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Unconventional monetary policy and the spillovers to emerging markets ☆

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ABSTRACT

Unconventional monetary policy such as Quantitative Easing (QE) is often considered to have considerable spillover effects on emerging market economies (EME). Aims at quantifying these effects so far mostly use high-frequency data around announcement dates, panels or VAR models. This paper proposes an alternative way to estimate the effects of QE on emerging markets that allows us to include macroeconomic, i.e. low-frequency, data together with announcement dates. A Qual VAR is estimated that integrates binary information of QE announcements with an otherwise standard VAR, including US and emerging market variables. A key advantage is that the model accounts for the endogeneity and forecastability of QE announcements. The model uncovers the Fed's latent, unobservable propensity for QE and generates impulse responses for EME variables to QE shocks. The results suggest that QE has significant effects on EME's financial conditions and plays a sizable role in explaining capital inflows, equity prices and exchange rates.

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1. Introduction

Upon reaching the zero lower bound on nominal short-term interest rates, the US Federal Reserve and other central banks adopted a range of unconventional monetary policies. In the US case, these policies are known as Quantitative Easing (QE) and involve a multitude of measures, such as large-scale asset purchases (LSAP) and a maturity extension program ("Operation Twist"). Besides QE, the Fed engaged in Forward Guidance in order to manage expectations of a prolonged period of low policy rates. Since late 2008 QE was introduced in several steps, i.e. QE1, QE2, QE3. While the policy rationale differs across each measure and across each of the steps, all measures were directed toward improving financial conditions for firms and thereby eventually supporting an expedited recovery from the financial crisis.

Asset purchases of the central bank affect the economy through two alternative transmission channels. First, through the signaling channel the Fed transmits information about the future monetary policy stance and thereby reduces the expectations component of long-term rates, which eventually drive consumption and investment. Second, to the extent different assets are imperfect substitutes, the term premium reflected in long-term bond yields is reduced through the portfolio balance channel.

The LSAP program led to an explosion of the Fed's balance sheet and with it an abundance of global liquidity. A fraction of this liquidity spilled over into emerging market economies (EME) and is widely believed to lead to appreciation pressure on local currencies, soaring asset prices and heightened concerns about renewed boom–bust cycles reminiscent of the 1980s and 1990s. Brazil's president, Dilma Rousseff, refers to a "monetary tsunami" hitting emerging economies, while the Deputy Governor of the Banco Central de Brasil, Luiz Pereira da Silva, alludes to the experiences of emerging economies with "sudden stops" when speaking about "sudden floods" of liquidity. Very recently, however, the concerns in emerging markets such as India, Turkey and others pertain to the tapering of QE, which leads to a fierce reversal of capital flows back into mature economies. Policymakers struggle again with the consequences of a "sudden stop" of inflows or even a reversal of flows rather than a "sudden flood."[1] The notion of a "New Normal" arises as strong spillovers and macroprudential policy responses are a common feature of the post-crisis landscape.

In light of these concerns, quantifying the effect of QE on EME is very much needed, yet also very difficult. This is because applying the empirical tools from conventional monetary policy analysis to QE is not straightforward. The empirical literature so far typically studies the response of high-frequency financial data to QE announcements or includes QE announcements among other variables in a panel model in order to explain capital flows. The challenges for empirical work are, first, to acknowledge the endogenous nature of QE, second, to isolate the unexpected component of QE announcements, third, to account for the multitude of policy instruments, and fourth, to link low-frequency macro data with high-frequency announcement effects.

In this paper we propose a new approach to estimating the response of EME to QE shocks that is able to address each of these challenges. We combine the virtues of a standard vector autoregression (VAR), i.e. the ability to study policy in terms of unexpected shocks, with the information contained in QE announcements. For that purpose we set up a Qual VAR (Dueker, 2005) that integrates binary information on QE announcements into an otherwise standard monetary policy VAR. This Qual VAR as an approach to study the domestic effects of QE is proposed in Meinusch and Tillmann (2015). Here we extend the model to the international dimension of QE. The Qual VAR is estimated on standard variables reflecting US real economic activity plus a measure of emerging markets' financial conditions. We deliberately keep the model parsimonious and do not aim at providing a full explanation of, say, capital flows to EME. The focus is on quantifying the contribution of QE shocks only.

The model uncovers the latent, unobservable propensity for QE through Markov Chain Monte Carlo techniques. In addition, we derive impulse response functions for a QE shock and show that financial conditions in EME such as capital inflows originating in the US, exchange rates, equity prices and bond prices are significantly affected by QE. We can also decompose these variables into the part reflecting

[1] See Eichengreen and Gupta (2013) and Aizenman et al. (2015) for early empirical analyses of the emerging market response to tapering.