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Globalisation and monetary policy—A FAVAR analysis for the G7 and the eurozone

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A B S T R A C T

We analyze the importance of global shocks for the global economy and national policy makers. More specifically, we investigate whether monetary policy has become less effective in the wake of financial globalization. We also examine whether there is increasing uncertainty for central banks due to globalization-driven changes in the national economic structure. A FAVAR framework is applied to derive structural shocks on a worldwide level and their impact on other global and also national variables. We estimate our macro model using quarterly data from Q1 1984 to Q4 2007 for the G7 countries plus the euro area. According to our results, global liquidity shocks significantly influence the global economy and various national economies. However, some other common shocks originating from house prices and GDP play a role at the global level as well. These results prove to be robust across different specifications.

1. Introduction

There has been much progress in global economic integration has been proceeding in the years before Lehman, both in goods and financial markets. Empirical realisations of macroeconomic variables in one economy should thus to an increasing extent reflect empirical patterns manifesting themselves in the remaining parts of the world. As a matter of fact, even empirical properties of real estate markets,

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commonly considered to be a national phenomenon, have turned to be increasingly correlated across countries. As indicated by the latest events, strong hikes in residential property prices in the US and some parts of Europe were followed by rapid declines. As national economies become more interconnected, a thorough understanding of the global economy and its effects on domestic economic activity is crucial. Quantifying the time pattern and the order of magnitude of international spillovers is particularly relevant, because it enables us to better assess macroeconomic developments in one specific country or region.

The rapid speed of globalization on goods and financial markets is beneficial, but may also have drawbacks for national policymakers. International spillovers and global shocks can limit the autonomy of national monetary and fiscal policy. For example, international capital flows are influencing domestic monetary conditions, thereby curtailing the ability of central banks to influence national real activity and prices.

The questions we are investigating in this contribution are therefore threefold. First, what are the major shocks and transmission channels which are driving the global economy? Second, to what extent have global factors affected the determination of key macroeconomic variables in the G7 countries?[1] We quantify the speed and size of spillovers that occur following a shock originating from the global economy. Third, is there increasing uncertainty for monetary policy in the wake of globalization and has national monetary policy become less effective when trying to steer national liquidity?

The remainder of the paper proceeds as follows. In Section 2, we describe the differences and unique contributions compared to the previous research. In Section 3, we take a global perspective and move toward a description of our data and variable set. In Section 4, we explain the Factor Augmented Vector Autoregression (FAVAR) approach. In Section 5, we display the results of our estimation exercises and also of some structural break tests and a couple of robustness checks. Section 6 concludes.

2. Theory and perspectives of global shocks

In this paper, we analyze co-movements among some macro variables across the G7 and the euro are in order to highlight the importance of global factors for the transmission of monetary policy and business cycles. Our analysis which is based on a variant of the Factor Augmented Vector Autoregression (FAVAR) model (Stock and Watson (2005b) differs from most previous studies dealing with global Q4 liquidity regarding the underlying definition. While Belke et al. (2009) and Belke et al. (2011) apply a GDP weighted measure of global liquidity we are interested in a cross-sectional perspective in terms of common shocks.

From a methodological point of view, our study is related to that conducted by Bagliano and Morana (2009) who employ a factor vector autoregressive approach. However, while their study emphasizes the relative importance of four global factors which they label “inflation factor”, “output growth factor”, “stock return factor” and “oil price factor” our work aims at analyzing the structural causalities between different global. A second difference stems from the fact that we examine spillover effects from global to national variables using structural VARs for the G7 countries plus the euro area. In contrast to Bagliano and Morana (2009), we do not estimate one model with all national variables taken as endogenous but implement separate VARs for each country or region. Hence, we intentionally neglect feedback effects between countries. Bagliano and Morana identify structural idiosyncratic shocks by imposing exclusion restrictions on their contemporaneous impact on all national variables across countries, estimating a total of 43 parameters in each equation (including the four factors).[2]

Altogether, our approach allows a more straightforward economic interpretation of the unobservable global factors.

Let us now turn to why we make use of specific global variables and to adhere to a theory of global shocks in the context of our paper. In most of the literature, there is a focus on commodity

[1] For a recent analysis of cross-sectional determinants of the exchange rate see Belke, Beckmann and Dobnik (2012).

[2] We employ seven factors with a lag length of 2 and, thus, have to estimate fourteen coefficients on the global level and, in addition, a constant and a deterministic term. Our sample ranges from Q1 1984 to Q4 2007. In contrast, the Bagliano and Morana specification comprises four factors with merely one lag (Q1 1980–Q2 2005).

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