



# External shocks, U.S. monetary policy and macroeconomic fluctuations in emerging markets<sup>☆</sup>

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## Abstract

Estimated structural VARs show that external shocks are an important source of macroeconomic fluctuations in emerging markets. Furthermore, U.S. monetary policy shocks affect interest rates and the exchange rate in a typical emerging market quickly and strongly. The price level and real output in a typical emerging market respond to U.S. monetary policy shocks by more than the price level and real output in the U.S. itself. These findings are consistent with the idea that “when the U.S. sneezes, emerging markets catch a cold.” At the same time, U.S. monetary policy shocks are not important for emerging markets relative to other kinds of external shocks.

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## 1. Introduction

To what extent are macroeconomic fluctuations in emerging markets caused by external shocks? In particular, to what extent are macroeconomic fluctuations in emerging markets

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caused by U.S. monetary policy shocks? Are the effects of a U.S. monetary policy shock on emerging markets larger or smaller than on the U.S. itself? Is a U.S. monetary policy shock transmitted to emerging markets quickly or with delay? This paper presents empirical evidence on these questions. The paper's goal is to establish a set of empirical regularities that can guide researchers who build models of emerging markets, policy economists with interest in emerging markets and policy economists with interest in international spillover effects of U.S. monetary policy.

The paper assembles a dataset on 8 emerging markets. A structural vector autoregressive (VAR) model is estimated for each emerging market in the dataset. The model includes main macroeconomic variables in the emerging market, main macroeconomic variables in the U.S. and world commodity prices. The model assumes that the emerging market is a small open economy. This makes it possible to estimate to what extent macroeconomic fluctuations in the emerging market are caused by external shocks. Furthermore, U.S. monetary policy shocks are identified following [Leeper et al. \(1996\)](#). This identification approach is common in the structural VAR literature on the effects of U.S. monetary policy shocks on the U.S. itself. Thus the paper estimates impulse responses of a new set of variables to the kind of shock that has been extensively studied. This facilitates interpretation of the paper's results.

The paper finds that external shocks are an important source of macroeconomic fluctuations in emerging markets. Furthermore, a U.S. monetary policy shock affects the short-term interest rate and the exchange rate in a typical emerging market quickly and strongly. If the shock represents a contraction in U.S. monetary policy, the currency of a typical emerging market depreciates and this induces inflation with little delay. U.S. monetary policy shocks explain a larger fraction of the variance in the aggregate price level and real aggregate output in emerging markets than of the variance in the aggregate price level and real aggregate output in the U.S. itself. These findings are consistent with the idea that “when the U.S. sneezes, emerging markets catch a cold.” At the same time, U.S. monetary policy shocks are not important for emerging markets relative to other kinds of external shocks.

The idea that external shocks are important for emerging markets goes back to the empirical work of [Calvo et al. \(1993\)](#). These authors find that external shocks explain a sizable fraction of the variance in real exchange rates in Latin America between 1988 and 1991. This paper considers both East Asia and Latin America, more variables and a much longer sample. Furthermore, this paper identifies the effects of U.S. monetary policy shocks on emerging markets. Therefore the paper makes contact with the structural VAR literature on the effects of U.S. monetary policy shocks, initiated by [Sims \(1980\)](#). [Kim \(2001\)](#) presents structural VAR estimates of the effects of U.S. monetary policy shocks on the non-U.S. G-7 countries.<sup>1</sup> An interesting difference between Kim's results and this paper's results is that Kim does not find support for the view that the spillover effects of U.S. monetary policy shocks on the non-U.S. G-7 countries are sizable. This difference accords well with the idea that emerging markets are more vulnerable to external shocks than large and developed economies. Recently, [Canova \(2005\)](#) estimates the effects of U.S. monetary policy shocks on emerging markets in Latin America. Canova finds that a U.S. monetary policy shock affects the interest rates in Latin America quickly and strongly. He

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<sup>1</sup>See also [Kim and Roubini \(2000\)](#). Furthermore, [Miniane and Rogers \(2003\)](#) estimate the effects of U.S. monetary policy shocks on interest rates in developed economies and emerging markets.

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