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## Common and country specific economic uncertainty\*

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**Abstract**

We use a factor model with stochastic volatility to decompose the time-varying variance of Macroeconomic and Financial variables into contributions from country-specific uncertainty and uncertainty common to all countries. We find that the common component plays an important role in driving the time-varying volatility of nominal and financial variables. The cross-country co-movement in volatility of real and financial variables has increased over time with the common component becoming more important over the last decade. Simulations from a two-country DSGE model featuring Epstein Zin preferences suggest that increased globalisation and trade openness may be the driving force behind the increased cross-country correlation in volatility.

JEL Codes: C15, C32, E32

Key Words: FAVAR, Stochastic Volatility, Uncertainty Shocks, DSGE Model

**1 Introduction**

Recent turmoil in financial markets has led to a substantial increase in macroeconomic volatility across the industrialised world. This is clear from the simple calculation in figure 1 which shows the average of the rolling standard deviation of the main macroeconomic and financial variables for eleven OECD countries. This simple measure of economic volatility shows an increase across all countries over the post-2007 period highlighting the severity of the financial crisis. It is interesting to note that this high correlation of volatility is not just confined to the recent financial crisis but appears to be a prominent feature of this statistic over several episodes in the past. A casual examination of the figure suggests that this measure of volatility moved especially closely together during the mid-1970s, the early 1980s and then during the beginning and end of the last decade. The full sample correlation between these volatility measures is high, averaging across pairwise combinations at 50%.

The aim of this paper is to investigate the comovement in volatility from an empirical and theoretical perspective. Using a dynamic factor model with stochastic volatility, we decompose the movements in the volatility of real activity, inflation and financial series from these eleven OECD countries into the contributions from country specific and OECD wide uncertainty. We find that OECD wide uncertainty plays an important role in driving the variance of real and nominal variables and is especially important for the latter series. Moreover, we estimate that the contribution of common uncertainty has increased over the sample period and the *volatility* of key variables displays a higher correlation after the late 1990s.

We then build a two country model that features households with Epstein-Zin preferences. One of the key implications of the model set-up is the presence of heteroscedastic endogenous variables, with this feature induced by agents' preferences. We show that in a two country environment, shocks that lead to transfer of resources across countries imply comovement in the second moments of endogenous variables.

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