

The impact of foreign interest rates on the economy: The role of the exchange rate regime [☆]

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Abstract

It is often argued that many economies are affected by conditions in foreign countries. This paper explores the connection between interest rates in major industrial countries and annual real output growth in other countries. The results show that high foreign interest rates have a contractionary effect on annual real GDP growth in the domestic economy, but that this effect is centered on countries with fixed exchange rates. The paper then examines the potential channels through which major-country interest rates affect other economies. The effect of foreign interest rates on domestic interest rates is the most likely channel when compared with other possibilities, such as a trade effect.

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1. Introduction

Discussions of globalization often assert that the fortunes of many countries are driven by other major economies. Conventional wisdom holds that conditions in major countries often spill over to other economies, which then

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experience volatility for reasons independent of domestic policies (e.g., [International Monetary Fund, 2007](#)). One manifestation of this idea is that major country interest rates have a strong impact on conditions in other countries. At the same time, the open economy “trilemma” and empirical tests of it suggest that only countries with pegged exchange rate regimes give up their domestic monetary autonomy.¹ This loss of autonomy then implies a potential channel through which foreign interest rates can affect pegs and floats differently, with pegs being directly affected by foreign interest rates and floats insulated from these rates.²

This paper answers two questions. First, what is the effect of interest rates in base countries on other countries’ annual real GDP growth?³ Second, how does this effect vary by the exchange rate regime and other country characteristics? Answering the second question helps to disentangle the channels through which foreign country interest rates affect other economies. We find that annual real output growth in countries is negatively associated with interest rates in their base countries, but that this effect holds only for countries with fixed exchange rates. This finding holds across a wide set of specifications, a variety of controls for time and base-and domestic-country characteristics, and various sub-samples. The results are also robust to concerns of endogeneity of exchange rate regimes, as well as other simultaneity concerns, such as correlated shocks across the base and domestic countries.⁴ In addition, the results are presented across different empirical models (fixed effect panel and random coefficients models) and hold even more strongly when using investment growth rather than GDP growth.

The main finding thus implies that there are real costs to the loss of monetary autonomy that comes with pegging and provides further support for the hypothesis that interest rates can have substantial effects on the real economy. There may be benefits to pegging, but changing the interest rate to maintain the peg will have consequences for the economy. Specifically, base-country interest rates that are 1 percentage point higher lead to a 0.20 percentage point decline in annual GDP growth in pegged countries as opposed to no change in countries with floats.

Turning to the channels underlying this result, we find that base rates have an impact on domestic interest rates and the impact is much stronger for pegs, while they do not appear to have an effect on variables such as exports to the base country. These findings, along with the differences seen across exchange rate regimes, suggest that the direct interest rate channel may be the primary channel through which base interest rates affect other countries, and are consistent with recent evidence that while many countries may show “fear of floating,” interest rates in countries that actually do float show far less connection to base interest rates than countries that peg ([Shambaugh, 2004](#); [Obstfeld et al., 2004, 2005](#)).

This paper is related to two literatures: (i) the impact of domestic monetary policy on the economy, and (ii) the impact of major economies on other countries’ business cycles. While not studying monetary policy per se, we are interested in the way interest rates affect the economy. There is an extensive literature on the impact of domestic monetary policy on the economy, which is too broad to distill here.⁵ One paper that is related to the present study, however, is [di Giovanni, McCrary and von Wachter \(2005\)](#), who use the EMS/ERM period as a quasi-experimental setting to test for the causal impact of domestic monetary policy by instrumenting other European interest rates with the German one in order to test for the impact of domestic monetary policy, and find a strong effect.⁶

The literature on how industrial countries affect less-developed countries’ economies is also relevant. [Dornbusch \(1985\)](#) considers the role of large country business cycles in determining commodity prices and, subsequently, other outcomes for less-developed countries. Recently, [Neumeier and Perri \(2005\)](#) analyze the role of fluctuations in domestic interest rates on the business cycle of small open economies, where the interest rate is decomposed into an international rate and a country risk component. There have also been several attempts to untangle the impact of large

¹ The trilemma is the conjecture that at any one time a country can pursue only two of the three following options: a fixed exchange rate, open capital markets, and monetary autonomy; this is the case because a fixed exchange rate and open capital markets will imply by interest parity that a country has lost its monetary autonomy.

² A “peg” will henceforth refer to a country whose exchange rate stays within a prescribed range, while “float” and “nonpeg” will be used interchangeably to refer to any country that is not pegged.

³ The “base country” is the country to which a country pegs or the country to which it would peg if it were pegged. For nonpegs, the base is determined by previous pegging history, cultural and historical ties, dominant regional economies, as well as a close reading of each currency’s history. See Section 3.1, Appendix A and [Table A1](#) for more details.

⁴ These issues are further discussed in Sections 2 and 3.2.2.

⁵ See [Christiano, Eichenbaum and Evans \(1999\)](#) for a discussion.

⁶ The present paper does not focus on identified monetary policy but on the total impact of foreign interest rates in order to better understand the way foreign conditions and linkages affect domestic annual GDP growth across a large set of countries.

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