Understanding the yield curve, economic structure and economic policy

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Abstract
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Building on Ellingsen and Söderström (2001), we employ simple macroeconomic models in order to investigate the behavior of yield curves in response to economc structure, monetary authority preferences and aggregate demand and supply shocks. In particular we employ two macroeconomic models, due to Svensson (1997, 1999) and to Calvo (1983) and Yun (1996). Both models are based upon an aggregate demand (output) and an aggregate supply (inflation) relationship. In the Svensson model inflation is related to its own lag, lagged output and an additive shock; and output is related to its own lag, the ex-poste real interest rate and an additive shock. In the Calvo-Yun model inflation is related to one period ahead expected inflation, current output and an additive shock; and output is related to one period ahead output, the ex-ante real interest rate and an additive shock. These models may be solved optimally for the spot short interest rate, assuming a standard inter-temporal loss function for the monetary authority. The short spot rate may then be used to construct expressions for both forward and spot yield curves. We then utilise UK data on observed changes in yield curves in order to try and infer the economic structure and monetary policy preferences within the UK. In particular, if we can identify aggregate demand and supply shocks and a set of parameter values for our two models, we can draw inferences regarding the change in monetary policy preference parameters by comparing the change in the yield curve predicted by our models with actual changes within the UK data. We select plausible parameter values for our models through the use of full information maximum liklihood estimation techniques on annual and quartlery data, and by appealing to the available econometric evidence. We select aggregate demand and supply shocks for our models on the basis of UK Treasury and private sector forecasts of inflation and output.

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