

Discussion of
“What Does the Yield Curve Tell Us About Exchange Rate
Predictability?”

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Summary

- The paper examines the ability of factors extracted from the yield curve to predict the nominal exchange rates of Canada, Japan, and the UK.
- The rationale for this exercise is the extensive evidence that the yield curve forecasts output and inflation in individual countries and hence embodies expectations of these variables.
- The factors represent the level, slope, and curvature of the *relative* yield curve, which is the country's yield curve relative to the US curve.

Conclusions

- The factors can predict changes in the nominal exchange rate and excess currency returns in-sample.
- The out-of-sample forecasts of the nominal exchange rate achieve some statistically significant improvements in forecast accuracy at short horizons.
- Conditional on current macroeconomic conditions, the factors are correlated with survey data on expected inflation, the likelihood of a recession, and real GDP growth. (Make this point earlier in the paper!)

Conclusions

- A higher or flatter relative yield curve implies a depreciation of the foreign currency relative to the dollar.
- This finding is consistent with the interpretation of the level as a measure of expected inflation as well as with the slope of the yield curve as a predictor of real economic activity.
- A higher or flatter relative yield curve implies a larger foreign currency risk premium.
- This finding may resolve the UIP puzzle: An increase in the foreign interest rate can increase the risk premium and lead to a foreign currency appreciation.

Comment 1: Estimated Regressor Problem

- Estimating the relative yield curve factors in a first-stage regression and using them in the second-stage predictive regressions leads to an estimated regressor problem, which invalidates standard statistical inference (Pagan IER 1984).
- The standard errors in the second stage regression are biased and need to take account of the sampling variability that arises from estimating the factors.
- Three ways to proceed:
 - (1) Assess size of bias (see Murphy and Topel JBES 1986).
 - (2) Use the empirical rather than the estimated factors.
 - (3) Bootstrap the standard errors (see Ludvigson and Ng mimeo 2008).

Comment 2: The Factors versus Their Empirical Counterparts

- Diebold and Li reinterpret the Nelson-Siegel (JOB 1987) apparatus to model the shape of the yield curve and forecast the curve itself out-of-sample.
- The forecast accuracy gains Diebold and Li obtain can be interpreted as a consequence of the *shrinkage principle*. Imposing false parametric restrictions can improve *out-of-sample* forecast performance at the expense of *in-sample* fit (Diebold JEP 1998; and Diebold and Li JOE 2006).
- What is the rationale for using the factors for predicting the exchange rate in-sample? I would like to see an explanation of the advantages of using the factors rather than their empirical counterparts in the predictive regressions.

Comment 3: Long-Horizon UIP Regressions

- Since the relative level and slope factors have a smaller impact on the risk premium at long horizons than they do at short horizons, the authors argue that this finding is consistent with the evidence that UIP holds better at long horizons.
- But the evidence on long-horizon UIP is inconclusive. Long-horizon regressions are not better able to detect predictability than short-horizon regressions.
- In the absence of nonlinear mean reversion, long-horizon regressions do not produce improvements in the power of tests of predictive ability (Kilian JAE 1999; Berkowitz and Giorgianni REStat 2001; and Kilian and Taylor JIE 2001).

Long-Horizon UIP Regressions

- Moreover, although it is plausible that the risk premium is less sensitive to the relative slope factor at long horizons, it is counterintuitive that it is less sensitive to the relative *level* factor at such horizons.
- The level factor affects *all* maturities equally. In the paper's model of the yield curve, the level factor is driven by the long-run inflation target and the term premium at infinite maturity.
- Why wouldn't the level factor have a similar effect on the risk premium at all horizons? There seems to be a gap between the macro model's premise and the interpretation of the level factor's effect on the risk premium.

Comment 4: The Size of the Risk Premium and the UIP Puzzle

- An increase in i_t^{m*} can flatten or increase the relative yield curve, assuming i_t^m remains fixed. Based on the evidence in the paper, this change can lead to an increase in ρ_{t+m}^F .

UIP:
$$\Delta s_{t+m} = i_t^m - i_t^{m*} + \rho_{t+m}^F + \varepsilon_{t+m}$$

s_t is the USD price of foreign currency.

- The authors use this argument to conclude that the increase in i_t^{m*} can increase ρ_{t+m}^F and resolve the UIP puzzle.

The Size of the Risk Premium and the UIP Puzzle

- But is the risk premium identified in the paper large enough to resolve the UIP puzzle?
- A way to answer this question would be to link the dynamic behavior of the yield curve and the currency risk premium to underlying macroeconomic behavior.
- Two related papers are Wachter (JFE 2006) and Verdelhan (JF forthcoming). Both use consumption habits to explain the shape of the yield curve (Wachter) and the UIP puzzle (Verdelhan), although they rely on mutually inconsistent parameter calibrations to match the data.