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The Macroeconomic Effects of Exchange Rate Movements

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The macroeconomic effects of exchange rate movements have been subject to an extensive debate in international economics. Traditionally, much of the discussion was focused on the relation between the effective exchange rate and the trade balance. However, the process of financial globalization has led to a sharp increase in foreign asset and liability positions across countries and also to a greater dispersion in foreign currency positions, with many countries being either large net creditors or net debtors in foreign currency. This has shifted the focus of the discussion from the trade balance to the external balance sheets of countries. This Roundup provides a brief overview of the literature on the macroeconomic impact of exchange rate movements.

What are the macroeconomic effects of exchange rate movements?

The exchange rate and the real economy of a country can be thought of as having common driving forces, like domestic and foreign monetary policy, or domestic and foreign demand. If, for instance, domestic monetary policy is tightened, this should have contractionary effects on output and lead to an appreciation of the exchange rate. But does the appreciation – ceteris paribus – amplify or dampen the initial effect of the monetary policy impulse on the real economy? Or, more generally: how do exchange rate movements affect the macro economy?

The textbook view focuses on the trade balance

Traditionally, the discussion has focused on the effect of the effective exchange rate on GDP via the trade balance (the trade channel). Conventional wisdom in open economy macroeconomics is that, other things being equal, an appreciation of the effective exchange rate has contractionary effects on the economy due to a decrease in net exports. This argument is based on the "Marshall-Lerner Condition". Relying on this condition, Mundell (1963) and Fleming (1962) expanded the analytical framework of the classical IS/LM-model by introducing an open economy environment to capture the relationship between a small open economy and the rest of the world.

The mechanics of the model are as follows: an increase in domestic economic activity, say due to expansionary fiscal policy, leads to an increase in demand for liquidity, driving the domestic interest rate above the global interest rate. Under perfect capital mobility, foreign investors shift capital to the small open economy due to the interest rate differential and, as a result, the domestic currency appreciates. The appreciation, in turn, raises the prices of exports and lowers the costs of imports, finally leading to declining net exports and, in turn, a drop of output.

… but there are also beneficial side effects on growth

However, an appreciation could also be expansionary due to trade effects if the Marshall-Lerner Condition does not hold. An example of one of these effects is an increase in aggregate supply due to a fall in the price of imported intermediate goods. If these effects outweigh the decrease in exports, the overall effect of an appreciation would be expansionary. Kim and Ying (2007) discuss this case and present empirical evidence for Latin American countries.

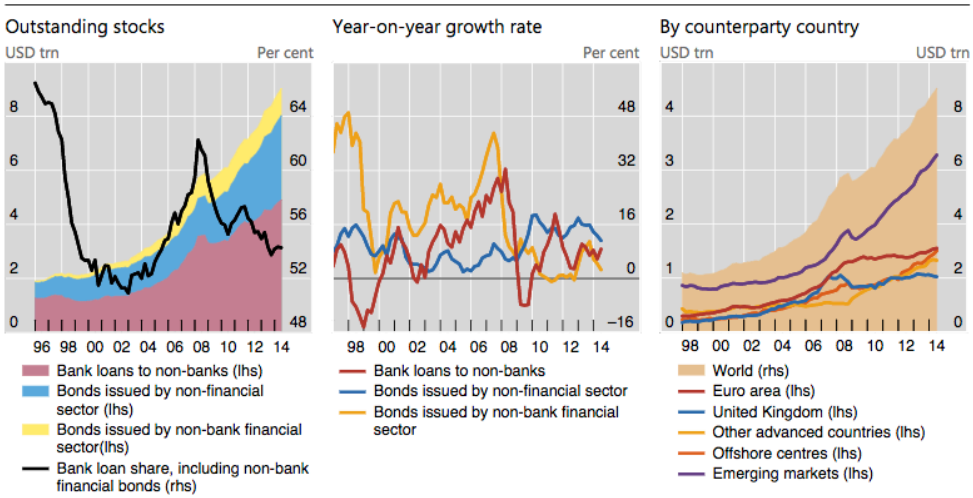
Empirical evidence and modification of the text-book model

This classical approach for understanding the macroeconomic impact of exchange rate movements has been a subject of intense study. Kim and Ying (2007) investigate the relationship between growth and currency appreciation and provide evidence indicating that currency devaluations have had strong expansionary effects in East Asian countries. In this line, Bussière, Lopez and Tille (2014) also find evidence suggesting that currency appreciation has a negative impact on growth. Also, Kappler et al. (2013) find that net exports and output fall following large exchange rate appreciations for a broad range of countries. Furthermore, country specific empirical investigations by Huh (1999) and Razzaque et al. (2017) also confirm the implications of the Mundell Fleming model for the Australian and the Bangladesh economy, respectively.

Financial globalization has brought foreign currency positions into play

However, economies are not solely linked by trade flows. Especially during the past couple of decades, the process of financial globalization has led to a sharp increase in foreign assets and liability positions across countries and also to a greater dispersion in foreign currency positions, with many of countries being either large net creditors or net debtors in foreign currency. Moreover, portfolio flows from the U.S. to emerging market economies (EMEs) have increased rapidly especially in the 2000s (see Figure 1). This has shifted the focus of the discussion from the trade balance to the external balance sheets of countries.

Figure 1: USD credit to non-banks outside the U.S. from: McCauley et al. (2015)



Source: McCauley, R. N., McGuire, P. and Vladyslav, S. (2015): Global dollar credit: links to US monetary policy and leverage, Economic Policy, CEPR; CES; MSH, vol. 30(82), pages 187-229.

Blanchard et al. (2015) address financial globalization by studying the effects of different types of capital flows on the exchange rate and growth. They argue that the nature of capital inflows in case of appreciations is crucial for their overall economic effects. In their model, capital inflows in bonds are always contractionary as they just lead to a currency appreciation, which in turn leads to a decrease in net exports. In contrast, foreign investments in non-bonds may lower their rates and thus decrease the cost of financial intermediation leading to a credit boom. This expansionary effect on output may dominate the contractionary effect resulting out of the appreciation associated to the initial inflow of capital. This theoretical assessment is supported by estimates using a panel of EMEs.

The macroeconomic impact of exchange rate movements working through the international currency exposure is of particular interest for EMEs. As analyzed by Lane and Shambaugh (2010) and Bénétrix et al. (2015), among others, after the Asian financial crisis, EMEs started to continually improve their net foreign currency positions, mainly due to current account surpluses and a shift from debt liabilities to equity-type liabilities. In 2004, EMEs were on average net long in foreign currency, indicating that an appreciation of the exchange rate can have contractionary effects on the domestic economy as the value of foreign assets decreases. Thus, a depreciation of the exchange rate can be expansionary. Georgiadis and Mehl (2015), for instance, find that the effect of expansionary domestic monetary policy shocks, that trigger a depreciation of the exchange rate, are amplified in countries with a larger net foreign currency position.

The overall improvement in net currency exposure, however, often masks significant heterogeneity across sectors. While governments and central banks in EMEs have increasingly accumulated foreign exchange reserves, the corporate sector can still be a large debtor in foreign currency, in particular in US dollar. McCauley et al. (2015) estimate that the stock of US dollar-denominated debt of non-banks in EMEs stood at $ 3.3 trillion as of March 2015. This dollar-denominated debt is often backed by assets and cash-flows in local currency, creating a currency mismatch on corporate balance sheets.

In a similar way, Bruno and Shin (2015), and Hofmann et al. (2016) argue that if such valuation mismatch in the private sector exists, the movements in the bilateral US dollar exchange rate can affect financial conditions in EMEs through the "risk-taking channel" of currency appreciation: when the local currency appreciates against the dollar, borrowers' balance sheets look stronger, improving their creditworthiness. In turn, the willingness of creditors to extent credit increases at any given exposure limit and credit supply rises, directly affecting domestic financial conditions. Thus, corporate borrowers face better credit conditions. The improvement of financing conditions increases investment and has expansionary effects on the domestic economy and ultimately improves the government's fiscal position. Hofmann et al. (2016) show evidence suggesting that a currency appreciation against the US dollar is associated with an easing of financial conditions and an increase in portfolio inflows into EMEs' sovereign bond funds. Furthermore, Bruno and Shin (2015) provide evidence for advanced economies and EMEs that an appreciation against the US dollar is associated with an acceleration of bank flows in the subsequent quarter.

Cross country evidence: trade vs. financial effects

Kearns and Patel (2016) disentangle the trade channel (as in the traditional view) from the risk-taking channel by comparing the effects of movements in trade-weighted and debt-weighted exchange rates on the macroeconomy. They find evidence that the risk-taking channel can significantly offset the trade channel for

EMEs and that the magnitude of the risk-taking channel is stronger for EMEs with higher foreign currency debt. On the other hand, they find that the trade channel dominates in advanced economies. Moreover, they show that the risk-taking channel is in particular strong for investment, while the effect on consumption is negligible. This result is confirmed by Avdjiev et al. (2018) whose findings indicate an overall dominance of the risk-taking channel over the trade channel for EMEs.

Conclusion

While the debate on the macroeconomic effects of exchange rate movements is not yet settled, it is possible to draw some conclusions from the existing research. The traditional view, which focuses on the relation between the effective exchange rate and the trade balance, is relevant and the theoretical framework on which it relies is a very powerful tool to explain the effects of different policies on output in an open economy setting. However, it appears that in the past couple of decades, due to financial globalization, foreign exchange positions and indebtedness in foreign currency of both the public and private sector have become important for explaining the effects of exchange rate movements on the macroeconomy too. Thus, in order to assess the effects of foreign and domestic shocks, as well as the effects of different regulations of the financial markets, policymakers need to understand how and through which channels exchange rate movements affect the economy. These facts open avenues for future research. More work is needed to understand the role of assets and liabilities denominated in foreign currency, as well as the trade openness and the structure of trade, in determining the relative strength of each channel and thus being able to identify the overall effect of exchange rate movements on the economy.

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