EXCHANGE RATE AND TRADE ELASTICITIES: A MULTISECTORAL AND MULTICOUNTRY ANALYSIS

Topic: Policy Analysis with Interindustry Models
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The foreign exchange currency market is typically characterized by an ingrained uncertainty in a regime of flexible exchange rates as recent years have shown. The protectionist policy of the US administration is driving down value of the US Dollar but, at the same time, the decision of the Federal Reserve to gradually raise nominal interest rates has contributed to attract capital flows that should determine a Dollar appreciation. On the European side, the political instability due to general elections in some countries, independentist pressures in Cataluna, Brexit, and an unsolved problem of governance for the EU, all contribute to the Euro weakness with respect to US currency. All these elements, and many others, have contributed to large movements in terms of bilateral exchange rates and make difficult to predict the value of the currencies in the future. Despite several studies try to demonstrate that exchange rates matter far less than they used to for trade (Bahmani-Oskooee and Ratha, 2008), some others proved that exchange rates still matter for international trade (Leigh et al., 2015; Verhoogen, 2008). In this paper, we aim to quantify the impact of alternative scenarios in terms of US Dollar-Euro exchange rates in the next 5 years on the bilateral trade flows among European countries, US, and China.

To explore this issue empirically, a trade model is needed that represents the linkages among the main players in international markets at the bilateral level. We use a Bilateral Trade Model (BTM) to simulate the effects of different exchange rate scenarios and to quantify how the import shares of European countries and their competitors are affected sector by sector. As described in Bardazzi and Ghezzi (2017), the main features of the BTM are (i) a dataset of bilateral trade flows, (ii) a detailed disaggregation of commodity classifications, (iii) econometric estimation of import shares, and (iv) a system linking national multi-sectoral models. A high level of disaggregation of trade flows is particularly useful to fully capture the complex interrelations between economies, to investigate issues of international competitiveness, and to simulate the detailed aspects of trade policies which are often tailored to specific commodity categories. We use data from the UN- Comtrade and the EU â€“ Comext datasets to quantify the bilateral trade flows between countries and National Accounts information about investments and prices to estimate share equations. Unlike other multi-country models where trade shares are exogenously assumed, either with parameters drawn from the existing literature or with exogenous hypotheses, in the BTM import shares are endogenous and estimated econometrically as a function of a set of explanatory variables at the commodity level. Finally, the BTM system linking national models enables understanding of the transmission channels of shocks via international trade to detailed industries at the national level, with country models designed so that they mirror the specific characteristics of the national economic systems. Therefore, the overall linking system of BTM and the national multisectoral models allow to estimate direct and indirect feedbacks between the economies included in the model through international trade flows.

The main contribution of this paper is to measure the economic impact of exchange rate movements in the next future. Despite it is well-known that exchange rate movements affect countries exports, in the related literature there is no consensus on the size of this effect. Macro empirical analyses tend to produce very low estimates for the elasticity of exports to the exchange rate, while micro theoretical models tend to justify a higher level of this elasticity. Our analysis takes into account a high level of country structural diversification connected with high commodity disaggregation. The estimation of detailed trade elasticities gives us the opportunity to measure a differentiated impact of exchange rates movements on the national economic systems.

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