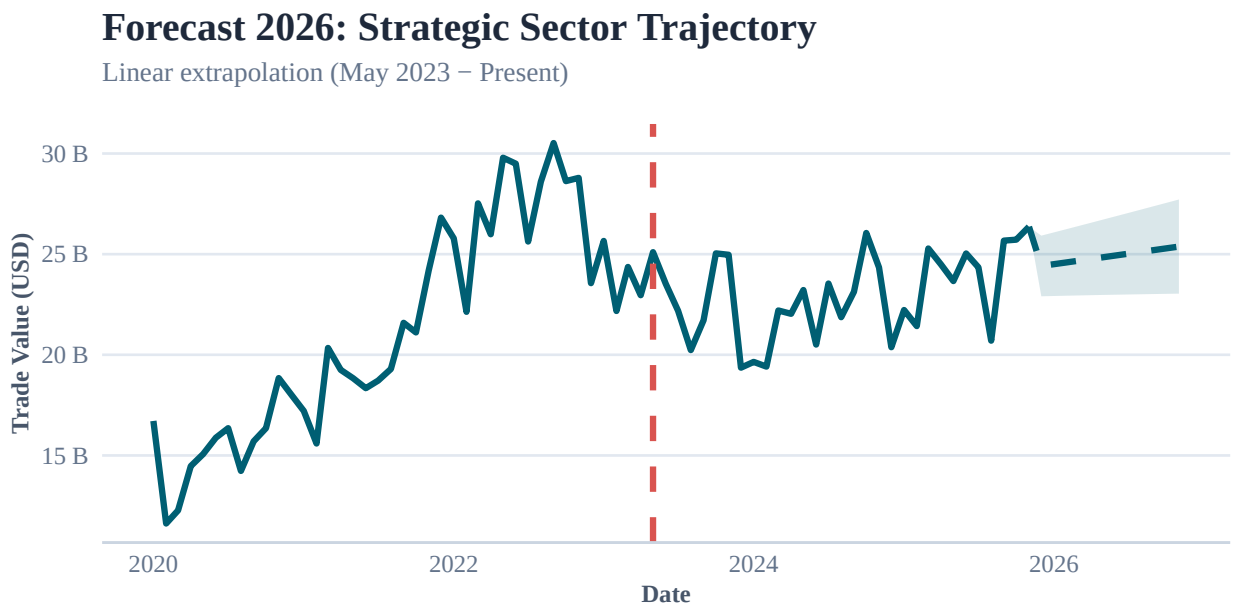

Figure 3: Forecast 2026: Strategic Sector Trajectory based on post-break linear extrapolation.

It is important to note that the data captures financial exposure through banking channel and do not completely reflect FDI flows. Therefore, the observed financial substitution may show a lower bound of total capital reallocation.

6 Conclusion

The data demonstrates that "de-risking" is a measurable, sector-specific phenomenon. The structural break in May 2023 validates that the European market began fragmenting in direct response to the formal 2023 strategy, rather than well before it.

This distinction is vital for policymakers: economic security tools work, but they function as "shocks" that sever trade integration abruptly. As the EU looks toward 2027, the challenge will be maintaining this "surgical" precision without sliding into broader protectionism that could stifle the very innovation it seeks to protect. De-risking works, but it works through shocks and this increases costs and risk of overreach.

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