Financial Econometrics Project – Elia Landini – Simon Mitrofanoff – Lorenzo Alessandro Uberti Bona Blotto.

Abstract

Introduction

A growing literature has been studying the effect of tariffs and the populist rise I protectionist policies in developed economies as an effective measure is boosting localized domestic GDP while reducing the competitiveness of foreign goods. In this project we look at the effect of tariff announcements, and implementation in the USA under the Biden , Trump presidencies and examine their comparative effect on European markets. The Average tariffs rate on all imports between 2020 and 2024 in the US was circa to 1.8%, since the second presidency of President Trump this has risen to 11.8% [[1]](#footnote-1). The European Union hasn’t been exempted from these hikes in Tariff Rates as it currently is paying an additional 15% Ad valorem tariff rate on US imports. [[2]](#footnote-2) The European Union is a current global mass exporter total exports being valued at $2.08 trillion dollars, of which circa to 21% ($ 571bn)[[3]](#footnote-3) is exported to the US this creates a high level of exposure to US tariffs implementations on European markets since exporters face higher costs and reduced demand, directly lowering output and profits in affected industries. This propagates through input, output linkages: intermediate goods producers, logistics, and suppliers also see weaker orders, depressing industrial production across countries. This exposure to Global Market instability as a direct link to US Tariffs coincides with or main research question, being how in effect do US Tariffs (via changes in bilateral U.S., EU trade) affect European industrial production, stock markets, and exchange rates?

This project employs monthly data in a panel framework covering the 27 European Union member states spanning between 2020 and 2025, with the end goal of being able to analyse the transmission of US trade policy shocks to the European economy and financial markets. We attempt to capture this effect by focalising on three distinctive dependent variables which aim to capture both the real, financial and external dimensions of exposure. To proxy for real economic activity, we use the Industrial Production Index (IPI), as indicators for market-based expectations and assets price adjustments, we will peg to the respective European stock index levels and returns; this is for the 11 European Countries with respective Stock Indexes. and finally in order to be able to effectively analyse the capital flow responses and exchange rate dynamics we are also using the bilateral USD exchange rate. We model the non-linear adjustment of these variables to U.S trade policy utilizing a Panel Smooth Transition Regression framework, whereby letting the transition variable (i.e. the regime) be the U.S. bilateral imports and exports with each European country. We decided to use this variable due toits ability to capture the characteristics f trade linages and therefore allow us to model the exposure of US tariffs and trade policy shifts, such that through letting the estimated coefficients to vary smoothly, the model will identify distinctive regimes correspond to periods of low and high US Tariff Pressure allowing us to garner a richer understanding of the non-linear propagation of trade shocks.

We isolate trade specific channels from broader macro-financial factors by employing country specific controls being: GDP per capita, Harmonised Index of Consumer Prices (HICP\_, and the unemployment while also layering over global controls that account for external financial commodity conditions, such as crude oil prices, the U.S nominal Broad Dollar index, CBPE Volatility index and US 10 yr Treasury yield.

Methodically, the project is intended to shed light on how US trade pressure transmit to European economies with the end goal being to gauge the effect of vulnerability of European markets to US tariff cycles and also to see whether the economic and financial responses differ between low and high exposure countries within the EU.

1. Statisita - https://www.statista.com/statistics/1557485/average-tariff-rate-all-imports-us/ [↑](#footnote-ref-1)
2. Atalantic Council Tariff Tracker - <https://www.atlanticcouncil.org/programs/geoeconomics-center/trump-tariff-tracker/> [↑](#footnote-ref-2)
3. Trading Economics - https://tradingeconomics.com/european-union/exports-by-country [↑](#footnote-ref-3)