

Testing Uncovered Interest Parity in Korea and Its Implications

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In a small open economy, setting an appropriate relationship between interest and exchange rates is one of the core elements in the effective development of a macroeconomic model for policy analysis. Most macro models of an open economy assume that exchange rate movements depend on uncovered interest parity (UIP) condition, and exchange rate responses to interest rate fluctuations are accordingly explained by the UIP condition.

However, since a number of studies testing UIP condition have failed to prove their empirical validity, many studies are underway to examine reasons for the failure or the characteristics of UIP conditions from various perspectives. In this paper, diverse methodologies used in previous studies are applied to data on Korea to test the validity of UIP condition in Korea and figure out what makes them invalid and what their characteristics are.

First, this paper tests the validity of UIP condition in terms of maturity under or without the assumption of rational expectations. The tests show that its validity in Korea is difficult to prove for both short and long horizons, and that expectations on exchange rates do not follow rational expectations. Next, in order to confirm the reasons for the invalidity of UIP condition, this paper examines their non-linearity and the existence of a time-varying foreign exchange risk premium.

According to the results through a smooth transition regression model, UIP condition in Korea is valid in a specific range, although it is invalid on average. More specifically, UIP condition is valid when the Sharpe ratio — ratio of expected rate of return to investment

risk — is above or below a certain percentage. In addition to that, the testing of the existence of a time-varying foreign exchange risk premium shows that the possibility of its existence is statistically significant.

The results have the following implications: first, exchange rate responses to interest rate fluctuations in Korea are highly likely to be affected by risk premium or prediction error fluctuations. Second, given that a certain range where UIP condition is valid has been discovered, it is advisable to make practical adjustments to the UIP, rather than seek measures to replace it. Third, more in-depth studies should be conducted to find out structural factors that can explain the above mentioned phenomena, and efforts need to be continued to incorporate the results into Korean macroeconomic models.

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