2012-08-02

PRESS RELEASE

**Dissecting the dynamics of the US trade balance in an estimated equilibrium model**

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NBB Working Paper No 226 - Research Series

The evolution of the United States' external position and its consequences for the global economy have received much attention in academic and policy circles. This paper uses an econometric model to disentangle the disturbances that drive US net exports over the business cycle. The model that we use is essentially a two-country version of the closed-economy model seen in Smets and Wouters (American Economic Review 2007) which proved to match the statistical properties of the data fairly well. In our model, the US is positioned as the home country and an aggregate of sixteen developed economies is the second country. We estimate the model with Bayesian methods using data series on the US trade-balance-to-output ratio as well as those for output, investment, consumption, interest rates, wages and the prices of output, investment and exports for the home and the foreign regions. The time series span the 1980.Q1-2005.Q4 period. The dynamics of the model is driven by domestic as well as external disturbances: productivity shocks, consumption impatience shocks, technological shocks specific to investment, investment demand shocks, wage shocks, export price shocks, government spending shocks, interest rate shocks and exchange rate shocks. Each of these disturbances plays a distinct role in the model dynamics.

The central result of our analysis is that variations in investment demand driven by *marginal efficiency of investment* (MEI) shocks are key to understanding the short-run dynamics of the US trade balance. Relative to the other shocks we consider, both domestic and external MEI shocks tend to generate strong movements in the trade balance and explain more than half its forecast variability. A positive MEI disturbance can be interpreted as accelerating the conversion of finished capital goods, fresh from the factory, into the capital stock which is used for producing goods in the ensuing period. The domestic economic boom that follows a positive MEI shock is accompanied by a strongly counter-cyclical trade balance. The most important feature of the data that tilts the results in favour of investment shocks is that investment goods make up more than three-fourths of aggregate US non-energy imports as well as exports. Since investment accounts for only about 20 percent of US demand, this implies that the investment sector is extremely import-intensive. In light of this empirical observation, we allow final investment goods to be more import-intensive than final consumption goods in our model set-up. Therefore, disturbances which affect investment have a much stronger impact on the external balance than those transmitted mainly through consumption.

We disaggregate the variations in the trade balance into movements in relative international absorption (consumption and investment demand) and into relative international prices such as exchange rates and the terms of trade. We observe that the strong overall impact of MEI shocks on the trade balance is explained by the dynamics of the relative quantities rather than the relative prices. In contrast, shocks that transmit mainly through the relative prices, namely the exchange rate shock and the import price shock, have a strong influence on the trade balance only in the very short run and are dominated by MEI shocks at longer time horizons. Positive domestic productivity shocks generate counter-cyclical trade balance movements, in line with traditional macroeconomic theory. However, these movements are quantitatively mild in relation to the dynamics triggered by MEI shocks.

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MEI shocks are interpreted in the recent empirical literature as indicators of random changes in the efficiency of the latent financial intermediation sector that channels savings into productive capital. To further corroborate the financial interpretation of MEI shocks, we compute correlations of the model-based estimates of the MEI shocks with measures of the external finance premium, both in the US and abroad. We find that the MEI shocks from the model and the spread are significantly negatively correlated. This in turn implies that domestic economic booms triggered by MEI shocks are accompanied by a negative trade balance response and narrow interest rate spreads. While we do not interpret MEI shocks as financial shocks *per se*, the correlations with the spread suggest that financial intermediation is important for trade balance dynamics. Hence, a natural extension of this research agenda is to introduce a well-defined financial intermediation sector and related structural shocks into models of the international business cycle.