

On the Random Walk Characteristics of Exchange Rates : Some Further Evidence

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I. INTRODUCTION

The earlier studies on the random walk behaviour of exchange rates used various tests of market efficiency which were developed to analyse stock markets [Poole (1967), Burt et al (1977)], In general, these studies found that floating exchange rates had not followed a random walk, a stochastic process in which successive changes are serially correlated. However, the studies covering more recent periods found evidence to the contrary, that exchange rate behaviour could very well be approximated by a random walk process [Cornell and Dietrick (1978), Frenkel (1981), Meese and Rogoff (1983), Adler and Lelman (1983), Kim (1987), Hakkio (1985), Akhing and Miller (1987)]. Comparing the forecast performance of structural and time series models, Meese and Rogoff (1983) concluded that the naive random walk models even outperformed while forecasting (out-of-sample) the major country exchange rates.

The present study provides some further evidence on this debatable issue - whether exchange rates follow a random walk process. The exchange rates of the US dollar against pound sterling, deutschemark, Japanese yen and Belgium franc on the one hand, and the exchange rates of the Indian rupee against the US dollar, pound sterling, deutschemark, Japanese yen and Belgium franc on the other have been chosen for testing this hypothesis. Both nominal as well as real exchange rates of these currencies along with the nominal effective and real effective exchange rates of the Indian rupee are considered for empirical testing. The logic of choosing the above mix is to facilitate comparison of the exchange rates of market determined currencies (such as the US dollar against pound sterling, yen, franc and deutschemark) with those of the regulated Indian rupee against these currencies, at both nominal and real levels. This would shed some light on the behaviour of