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Essays on Exchange Rates

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Abstract

This dissertation presents three essays on exchange rates. The reported work builds on the market microstructure approach to exchange rate determination and extends this approach to modelling and forecasting multivariate exchange rate movements, and to a multi-currency trading application.

The first study investigates the role of order flow in explaining joint movements of exchange rate returns, thereby building an original bridge between exchange rate co-movement and the market microstructure literature. We document that absolute order flow differentials have a significant negative effect on future joint currency movements at intraday frequencies. The analysis also shows that other intraday variables, such as the bid–ask spread, have no explanatory power for the co-movements after the absolute order flow differential is accounted for, thereby confirming the robustness of order flow as the driving force for exchange rate correlation. Further analysis demonstrates that absolute order flows also affect conditional variance dynamics.

The second study adds to the findings of the first study. It evaluates the information content of order flow for accurate predictions of exchange rate co-movement. In line with the first study, we find that order flow information substantially enhances the accuracy of covariance forecasts. Moreover, the interest rate differential has a limited role in explaining and predicting correlation dynamics once the order flow differential is accounted for. The study concludes by showing the economic value of the order-flow-based covariance predictions, namely the value of order flow information for covariance predictions beyond return predictions.

The third study focuses on the practical relevance of order flow information in foreign exchange trading. Given the dominance of technical trading among forex professionals, the study evaluates the value of order flow information for technical traders. Our initial investigation questions the accuracy of trading signals if these are derived directly from order flow. We conjecture that the reason for this is that order flow should first be used to generate exchange rate predictions, which can then be used to derive profitable trading signals. We examine this conjecture empirically, and the affirmative results highlight the value of order-flow-based return predictions for technical analysis. Further, we propose a multivariate trading strategy to boost the benefits of using order flow in technical analysis, which is shown to be a highly profitable.

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