

# Exchange Rates, Currency Crisis and Monetary Cooperation in Asia

Written and Edited by  
Ramkishen S. Rajan



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Monetary Cooperation in Asia

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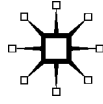
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Written and Edited by

**Ramkishan S. Rajan**

*Associate Professor, School of Public Policy, George Mason University, USA*

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*Dedicated to my team:*

Harminder and Shreyas Rajan

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RAMKISHEN S. RAJAN  
*School of Public Policy*  
*George Mason University*  
*Arlington, Virginia*  
*USA*  
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## Contributors

**Graham Bird** is Professor at the Department of Economics and Director of the Surrey Centre for International Economics Studies (SCIES) of the University of Surrey, Guildford, UK.

**Amit Ghosh** is Assistant Professor at the Department of Economics of Illinois Wesleyan University, Bloomington, Illinois, USA.

**Jie Li** is Assistant Professor at the Central University of Finance and Economics and Director of the CUFER Research Center for Foreign Reserves, Beijing, China.

**Alice Y. Ouyang** is Assistant Professor at the China Academy of Public Finance and Public Policy of the Central University of Finance and Economics, Beijing, China.

**Makarand Parulkar** is Deputy Chief Operating Officer at Bradford College of the University of Adelaide, Adelaide, Australia.

**Victor Pontines** is Lecturer of Economics and Public Policy at Carnegie Mellon University H. John Heinz III School of Public Policy and Management, Adelaide, Australia.

**Chung-Hua Shen** is a Professor at the Department of Finance of National Taiwan University, Taipei, Taiwan.

**Reza Siregar** is International Economic Consultant at the International Monetary Fund—Singapore Regional Training Institute, Singapore.

**Thomas D. Willett** is Director of the Claremont Institute for Economic Policy Studies and Horton Professor at the School of Politics and Economics of Claremont Graduate University, Claremont, California, USA.

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## Introduction

Prior to the Asian financial crisis of 1997–1998, scant attention was paid by policymakers to monetary and financial issues. The predominant focus then was on the real side of the economy (trade and development). The crisis and its aftermath quickly shifted attention to and interest in concerns about currency crises and exchange rate movements in an era of rapid global capital flows. Given the high degree of economic openness in the region and its consequent heavy dependence on trade and investment, the Asian economies are especially susceptible to shifts in global capital flows and sharp exchange rate movements. While many Asian economies have taken a number of steps individually to fortify themselves against future external shocks, they have, as a group, simultaneously initiated a slow but steady process of enhancing monetary and financial cooperation. Since the region holds the largest reserves in the world and consequently plays a significant role in the global macroeconomic imbalances, Asian monetary and financial issues have clearly taken on global importance. The collection of chapters in this volume therefore attempts to explore various aspects of monetary, exchange rate and financial issues in Asia.<sup>1</sup>

The book is truly pan-Asia-focused with chapters on China, Japan, Korea, India and Southeast Asia. The chapters are focused on important policy issues of contemporary relevance, but are informed by analytical frameworks, data and empirics. While the chapters have been written in a manner that is able to stand up to academic scrutiny,<sup>2</sup> they are also meant to be accessible to policymakers, researchers and financial journalists who might be interested in Asian monetary, exchange rate and financial issues, concerns and policies.

The book concentrates on three broad themes, viz. exchange rates and their macroeconomic consequences in Asia; analytical and empirical issues relating to currency crises and policy responses with reference to Asia; and monetary and financial cooperation in Asia. Below is a summary of each of the eleven chapters.

The first three chapters in Part I deal with the inflationary consequences of exchange rate movements and exchange rate interventions in Asia.

Chapter 1 is entitled “Managing the Liquidity Effects of Reserve Stockpiling in Emerging Asia.” The huge increase in international



reserve holdings by Asian countries since the 1997 crisis has been one of the most important recent developments on the international financial scene. These buildups have contributed substantially to concerns about the creation of excessive global liquidity. How justified these concerns are would depend considerably on the extent to which the reserve accumulating countries have been able to mop up or sterilize its effects on their domestic monetary aggregates. This chapter uses a unified theoretical framework to undertake dynamic estimations of the magnitude of sterilization and offset coefficients (which measure the degree of capital mobility) for a large set of Asian economies. Empirical findings suggest that, despite substantial capital mobility, there has been a high degree of effective sterilization to date.

Chapter 2 is entitled “What is the Impact of Exchange Rate Changes on Inflation in Asia?” An important but age-old transmission channel of global factors into domestic prices is via exchange rate movements, so-called exchange rate pass-through (ERPT). It is generally believed that Asian economies are potentially susceptible to the inflationary effects of exchange rate changes since they are highly trade-dependent. This chapter explores this issue, paying particular attention to production sharing—a key characteristic of Asian trade—and its implications for the inflationary consequences of exchange rate movements.

Chapter 3 is entitled “A Closer Examination of Exchange Rate Pass-through in Korea and Thailand.” This chapter examines the extent and evolution of ERPT into Korea’s and Thailand’s consumer and import prices at the aggregate level for the period over the last two decades. Results suggest that ERPT is consistently higher for Thailand as compared with Korea; while for both nations the ERPT of their respective bilateral rates with respect to the US dollar is higher than with respect to the Japanese yen. The chapter also investigates whether and how ERPT has changed in these two economies over time, especially during and after the currency crisis period of 1997–1998.

The next five chapters in Part II deal with analytical and policy issues relating to financial crises in emerging economies, with particular reference to Asia.

Chapter 4 is entitled “Are Crisis-Induced Devaluations Contractionary? If so, Why?” Why are some currency crises followed by economic contractions while others are not? This chapter is an attempt at answering this query. In particular, the chapter investigates two closely-related questions. First, is there a difference in the output effects of a devaluation during “normal” periods as against those during crisis periods? After all, during non-crisis periods, real exchange devaluation is seen as

an important policy option for promoting exports and output growth. Yet, the literature has not made a distinction between crisis and non-crisis periods. To preview the main conclusion, results indicate that the contractionary effects tend to exist only during the crisis period. Building on this, the chapter goes on to explore the factors that cause a crisis-induced devaluation to be contractionary.

Chapter 5 is entitled “Financial Crisis, Capital Outflows and Monetary Policy Responses: Simple Analytics with Reference to East Asia.” Financial crises seem to have become the norm rather than the exception since 1992. This chapter examines the impact of a crisis of confidence and resultant capital outflows from a small and open economy, and the possible policy options in response to such outflows using simple tools and definitions that will be familiar to any money and banking or intermediate macroeconomics student. To facilitate the discussion, examples are drawn from the East Asian crisis of 1997–1998 (Indonesia, Korea, Malaysia and Thailand), although the analysis remains pertinent to emerging economies in general.

Chapter 6 is entitled “Understanding Currency Crises and Monetary Policy Responses in Emerging Economies.” When analyzing the appropriate response for monetary policy during a currency crisis, it is important to keep in mind two distinct channels: the effect of raising interest rates on exchange rates and the direct effect of exchange rate changes on output. The first pertains to the monetary side of the economy as given by the interest parity condition. The second deals with the real side of the economy. The interaction between these two parts of the economy derives the equilibrium output and exchange rate in the economy. This chapter expands the Aghion et al. (2000) monetary model with nominal rigidities and foreign currency debt to examine the interaction between the real and monetary sides of the economy and to analyze the effect of monetary policy on the real economy. We find that the effect of monetary policy on exchange rate and output is theoretically ambiguous. This in turn suggests that the appropriate monetary policy response could vary among countries at any point in time, or for a particular country between two different periods.

Chapter 7 is entitled “How Best to Manage New Style Currency Crises?” The new-style currency crises that have affected a number of developing and emerging economies of late are characterized by “sudden stops” in capital inflows and adverse balance sheet effects. Given the potential high costs of these crises, there is an ongoing debate on how best they might be managed when they do arise. This chapter argues that the time-honored Swan diagram, appropriately modified, is

able to provide useful insights into how a country might manage a new-style crisis through a combination of adjustment (which involves expenditure switching and reducing policies) and financing.

Chapter 8 is entitled “Can High Reserves Offset Weak Fundamentals?” While the previous chapter focused on crisis management, this chapter concentrates on crisis prevention and the role of international reserves in staving off a future crisis. In particular it develops a simple optimizing model to determine the optimal reserve holdings by a country looking to minimize the net costs of holding reserves. In so doing it attempts to determine the validity of the assertion that is sometimes made that sufficiently high levels of reserves can compensate for weak fundamentals.

Ever since the currency crisis of 1997–1998, there has been a great deal of interest in enhancing regional economic cooperation in Asia. The last three chapters in Part III tackle selected issues on Asian monetary and financial cooperation.

Chapter 9 is entitled “Examining the Case for an Asian Reserve Pool.” As noted previously, many Asian economies are stockpiling reserves as a means of self-insurance against future crises. Holding such large volumes of reserves is costly but it also suggests that the regional economies have the capacity to develop a common reserve pool arrangement. This chapter investigates the gains, if any, to be reaped if East Asian economies were to pool their reserves. It also briefly discusses how the proposed reserve pool would fit into the larger context of evolving East Asian monetary regionalism.

Chapter 10 is entitled “Taking Stock of Monetary and Financial Cooperation in Asia.” It is important to keep in mind that economic regionalism is multidimensional in nature. The focus of this chapter is on policy initiatives underway in Asia to enhance monetary and financial regionalism and the analytical bases for these initiatives, rather than on examining the *de facto* level of financial and monetary links that already exist (which may or may not have been facilitated via regional policy mechanisms). This chapter focuses more narrowly on “medium forms” of monetary and financial regionalism, broadly defined as the development of regional liquidity arrangements and regional financial markets.

Chapter 11 is entitled “Is there a Role for an Asian Currency Unit?” While most observers agree that the time is not yet ripe for Asia to consider a common currency, there has been some discussion about the possible creation of an Asian Currency Unit (ACU). This chapter examines the specific issue of the ACU which, in a general sense, is a weighted average of regional currencies *a la* the European Currency Unit (ECU).

The chapter critically examines the rationale for the ACU proposal and offers an initial attempt at computing optimal currency composition of the ACU. The optimal basket weights computed are aimed at ensuring a regional currency basket that has minimal variance. Hence it should deliver stability in intraregional exchange rates for alternative configurations of currency baskets in the Asian and Pacific region.

### Notes

1. Issues that might be missing from this book such as the choice of exchange rate regimes, inflation targeting, and dynamics of capital flows have been explored in a companion volume (Cavoli and Rajan, 2009).
2. Indeed, a number of the chapters draw on and build upon papers published in refereed journals.

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## **Part I**

# **Exchange Rates and Macroeconomic Consequences**

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# 1

## Managing the Liquidity Effects of Reserve Stockpiling in Emerging Asia<sup>1</sup>

*(Co-authored with Alice Y. Ouyang and Thomas D. Willett)*

### 1.1 Introduction

Asia accounted for over half of global international reserve holdings during the period 1999–2005, up from one-third in the period 1990–1995 (Kharas et al. 2006).<sup>2</sup> While China and Japan have been the main drivers of the massive stockpiling of reserves in the region, India, Hong Kong, Korea, Singapore and Taiwan, and some middle-income Southeast Asian economies have also experienced significant swelling of their reserves since the crises (Figure 1.1).

For Korea and other regional economies that were hit by the regional crisis, policymakers appear to have deliberately chosen to amass high levels of reserves for precautionary or self-insurance motives against future financial crises (Aizenman and Marion 2003; Bird and Rajan 2003; also see Chapter 8 of this volume).<sup>3</sup> Reserve accretion as a financial safeguard is consistent with modern second generation (escape clause-based) currency crises models *a la* Obstfeld (1986, 1994).<sup>4</sup> However, many Asian countries have continued accumulating reserves well beyond plausible precautionary levels (also see Chapter 9 of this volume).

Some have argued that the reserve growth in emerging Asia more recently is a by-product of a desire by central banks to smooth exchange rate movements, but smoothing behavior by central banks should, in general, have no net impact on reserves over time. The continued build-up of reserves suggests that intervention is largely asymmetric and that it stems largely from a desire to maintain relatively stable and/or “ultra-competitive” exchange rates.<sup>5</sup> A number of commentators have expressed concerns that such large-scale intervention runs a serious risk of generating increases in inflation in the intervening countries, and some have even suggested that such reserve accumulations have played a major role in the creation of excessive global liquidity. Key to such issues is the extent to which monetary authorities can successfully sterilize the



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