

**University of Zurich**

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Bachelor Thesis

**The Forward Premium Puzzle and its differences between  
Developed and Emerging Countries**

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Submitted: 23.12.2011

## Executive Summary

The main target of this research is to derive the Forward Premium Puzzle from the interest parities. The interest parities are already discovered in 1930 and they were proven true in several empirical researches. But if they were combined it leads to a puzzle which cannot be explained. Combining the interest parities leads to the conclusion that the forward premium is an unbiased estimator for the spot exchange rate. If the interest parities hold true the exchange rate will depreciate if the forward premium is negative. Consequently, there must be a positive relation between the forward premium and the future spot exchange rate.

But Fama discovered in an empirical ex post research that the forward premium is not a good predictor for the exchange rate movements at all. The values of the  $R^2$  of his estimations are approximately from 0 to 10%. Further, the positive relation between the forward premium and the exchange rate movement could not be confirmed. Quite to the contrary, he discovered that in the majority of his estimations had a significant negative relation between the forward premium and the exchange rate movement. This anomaly is called the Forward Premium Puzzle.

This research checks if the existence of the Forward Premium Puzzle can be found for data from a current time period too. For this, the forward premium is replaced by interest rates which is allowed because of the uncovered interest parity and transformed it into a simple regression model. The estimations with a sample of 12 unequal developed countries in a six year time period starting at 01.01.2004 come to the conclusion that even if the Forward Premium Puzzle still exists the real economy has converged to the theoretical forecast. First, the magnitude of the negative relation between the forward premium and the exchange rate movement has decreased. A lower magnitude in combination with higher standard errors leads to the result that there is no significant negative relation on a 90% confidence level. Second, the number of the negative slope coefficients has reduced too. To explain this tendency the better integration of the international financial markets and a striking reduction of the interest rates in developed economies are named in the research.

Possible reasons for the presence of the Forward Premium Puzzle in general are markets inefficiency like central bank interventions and the irrational behavior of market participants. The research figures out that other forces have more impact on the future

exchange rates than the forward premium. But this thesis cannot integrate them into a simple regression model.

The second part of the research contains an analysis of the differences between developed and emerging countries in prospect to the Forward Premium Puzzle. The thesis that the Forward Premium Puzzle cannot be observed in emerging countries can be rejected. The reason for the new discovered presence of the Forward Premium Puzzle in emerging countries is not a change in the mechanism of the Forward Premium Puzzle but a change in the market conditions. After the DOTCOM bubble the interest rate level and the future expectations in developed countries fell rapidly. As a consequence the interest rates in emerging countries exceeded the interest rates in developed countries. These changes had an enormous impact on the international currency exchange markets. In this new situation the presence of the Forward Premium Puzzle in emerging countries can be confirmed while it seems to disappear in developed countries. Consequently, the thesis of the absence of the Forward Premium Puzzle in emerging countries which was the result of a former research holds not true. It is more likely that positive future expectation and a relative high interest rate level are the conditions for the presence of the Forward Premium Puzzle irrespective of the level of economic development. But this relationship has to be proven empirically what is not part of this bachelor thesis before it can be used for further applications.