

U.S. Tariffs, Global Crises and the EU Economy: A VARX Approach

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Abstract

This paper investigates the macroeconomic effects of U.S. tariff actions on the euro area using a Vector Autoregression with Exogenous variables (VARX (7)) framework. The analysis spans 2002–2024 and includes four monthly indicators; exports, the real effective exchange rate (REER), the Economic Sentiment Indicator (ESI), and industrial production (IPI). Tariff shocks are modelled as binary dummies, while global crisis episodes are treated separately. The system is estimated using harmonised Eurostat data and subjected to extensive diagnostic and robustness testing.

The results show that tariff shocks exert no statistically significant effects on euro area activity, while global crises and sentiment shocks generate pronounced but temporary fluctuations. Confidence and production display strong feedback effects, with sentiment influencing output and vice versa, whereas tariff episodes remain macroeconomically neutral. Exchange rate movements primarily affect competitiveness through short-run adjustments rather than persistent deviations.

The paper contributes to the literature by providing systematic evidence on the aggregate euro area response to U.S. tariff shocks, demonstrating that short-run volatility is driven mainly by global crises and expectation dynamics, while the underlying trade–production–sentiment system remains stable and mean-reverting.

Keywords

VARX, tariffs, euro area, external shocks, transmission.