FORESIGHT IN FOREIGN EXCHANGE

A look at information trading among participants in foreign currency markets.

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Textbook models of foreign exchange markets pay no attention to the vast volume of currency trading; instead, these models attribute all the movements in spot exchange rates to variations in current interest rates and foreign currency risk, or the arrival of news concerning future macroeconomic conditions. This view of exchange rate determination has not produced much empirical success. In contrast, more successful exchange rate models have recently emerged which differ from their traditional counterparts by explicitly considering the behavior of currency-market participants. In these micro-based models, exchange rates are determined as an integral part of process through which currencies are traded. This approach provides some simple empirical implications for the behavior of spot rates over short and long horizons.

Micro-based models focus on the process through how information becomes embedded in spot exchange rates, particularly on how market-makers react as new economic information arrives. This information can arrive in several different ways: in the form of a macroeconomic data release, for instance. Such occurrences are routine in the U.S. and other countries and represent official statements about the state of the macro economy in the recent past. If all market-makers interpret this information in the same way, and have a unanimous opinion about its effect on the currency, they will all change their exchange rate quotes immediately by the same amount. Consequently, the spot rate will immediately respond to the information in the data release.

Of course, it is extremely unlikely in practice that their will be unanimity among market-makers concerning the implication of the news. In this case, the information contained in the data release will affect the exchange rate through a second channel where market-makers adjust their quotes only in response to the market's consensus of opinion. For example, if the majority of investors think that the news is better for the value of the dollar than the quotes made by market-makers immediately following the data release, there will be more dollar purchases than sales at those quotes. Such an imbalance represents positive order flow for the dollar, and quotes will rise to reflect the consensus of opinion in the market. Thus, order flow acts as the medium through which valuation information is aggregated and embedded into the spot exchange rate.

Order flow also acts as a proximate driver of the exchange rate in the absence of data releases. In this case, information about the current and future state of the economy is initially learnt by households and firms as they conduct their daily activities. For example, product orders at an individual firm offer some information about demand across the whole economy. This type of information is initially dispersed across agents in the economy and has no effect on exchange rates; however, as agents begin to act on their own information (particularly in currency markets) they generate order flows which reveal information about the state of the economy to market-makers. Thus once again order flow acts a proximate driver of exchange rates because it aggregates dispersed information relevant to the valuation of the currency.

What empirical implications follow from this view of exchange rate determination, and how do they fare when confronted with the data? First and foremost, we indeed find that changes in spot exchange rates are strongly correlated with order flows; there is also strong evidence that most of the impact of macro data releases on exchange rates occurs via order flow, and that the process through which "the market" reaches a consensus can take several days. Order flow also turns out to be a strong predictor of future macroeconomic conditions, such as output growth and inflation, in line with what one would expect if order flow is driven by dispersed information concerning the current and future state of the economy. Finally, it also appears that the trade-based process of information aggregation takes time: during this learning period, order flow has very strong forecasting power for foreign exchange returns. This finding suggests that substantial profits are available to currency traders who are able to successfully anticipate where the consensus of opinion in the market will emerge. ■