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## Article

# Discussion of "The Swiss Franc Exchange Rate and Deviations from UIP: Global versus Domestic Factors" by Mathias Hoffmann and Rahel Suter

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## Discussion

of

“The Swiss Franc Exchange Rate and Deviations from UIP: Global versus Domestic Factors” by Mathias Hoffmann and Rahel Suter

KEVIN ROSS<sup>a</sup>

The Swiss franc’s persistent deviation from uncovered interest rate parity (UIP) and its link to possible safe haven characteristics of the franc have been well documented.<sup>1</sup> In this paper, Hoffmann and Suter (HS) provide a novel re-examination of this issue, by taking “global” and “domestic” discount factors – derived within a capital asset pricing model (CAPM) framework – and applying them in a bilateral regression setting. From their work, the authors conclude that the Swiss franc is a safe haven against the U.S. dollar but not against the Euro. Their approach and results raise a number of interesting questions.

Does co-movement of individual bilateral excess currency returns and these external CAPM discount factors indicate safe haven behavior? At first blush, it is not clear that this is true. Rinaldo and Söderlind (RS), define a safe haven currency as one that appreciates when: (i) the stock market goes down; (ii) bond prices rise; or (iii) foreign exchange volatility goes up. These are the “stress” events generally recognized by the financial press when safe haven behavior is highlighted. In contrast, HS’s definition relies on exposure to the global component (denoted as HML) – which reflects the carry trade return that an U.S. investor would gain shorting the lowest interest rate portfolio and going long in the highest interest rate portfolio. The strength of this exposure ebbs and flows depending on bilateral overnight interest rate spreads. These two definitions would only be the same if changes in spreads fully encompassed RS stress events from equity, bond and foreign exchange markets. This may not always be the case. More importantly, HS’s use of the HML component *and* bilateral spreads in the interactive term would appear to double count, to some extent, the impact

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1 See KUGLER and WEDER (2005) and SÖDERLIND and RINALDO (2009).

of changes in interest rates. Thus, as Figure 2 in HS demonstrates, there may be differences in the identification of safe haven events under the two definitions, and a different interpretation of bilateral exchange rate movements.

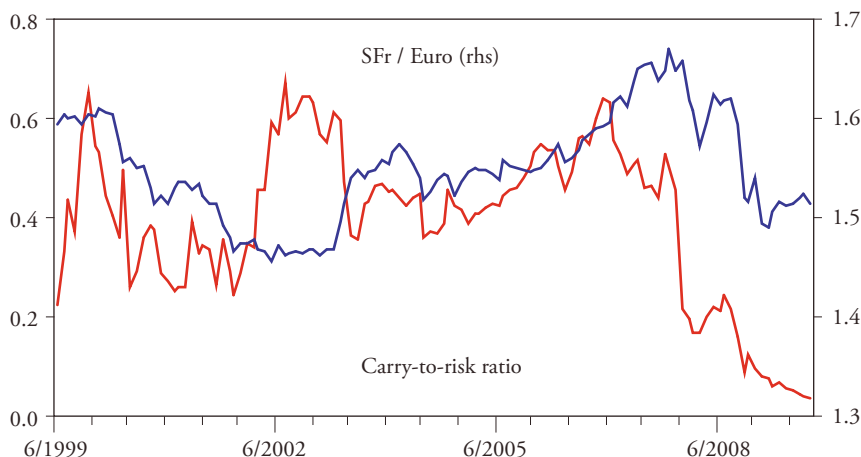
Is HS's finding of diminished safe haven behavior of the Swiss franc against the Euro a product of similar monetary policies? This is a key result in the paper – and directly conflicts with RS's findings which indicate that the Swiss franc exhibited relatively strong safe haven characteristics against the U.S. dollar and Euro. In general, it is hard to square HS's finding with the current strong appreciation pressures of the Swiss franc against the Euro, and the ongoing foreign exchange rate intervention by the Swiss National Bank (SNB). It would appear that the franc has clearly demonstrated a safe haven role against the Euro during the financial crisis.

One reason for HS's findings may be the use of overnight interest rate spreads as a weight on the global component. The Swiss franc / Euro overnight spread is smaller and much less volatile in comparison to the other spreads used in this study, suggesting relatively little change in exposure to the global HML carry trade factor. This may be due to commonalities in monetary policy stances of the SNB and European Central Bank. The use of interest rates with higher risk factors – such as longer-term Libor rates – would provide a different weighting scheme and result. More importantly, the regressions could be split into a pre- and post-2000 sample to see if the introduction of the new SNB framework had an impact on the significance of these factors in explaining excess currency returns. This was a key motivation of the paper but was not directly tested.

What is the role of foreign exchange volatility in determining carry trades and safe haven behavior? As noted above, there is no direct connection to volatility in the HS methodology. Generally, safe haven assets should rise during periods of increased volatility or uncertainty. Moreover, diminished or low foreign exchange volatility should increase the attractiveness of taking advantage of deviations from UIP. This can be seen in a chart of bilateral carry-to-risk ratios, a key indicator used by carry traders (Figure 1). As the implied Swiss franc-Euro currency volatility declined in 2003–2007, the Swiss franc depreciated against the Euro as the franc was used as funding currency in carry trades. Carry-to-risk ratios (relative 3-month Libor spreads divided by implied volatility) increased indicating a very attractive carry trade opportunity. However, when volatility and uncertainty increased, the Swiss franc appreciated sharply – a main attribute of a safe haven asset.

Could other external risk factors also be used to explain deviations from UIP? The HML global component used in the paper, is from a linear factor model developed by Lustig, Roussanov, and Verderlhan (LRV). This factor

Figure 1: SFr–Euro Carry-to-Risk-Ratio



is essentially the difference between the high and low interest rate currencies. Recently, MENKHOFF ET AL. (2009) performed a very similar analysis as LRV, but employed a global foreign exchange volatility factor which also help to explain excess returns from currency portfolios. In essence, low interest rate currencies were seen to offer protection against unexpected volatility shocks. As a robustness test, the authors could use this volatility factor to explain deviations from UIP as well as the LRV HML factor. The correlation between the two is only 30 percent, so the two variables are not capturing the same risk factors. This would also directly link changes in volatility to the safe haven behavior of the Swiss franc.

Do the domestic factors used in this study represent true idiosyncratic shocks? The authors compute the domestic component as a residual, from regressing the two global components on the average of a currency's excess return against all other currencies. However, these domestic factors do not appear to reflect true idiosyncratic shocks, which by definition should be independent events. Correlations between these domestic factors indicate a high degree of positive co-movement between the Swiss franc and Euro, and negative correlation between the franc and North American currencies (Table 1). Thus some part these domestic shocks are coming from external sources.

In conclusion, addressing these questions would improve the reliability of the authors' findings.

Table 1. Correlation Coefficients Across Domestic Components

|       | SFr   | US\$  | C\$   | Yen   | Euro | Pound |
|-------|-------|-------|-------|-------|------|-------|
| SFr   | 1     |       |       |       |      |       |
| US\$  | −0.59 | 1     |       |       |      |       |
| C\$   | −0.61 | 0.49  | 1     |       |      |       |
| Yen   | −0.15 | −0.17 | −0.28 | 1     |      |       |
| Euro  | 0.69  | −0.56 | −0.50 | −0.29 | 1    |       |
| Pound | −0.03 | −0.27 | −0.34 | −0.25 | 0.03 | 1     |

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