

# Does greater exchange rate flexibility affect interest rates in post-crisis Asia?

Hwee Kwan Chow<sup>a,\*</sup>, Yoonbai Kim<sup>b</sup>

<sup>a</sup> *School of Economics and Social Sciences, Singapore Management University, 90 Stamford Road, Singapore 178903, Singapore*

<sup>b</sup> *University of Kentucky, KY, United States*

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## Abstract

In post-crisis Asia, all crisis-hit countries (except Malaysia) announced a shift from an exchange rate based monetary policy framework to the adoption of inflation targeting which uses interest rates as the monetary policy operating instrument. In this study, we examine the empirical relationship between exchange rates and interest rates by applying a bivariate VAR–GARCH model to the Asian crisis countries, namely Indonesia, Korea, Philippines and Thailand. The findings suggest that, following the crisis, their currencies exhibit greater sensitivity to competitors' exchange rates, and that increased exchange rate flexibility stabilizes interest rates only in the short run.

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## 1. Introduction

In the aftermath of the 1997 Asian financial crisis, all the crisis-hit countries with the notable exception of Malaysia announced a shift from an exchange rate based monetary policy framework to the explicit adoption of inflation targeting. Notwithstanding continued official interventions in the foreign exchange markets, these countries, namely, Indonesia, (South) Korea, the Philippines and Thailand announced their move towards using interest rates as the key monetary policy-operating instrument. After all, the pegging of regional currencies to the U.S. dollar – *de facto* or otherwise – has been blamed by some for contributing to the crisis. In the words of Frankel (2003):

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\* Corresponding author. Tel.: +65 6828 0868; fax: +65 6828 0833.

E-mail address: [hkchow@smu.edu.sg](mailto:hkchow@smu.edu.sg) (H.K. Chow).

“The fact that the (U.S.) dollar had occupied a larger role in East Asian monetary arrangements than the U.S. played in their economies made an eventual mismatch inevitable.”

The experiences of the Asian crisis economies pose several interesting questions. In particular, are the exchange rates of these countries now more responsive to international pressures than before? Does greater exchange rate flexibility help reduce interest rate volatility? To examine these issues, we explore the empirical relationship between the exchange rates and interest rates of the four Asian crisis countries mentioned above. Malaysia chose to impose capital controls in September 1998 and installed a fixed exchange rate. These measures have apparently succeeded in stabilizing not only the exchange rate but also the interest rate. Hence, we excluded Malaysia from the analysis.<sup>1</sup>

There are two opposing views on the impact of exchange rate flexibility on interest rate variability. The first is that there is a negative relationship between the volatilities of the exchange rate and the interest rate, which this paper terms the *volatility tradeoff hypothesis*. It is conventionally argued that greater exchange rate variability is stabilizing in the sense that it releases the pressures on the economy and promotes stability in such macroeconomic aggregates as interest rates, money supply and output. Indeed, one of the traditional advantages of floating exchange rates is that interest rates are more stable as the monetary authority is freed from the burden of maintaining a fixed exchange rate (Reinhart & Reinhart, 2001). Conversely, fixing the exchange rate induces intersectoral or intertemporal shifts in volatilities to other variables (Frenkel & Mussa, 1980; Frankel & Rose, 1995; Rose, 1995). In this view, the Asian financial crisis is cited as an example of such volatility shifts under fixed or tightly managed exchange rate regimes.<sup>2</sup>

On the other hand, to the proponents of more stable exchange rates, exchange rate movements are excessive and often unrelated to economic fundamentals (Cooper, 1999). Exchange rate flexibility may hamper international trade in goods and financial assets by introducing exchange risk. On this view, exchange rate flexibility itself creates noise and additional risks in the economy (McKinnon, 2001; Nurkse, 1944). We call the transfer of volatility from exchange rates to interest rates the *enhanced risk hypothesis*, which postulates that the volatilities of exchange rates and interest rates are positively related.

When considering the interaction between exchange rates and interest rates, it is necessary to control for the influence of extraneous factors. In the context of East Asia, we consider three major sources of shocks to regional financial markets: the U.S. interest rate, the yen-dollar exchange rate, and the average dollar exchange rate of neighboring countries. First, the U.S. interest rate measured by the federal funds rate sets a basic point of reference in financial markets that are closely linked to those of the U.S. Second, fluctuations in the yen-dollar exchange rate strongly affect the East Asian economies. Indeed, the sharp depreciation of the yen that started in 1995 has been considered to be a contributing factor to the Asian financial crisis.<sup>3</sup> Third, the average of the dollar exchange rates of neighboring countries captures the effects of competition

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<sup>1</sup> Although weekly data on interest rate and exchange rate volatility for Malaysia are available for over a year in the immediate aftermath of the crisis, these are not sufficient for the estimation of bivariate VAR–GARCH models used in this paper as such models are highly data intensive.

<sup>2</sup> The usual prescription to avoid financial crisis due to the insurance-effect of near pegged exchange rates includes greater exchange rate flexibility on the grounds that it would moderate otherwise volatile capital flows and help reduce excessive boom–bust cycles associated with capital flows. See, *inter alia*, Radelet and Sachs (1998) and Corsetti, Pesenti, and Roubini (1999).

<sup>3</sup> Kwan (1994) argues for a yen bloc in East Asia on the grounds that pegging to the yen will benefit countries that have an export structure similar to that of Japan by stabilizing output.

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