

# **ECONOMIC DETERMINANTS OF EXTREME FLUCTUATIONS IN EXCHANGE RATES**

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Exchange rates appear to exhibit considerable fluctuations relative to rational expectations models. In this research we extend the application of the statistical method developed by Cox (1972) that can explicitly account for the time dynamics in the data to examine the effects of local economic fundamentals on the probability of occurrence of extreme fluctuations in exchange rates, assuming that traders have bounded rationality.

Two ways of identifying extreme fluctuations in exchange rates are used. First, we identify an extreme fluctuation as a 10% decrease or increase in exchange rate over a three month period and 20% over a one year period. Second, we identify an extreme excess return as a period of rising or falling exchange rates if the excess return of holding one currency versus the other can be shown to be inconsistent, i.e., more than two standard deviations from the expected excess return, given the historical mean and standard deviation. An excess return is determined as the spot rate minus the forward rate, where the forward rate is calculated as interest rate differential between two countries.

Our main results indicate the following: (1) in a short run exchange rates show overreaction to changes in economic fundamentals, but converge in a long run, (2) exchange rate determination is affected by positive feedback trading over short term horizon, (3) there is asymmetry in the effects of economic fundamentals on exchange rates during time periods of rising and falling exchange rates, (4) higher volume of trading in the foreign exchange market

leads to the discovery of information and more rapid adjustment of exchange rates, (5) there is partial support for the Dornbusch overshooting model, (6) central banks have the ability to defuse the speculative build up on the exchange market over short term but not annual horizons, (7) increases in the local stock market and increase relative to the US market increases the probability of extreme fluctuations in the exchange rate.