Modelling the Rand-Dollar Future Spot Rates: The Kalman Filter Approach

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Abstract

This paper examines the applicability of the Kalman filter technique to forecast the rand-dollar future spot rates. The failure of the "Unbiased forward rate hypothesis" in predicting the future spot rates conveys the very important information that participants in the rand-dollar forward market are risk averse and/or make use of adaptive expectation while forecasting the future spot rates for arbitrage or speculative motives. This paper also shows that policy change by the South African Reserve Bank is the cause for time-varying risk premium and time-varying coefficients in the model that predict the rand-dollar future spot rates. The better performance of the Kalman filter over the random walk and the time-invariant method (OLS) in out-of-sample forecasts confirms that a recursive technique with time-varying coefficients is relevant for forecasting the rand-dollar future spot rates.