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The effectiveness of monetary policy transmission under capital inflows: Evidence from Asia☆

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Abstract

The effectiveness of the monetary policy transmission mechanism in open economies could be impaired if interest rates are driven primarily by global factors, especially during periods of large capital inflows. The main objective of this paper is to assess whether this is true for emerging Asia's economies. Using a dynamic factor model and a structural vector autoregression model, we show that long-term interest rates in Asia are indeed predominantly driven by global factors. However, monetary policy transmission mechanism remains effective in the region, as it operates predominantly through short-term interest rates. Nevertheless, the monetary transmission mechanism, though effective, is somewhat weaker in Asia during the periods of surges in capital inflows.

JEL classifications: E43; E52; F41

Keywords: Monetary policy transmission; Capital flows; Dynamic factor model; Structural VAR

1. Introduction

The monetary transmission mechanism refers to how policy-induced changes in the short-term interest rate affect real variables such as investment, output, and employment. It is implicit in this definition that changes in short-term policy rates have a significant impact on the other interest rates that matter for economic activity, such as long-term interest rates. However, the link between the short-term policy rate and longer-term rates could be impaired in economies with open financial accounts as international factors also play a role in determining returns on domestic financial assets. Indeed, the decoupling of short-and long-term interest rates in open emerging markets is a well-known stylized fact over the last decade (Pradhan et al., 2011).

The weak link between short-term policy rates and long-term interest rates is, however, not only an emerging market phenomenon. In the United States, the small impact of changes in the target for the federal funds rate on long-term rates in the mid-1990s was referred to as a "conundrum" by the former Federal Reserve Chairman Alan Greenspan. Kim and Wright (2005) and Cochrane and Piazzesi (2006) explained the decline in U.S. long-term yields with the fall in risk premium. Backus and Wright (2007) suggested that a more stable macroeconomic and financial environment,

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including more predictable monetary policy, could have also contributed to the decline in U.S. long-term interest rates.

More prominently, Bernanke (2005, 2007) argued that, with integrated financial markets, global forces could have a role to play in explaining long-term interest rates. Along these lines, Craine and Martin (2009) and Warnock and Warnock (2009) pointed out that increased foreign demand lowered U.S. yields in 2004–05.[2] Focusing on a large set of countries, Diebold, Li, and Yue (2008) and Byrne, Fazio, and Fiess (2010) found that global factors can explain a large fraction of the yield curve, especially at the longer end. Moreno (2008), Ciarlone, Piselli, & Trebeschi (2009), and Pradhan et al. (2011) also provided evidence on the key role of global factors in determining long-term interest rates in a number of emerging markets. Moreno (2008) also finds an evidence for an increasing role played by global factors over the last decade.

The decoupling of short-term policy rates and long-term interest rates in a highly globalized world has an important bearing on the effectiveness of monetary policy in influencing economic activity. A familiar result of open-economy macroeconomics is that countries cannot simultaneously maintain independent monetary policies, fixed exchange rates, and an open capital account—known as the "impossible trinity," or in Obstfeld and Taylor's (1998) terms, as the "open-economy trilemma." However, even in the absence of a fixed exchange rate regime, monetary autonomy for all practical purposes could be severely constrained by the widespread co-movement in capital flows, asset prices, and credit growth across countries.

During the periods of large capital inflows, an increase in the policy rate would have only a limited impact on the long-term rates if banks and other financial institutions can get cheap financing from abroad in large quantities. By depressing domestic long-term yields, the surge in capital inflows could potentially impair policymakers' ability to tighten monetary policy.[3] Rey (2013) argues that the global financial cycles are transforming the trilemma into a 'dilemma,' or 'irreconcilable duo' where independent monetary policies are possible if and only if the capital account is managed.[4] However, Klein and Shambaugh (2013) show that countries could gain monetary autonomy by allowing more flexibility in the exchange rate.[5]

The weakening link between short term policy rate and long term interest rates is particularly important for Asian emerging market economies, which continue to progress in developing capital markets, especially bond markets, and integrating with the international financial systems. The development of capital markets and their integration with the global markets could make long term yields in the region more sensitive to global developments.[6] As long-term rates in the region could be increasingly driven by global factors, providing macroeconomic and financial stability could become more difficult for Asian policymakers. Indeed, the surge of capital flows to emerging market economies, after the global crisis, has raised concerns about the effectiveness of the monetary policy in these economies, especially in Asia, where rapid growth after the global crisis had been accompanied by the emergence of pockets of overheating in both goods and asset prices.

Against this background, this paper focuses on the strength of the monetary policy transmission mechanism in emerging Asia, particularly in a context of large capital inflows. We focus on two interrelated but distinct aspects of the "transmission mechanism:" (i) the impact of changes in short-term policy rates on long-term interest rates; and (ii) the impact of changes in interest rates of different maturities on economic activity.

The main questions this paper will seek to answer are as follows:

- What determines market interest rates in Asia? What is the relative contribution of global versus domestic factors in driving yield curves in the region?
- Are short-term or long-term interest rates more important in driving economic fluctuations in the region?

We use a Generalized Dynamic Factor Model (GDFM) and Structural Vector Autoregression (SVAR) models in our analysis. In the GDFM, we estimate the unobserved common component of long-term bond yields in Asia and associate this common component with the foreign interest rate (proxied by the U.S. long-term rates) and global risk aversion (measured by the VIX). We then use SVAR models to focus on the structural relationship between the domestic long-term interest rate, domestic policy rate, and foreign interest rates, as well as between interest rates and economic activity. We focus on eight emerging Asian economies, namely, China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan Province of China, and Thailand over the last decade.[7]

The main results of this paper are threefold. First, we find that global factors are important drivers of long-term interest rates in Asia. About 40 percent of the changes in the long-term rates can be explained by external factors. Moreover, U.S. interest rates are a more important determinant of changes in long-term yields than short-term domestic interest rates in Asia. Second, monetary policy in the region is still effective,

[2] Bernanke, Reinhart, and Sack (2004) also found evidence that Japanese intervention in currency markets pushed the ten year bond yield down.

[3] See Alper (2002), Berument and Dincer (2004), Ozdemir (2013) for example.

[4] Saxena (2008) supports this argument by providing evidence that short term interest rates are significantly affected by foreign interest rates in many emerging economies. This is not surprising, however, as fixed exchange rate regime, where domestic interest rates follows foreign interest rates by design, was most commonly implemented among emerging market economies during the time period employed in the study (1975–2006).

[5] Supporting Klein and Shambaugh (2013) argument, Li and Tsai (2013) find that a relaxation of the exchange rate regime increases the independence of market-based monetary policy in China.

[6] See Felman et al., 2011.

[7] Hong Kong SAR and Singapore are excluded because their nominal anchor for monetary policy is not the interest rate but the exchange rate.