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A simple model of emerging market portfolio structure

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ABSTRACT

Many emerging market economies have experienced large buildups of foreign exchange rate reserves over the last decade. Much of the contemporary discussion of this phenomenon has focused on this reserve growth as the consequence of exchange rate policies which have maintained fixed pegs to the US dollar. By contrast, this paper focuses on emerging market reserve choice as a consequence of portfolio diversification, applied to the experience of Asian economies. While Asian economies have become significant gross creditors in bonds and other fixed income assets, their liability position in equity and FDI assets has also grown significantly. This suggests that a full understanding of the reserve growth episode must be seen as part of an overall model of portfolio choice. The paper constructs a model of the interaction between an emerging market and an advanced economy in which an optimal general equilibrium portfolio structure implies that emerging market economies simultaneously build up a stock of foreign exchange rate reserves while receiving FDI flows from the advanced economy. The model can provide a reasonable quantitative account of the recent Asian experience.

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1. Introduction

Following the financial crises of the late 1990s, the major emerging Asian economies have had a decade of uninterrupted growth. Capital flows from industrial countries in the form of FDI as well as portfolio and bond investment have been strong, while on aggregate, Asian countries have been generating strong current account surpluses with the rest of the world. These current account surpluses have significantly reduced the degree to which Asian economies are subject to 'sudden stop' risk of interruptions in capital flows. Reflecting this, sovereign risk-premium spreads have been very low by historic standards.

There is no single explanation for this positive trend among Asian emerging market economies. High global saving has led to a prolonged period of low real interest rates, reducing the potential for crises. The buildup of strong positive net external positions as well as large stocks of foreign exchange rate reserves has had the same effect, and more generally has instilled a strong confidence in the investment potential of these countries. But in addition, real economic growth has been stimulated by high demand for exports from the industrial world (in particular the US), and commodity prices booms have generated huge net gains for many emerging countries.

In focusing only on the recent net capital flow experience of emerging economies however, one may neglect the fact that many of these economies have had both large inflows and outflows of financial capital. In this sense, these economies have been participants in the globalization of financial markets, seeing increases in gross external financial assets both on the liability and on the asset side. This experience mirrors that of many advanced economies, as documented in the seminal work of Lane and Milesi-Ferretti (2001, 2006). Although most recent discussion of global imbalances has been concerned on the size of net external surpluses of China and other emerging economies, in the background there is a large increase in two- way capital flow between advanced economies and emerging market countries. Emerging economies have been accumulating large stocks of US treasury bills in the form of official reserve assets as well as other fixed income assets. Simultaneously however, they have been receiving

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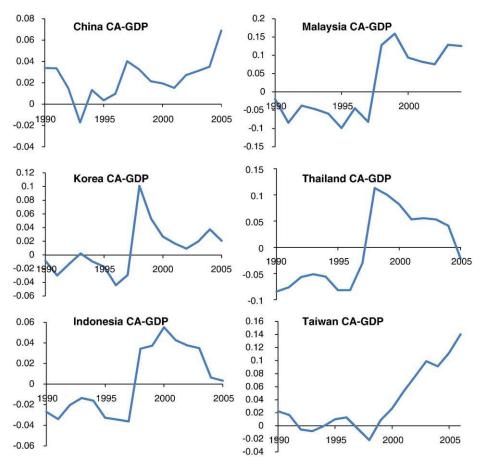


Fig. 1. Asian Currents Accounts.

large inflows of FDI and portfolio equity investment, as well as private bond market inflows. For emerging market economies taken as a whole, Lane and Milesi-Ferretti (2006) document this turnaround on the aggregate portfolio structure. Prior to the middle of the 1990's, many of these economies were substantial net debtors in non-contingent assets such as bank loans and short term US dollar bonds, now they have substantial net positive positions in fixed income assets, while being on the whole net debtors in FDI and portfolio equity investment. There is an argument that this is in fact a much more efficient form of sharing the risk of development financing for emerging market economies.

This paper investigates the impact of financial globalization in emerging economies. In our theoretical model, financial globalization is endogenous; being a consequence of optimal portfolio choice in a stochastic dynamic general environment. We explore the factors underlying the determinants of an optimal risk-sharing portfolio for an emerging market economy that needs to attract investment capital, but experiences country specific macroeconomic risk. This loosely approximates the positions of the fast-growing Asian exporting economies that require investment for growth. The question is, how should this investment be undertaken? One possibility is to borrow substantially in the form of non-contingent foreign bank loans, or to issue bonds in international markets in order to finance their own investment. In the mid 1990s, this could roughly describe the financing patterns of many emerging economies. Another option however is to accept FDI and equity investment. As we noted, this is becoming more the norm for emerging economies in recent years. In our analysis, we interpret this financing choice as an implication of financial globalization. In an environment where emerging market economies have access to a larger menu of international assets, an optimal financing pattern is to accept inflows of FDI and portfolio investment, but balance this with outflows of investment in fixed income, non-contingent assets. This offers one way to interpret the build-up of international reserve assets on the part of emerging economies.

The paper is based on a dynamic stochastic general equilibrium model of the interaction between an emerging market economy and the rest of the world. We follow Devereux and Saito (2007) in constructing a stochastic continuous time framework with incomplete markets. In the model, financial globalization, wherein an emerging market economy may simultaneously build up

¹ There has been a rapid growth in the literature on incorporating portfolio dynamics in DSGE models. See Devereux and Sutherland (2006), Engel and Matsumoto (2007), Evans and Hnatkovska (2005), Tille and van Wincoop (2007), and Ghironi et al. (2005) among other papers, for alternative approaches.

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