

# **Time variation in the high-frequency response of exchange rates to announcements**

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Many papers have used high frequency data to measure the relationship between macroeconomic news and interest rates, equity prices, and exchange rates. Such work analyses the reaction of asset prices to the surprise component of macroeconomic announcements in a window of few minutes around the time of the data release. Within a short window, the data announcement should dominate other sources of variation in the asset prices; whereas in lower frequency data, other factors may mask the impact of the macro news. Most recently Anderson, Bollerslev, Diebold and Vega (*AER*, 2003) have extensively documented the relationships between macroeconomic news and exchange rates at high frequency data. To date, research in this area has involved data samples of a few years, typically samples taken during the economic expansion of the 1990s.

In this paper, we study the response of interest rates and the exchange value of the dollar vis-à-vis the yen and the mark/euro to major U.S. macroeconomic data releases using high frequency data. Our sample is 1988 to the present, which is quite long by standards of this literature and covers two NBER recessions. We find that the responses to some macroeconomic surprises are time varying. For example, during expansions, higher-than-expected U.S. inflation causes U.S. interest rates to rise (relative to foreign interest rates), and causes the dollar to appreciate. During recessions, higher-than-expected U.S. inflation has little effect on interest differentials, and causes the dollar to depreciate. This variation has not, to our knowledge, been systematically documented before. We characterize the joint response to news of the interest rate differential and exchange rate over time, interpret this in light of the uncovered interest rate parity relationship, and attempt to rationalize the response in terms of changes in the expected policy response to the announcements over the business cycle.

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