

Covered Interest Parity Arbitrage and Long-run Relation between Spot and Forward Rates in Foreign Exchange (Rupee/Dollar) Market in India-Study of Market Efficiency with ARIMA (p, d, q) Forecasting

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The study examines the relation that spot exchange rate maintains with contemporaneous and one – month lagged forward rates in the framework of covered interest parity arbitrage in Indian foreign exchange (rupee/dollar) market from 3rd January, 2011 to 2nd November, 2015. ARIMA (4, 1, 0) stochastic structure of monthly spot rate (s_t) has been used to generate one – period ahead forecast (s_{t+1}^e) series. These forecasts are MMSE forecasts and ‘Rational’ by nature. The study shows that one – month lagged forward rate maintains an independent long – run stable relation with spot rate while there exists no co-integrating relation between spot rate and contemporaneous forward rate. One – period lagged forward rate is an optimal forecast of the next period spot rate in the sense that it will be proved wrong only to the extent of a white noise error term. Risk premium is absent and CIRAP holds in the market such that lagged forward exchange rate on average equals the spot rate in the long – run. There exists no scope for reaping arbitrage profit arising out of the difference between forward rate and corresponding spot rate. This testifies for the ‘efficiency’ of Indian foreign exchange (rupee/dollar) market.

Introduction

The decade of 1970s was eventful for economics on several accounts. The fall of Britton Woods System marked the end of fixed exchange rate regime and ushered in the breakdown of flexible exchange rate system. The main focus of concern in international economics and finance shifted from the management of balance of payments to the determination of exchange rate. Rational expectations doctrine was firmly established in Macroeconomics. These principles were adopted for studying financial markets and developing exchange rate models. Consequently, over the last four decades several theories of exchange rate developed.

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