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Towards a New Measure of Interest Rate Expectations in Canada: Estimating a Time-Varying Term Premium

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General Discussion

Gravelle agreed with Chandler regarding the need in future work to add macroeconomic variables to help explain the behaviour of term premiums. Some of his group's results that were not presented in the conference paper show that term premiums are related to the implied volatility of exchange rates embodied in options prices.

Muller also noted that empirical research is now underway at the Bank to assess the effects of macroeconomic variables on term premiums. Regarding the comments made by Alan White about the size of the premium embodied in the risk-free rate, Stréliski said it can be misleading to use a historical (and fixed) measure of volatility to assess the average size of the premium over a long sample.

According to Stréliski, the volatility of interest rates is not normally distributed and can change rapidly over time, which could help explain why term premiums can also vary rapidly. With respect to the other comment made by White regarding the usefulness of out-of-sample predictions to evaluate the accuracy of the estimated model, Stréliski said the primary purpose of his group's study is not to develop the best model to predict short-term interest rates, but rather to measure financial market expectations, regardless of their accuracy.

Manfred Kremer raised a potential problem with the basic assumption of the study, which entirely allocates the changes in the error-correction term between forward and spot interest rates to changes in the term premiums. According to Kremer, there is a polar assumption in which the error-correction term reflects changes in expected interest rates, and the authors do not closely examine this possibility. He suggested that more realistic estimates of the term premiums could be obtained by imposing some time-series properties on them. Kremer said it would be interesting to verify whether the calculated term premiums help reconcile the expectations hypothesis of the term structure.

Lawrence Schembri asked about the sensitivity of the authors' results to the assumption that interest rates have a unit root. Glen Donaldson said it is hard to rationalize that interest rates, with unit root, can drift randomly when nominal rates are bounded at zero.

Muller agreed with Kremer by confirming that the paper assumes that spreads between forward and spot interest rates mostly reflect term premiums, which is polar to the assumption that they reflect changes in expectations. Gravelle added that future work with the Kalman filter methodology should help distinguish between shocks to the forward rates that reflect changes in term premiums and those that can be attributed to changes in expectations. The methodology used in the paper relies entirely on the assumption that interest rates have a unit root, and that the Kalman filter methodology could help measure the proportion of the variance in forward and spot interest rates that is driven by a common stochastic trend, which presumably has a unit root, Gravelle said.

Joel Fried said his earlier work shows that the time-series properties of interest rates have been subject to regime changes over the last few decades, in particular in October 1979 and in September 1982 when the Federal Reserve changed its operating procedures for conducting monetary policy. Those changes in regimes could explain that standard statistical tests cannot reject the null hypothesis that interest rates have a unit root.

Finally, Kevin Clinton stressed the distinction between risk premiums and term premiums. In his view, term premiums embody risk premiums, which are probably very small (as suggested by White and the paper prepared by Atta-Mensah and Yuan for this conference). Moreover, term premiums are broader than risk

premiums, and they could include premiums that vary significantly with changes in the political and/or economic environments.