

Financial Markets and Policies in East Asia

Edited by
Gordon de Brouwer

Routledge Studies in the Growth Economies of Asia



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Financial Markets and Policies in East Asia

While the financial crisis in East Asia could be said to be on the wane in some countries, the reconstruction process in the aftermath and the debate about the financial policies best suited to the region still rage on. This book examines both of these processes in authoritative detail.

It includes critical assessments of:

- the post-crisis state of financial markets;
- the banking and corporate restructuring process, with a special focus on Indonesia;
- the policy debates currently going on in East Asia, including monetary policy, exchange rate systems and the scope for financial cooperation; and
- East Asia's debt and equity markets.

The well-respected contributors, including Claudio Borio, Hae Wang Chung, Guy Debelle, Reuven Glick, Robert McCauley and Eisuke Sakakibara, have produced a book that will be influential around the world. In addressing a raft of important financial policy issues, the book assesses the need to secure policy consistency, the scope for inflation targeting, operational aspects of monetary policy, the sustainability of exchange rate regimes and the scope for deeper financial integration in East Asia.

This book will be indispensable to advanced students and academics of East Asian Economics and Finance. Perhaps more importantly it will provide policymakers with a definitive guide to the future of financial policies in East Asia.

Gordon de Brouwer is Professor of Economics at The Australian National University.

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Preface

This book is the fruit of many people's labours. While the authors are the front people, many others have worked behind the scenes to ensure accurate and fast publication.

The papers were first presented at a conference held in Canberra at The Australian National University in September 2000, which was sponsored by the University and the East Asia Office of the International Monetary Fund. Professor Peter Drysdale and I are grateful for this support. We are also indebted to our support staff at the Australia–Japan Research Centre, especially Marilyn Popp, Andrew Deane and Karen Sanecki, for their excellent work and dedication in preparing for, and running, the conference.

The papers were edited by Sarah Leeming and typeset by Minni Reis. They both did this in a fast, highly competent and friendly manner. We are also grateful for the expert work and direction by the staff at Routledge.

Gordon de Brouwer
August 2001

Abbreviations

ACU	Asian currency unit
AFTA	ASEAN Free Trade Area
AMC	asset management corporation
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
BCA	Bank Central Asia
BI	Bank Indonesia
BIBF	Bangkok International Banking Facilities
BIS	Bank for International Settlements
BLR	base lending rate
BMSF	Bond Market Stabilisation Fund
BNI	Bank Negara Indonesia
BNM	Bank Negara Malaysia
BOT	Bank of Thailand
Bulog	Badan Urusan Logistik Negara
BUN	Bank Umum Nasional
CAPS	Capital Augmented Preferred Securities
CAR	capital adequacy requirement
CCL	contingent credit line
CDRC	Corporate Debt Restructuring Committee
CDRAC	Corporate Debt Restructuring Advisory Committee
CER	Closer Economic Relations
CP	commercial paper
CPI	consumer price index
CRA	Corporate Restructuring Agreement
CRCC	Corporate Restructuring Coordination Committee
CSIP	Capital Structure Improvement Plan
DMB	deposit money bank
EMEAP	Executives' Meeting of East Asia and Pacific Central Banks
EMS	European Monetary System
EMU	European Monetary Union
ERM	Exchange Rate Mechanism

FCDU	Foreign Currency Deposit Unit
FDI	foreign direct investment
FIDF	Financial Institutions Development Fund
FRA	Financial Sector Restructuring Authority
FRN	floating rate note
FSC	Financial Supervisory Commission
FSS	Financial Supervisory Service
FTA	free trade agreement
GATS	General Agreement on Trade in Services
G-3	Group of Three
G-7	Group of Seven
G-20	Group of Twenty
G-22	Group of Twenty-Two
GDP	gross domestic product
IBRA	Indonesian Bank Restructuring Agency
INDRA	Indonesian Debt Restructuring Agency
IIF	Institute of International Finance
IMF	International Monetary Fund
IPS	initial public offering
IT	information technology
ITC	investment trust company
JIBOR	Jakarta interbank offered rate
JITF	Jakarta Initiative Task Force
KAMCO	Korea Asset Management Corporation
KDIC	Korea Deposit Insurance Corporation
KOSDAQ	Korean Securities Dealers Automated Quotation
KOSPI	Korean stock price index
LIBOR	London Interbank Offered Rate
LOI	letter of intent
LTCM	Long-Term Capital Management
MSB	Monetary Stabilisation Bond
MTN	medium-term note
NAFTA	North American Free Trade Agreement
NBFI	non-bank financial institution
NPL	non-performing loan
NYSE	New York Stock Exchange
OECD	Organisation for Economic Cooperation and Development

P&A	purchase and assumption
PCA	prompt corrective action
RAB	Radanasin Bank
RBNZ	Reserve Bank of New Zealand
SBI	Sertifikat Bank Indonesia
SDR	special drawing right
SIBOR	Singapore Interbank Offered Rate
SLIPS	Stapled Limited Interest Preferred Securities
SME	small and medium-sized enterprise
SMSF	Stock Market Stabilisation Fund
SOB	state-owned bank
SOE	state-owned enterprise
SRF	supplementary reserve facility
TWI	trade-weighted exchange rate index
VAR	vector autoregressive model
WTO	World Trade Organisation

1

Debating financial markets and policies in East Asia

Gordon de Brouwer

INTRODUCTION

The financial crisis in East Asia started in July 1997 but was over by October 1998, when the crisis shifted to the United States and Latin American emerging markets following Russia's debt default and the near-collapse of the US hedge fund, Long-Term Capital Management. But the economic and social effects of the crisis still persist in much of the region, and the debate about reforming financial markets and policies continues, even if elements of it have changed.

This debate about financial markets and policies in East Asia was taken up at a conference held at The Australian National University in September 2000, sponsored jointly by the University and the International Monetary Fund. The conference focused on three elements of the debate. The first was a discussion about changing patterns of finance in the region. The second was a critical assessment of financial restructuring and liberalisation in East Asia, with particular focus on the five crisis-affected economies of Indonesia, Korea, Malaysia, the Philippines and Thailand, and China. The third was a wide-ranging analysis of financial policies in the region, with particular focus on monetary policy and exchange rate policy, including how they are related. This volume contains the main papers from the conference.

CHANGING PATTERNS OF REGIONAL FINANCE

In Chapter 2, 'Recent Developments in Asian Financial Markets', Dominic Wilson critically reviews what has been happening in regional financial markets since the crisis, as well as offering some thoughts on prospects and concerns. He reviews recent evidence on why financial development and diversity matter to economic growth. He then analyses trends in share markets, the cost of capital, market capitalisation and liquidity, mergers and acquisitions, and general financing. Wilson argues that while equity and bond markets are clearly important, bank intermediation remains the mainstay of regional financing. Reform and recovery of the banking system is therefore essential to achieve stable, broad-based economic growth.

Wilson also assesses regional developments and the outlook for the region. He identifies some positive legacies of the crisis, including moves to improve liquidity and efficiency in financial markets. While the greater involvement of foreign financial

institutions will be controversial, he argues that it is an important catalyst for markets to move to best practice. He also identifies some negative legacies, including larger fiscal and debt burdens, and weak banking systems. He notes that there is a widespread perception that emerging East Asian economies are exceptionally sensitive to external influences, but argues that this perception is overstated. He regards as a serious threat to regional economic security the risk that developed and developing Southeast Asian economies, especially Indonesia and the Philippines, will fall behind in the region.

In the discussion of this paper at the conference, three main points were raised. The first was that financial markets are able to differentiate risk. While the herding and overshooting characteristics of markets are by now well documented, financial markets have matured and are better able to differentiate the risks of economies in the region. The second issue was that while there are risks that Southeast Asia will become decoupled from the rest of the region, economic growth and performance in Northeast and Southeast Asia have at times varied substantially in the past few decades. The final point was that creditless growth is not necessarily a problem. If it reflects healthy deleveraging after an excessive build-up of debt, rather than a credit crunch, it is not necessarily a policy dilemma.

Sang Whan Kim, Haesik Park and Hae Wang Chung examine the recent trend of bank disintermediation in Korea in Chapter 3, 'Patterns of Bank Intermediation and Structure: A Korean Perspective'. They analyse the changing asset structure of Korean banks and the factors that have driven bank disintermediation. They argue that strong enforcement of Bank for International Settlements (BIS) capital adequacy rules during the process of financial restructuring discouraged banks from lending to business, and caused them to shift to investments in securities. Disintermediation may have impeded the effectiveness of monetary policy: an easing in monetary conditions will have a weaker effect on the macroeconomy if banks simply use the extra liquidity to boost their holdings of securities rather than make additional loans to business.

This argument is controversial in a number of respects. First, while the authors lament the slow recovery in bank loans in Korea, others think that the recovery has been considerably faster than in the other crisis-affected economies in East Asia. To them, the issue is not so much why bank lending to firms in Korea has been slow to recover but why lending has recovered so much faster than in Thailand or Indonesia. In Korea bank lending bottomed out with gross domestic product (GDP), whereas elsewhere it lagged GDP by up to two years; and lending has grown at around the same rate as nominal GDP, rather than well below it.

Outside observers identify (at least) four factors that have supported loan growth in Korea. First, the government guaranteed bank loans to small and medium-sized enterprises (SMEs) in 1998. Second, the central bank, the Bank of Korea, boosted lending to SMEs during the crisis by widening its discount window facility for loans. Third, the foreign currency liabilities of Korean banks were contained, thereby helping to stabilise banks' balance sheets. Finally, other forms of financial intermediation—such as trust bonds and commercial paper—were weakened in 1999, shifting the focus back onto bank-intermediated financing.

The second controversial and sensitive element in Kim, Park and Chung's paper is the proposal that Korean banks should be able to implement capital standards flexibly. The

question is: does strict enforcement of capital standards create a credit crunch? Kim, Park and Chung think that it does but others do not accept this assessment.

Other analysts argue that the Basle capital standards have been applied flexibly in Korea. During the 1999 negotiations between HSBC Holdings and the Korean authorities over the acquisition of a major bank, loans to the Daewoo group were credited as 'special mention' credits, attracting a 1–2 per cent reserve, rather than as 'substandard', which would have attracted a 20 per cent reserve.

Opponents of the proposal to weaken capital standards also argue that the real problem for banks is not the enforcement of the standards but large loan losses and only partial bank recapitalisation.¹ A heavy weight of unresolved loans prevents bank managers from focusing on present opportunities. More generally, they argue that the most effective way to promote public confidence in banks is to restore solvency. Tinkering with capital adequacy requirements is an easy political solution but does little to boost public confidence.

In Chapter 4, 'Private Capital Flows in East Asia: Boom, Bust and Beyond', Ramkishan Rajan and Reza Siregar critically assess recent developments in regional capital flows. Rajan and Siregar examine some of the models used to explain financial crises. They then look at the combination of push and pull factors that have influenced capital flows both before and after the crisis. They note that the post-crisis rebound was accompanied mostly by a resurgence in portfolio capital inflows. They use correlation analysis and Granger-causality tests to explore the determinants of private capital inflows. They find some evidence that economic growth and currency movements affect the decision to undertake portfolio investments in East Asia, often, not surprisingly, with feedback and interaction between the key variables.

The analysis of capital flows in East Asia in the past several years is an inherently controversial one. The way the crisis played out was a consequence of the policy actions that were taken, and the outcome was endogenous to the policy response. Had a different set of policies been adopted, then the outcome might have been different. In particular, the popular view that 'bank debt is fickle, foreign direct investment (FDI) is good, and portfolio investment is neutral' is a result of the set of circumstances that prevailed. This assessment may not be robust to a different set of policies and circumstances. It is also the case that the stability of FDI may be associated with the variability of other forms of capital flows. For example, if FDI is hedged through financial instruments, the currency and country risk management of FDI assets in a crisis occur through substantial movements in other financial assets. This makes FDI appear more stable, and other forms of capital flows more volatile, than otherwise.

FINANCIAL RESTRUCTURING AND REFORM

The next three chapters examine financial restructuring. The first two look at the features and progress of bank and corporate restructuring in East Asia. The third examines China's experience with the sequencing of restructuring and reform.

In Chapter 5, 'Bank and Corporate Restructuring in Crisis-Affected East Asia: From Systemic Collapse to Reconstruction', Masahiro Kawai explains the current state, and

consequences, of financial and corporate restructuring in Indonesia, Korea, Malaysia and Thailand. He then explores the medium-term agenda for reform and draws some lessons for the prevention, response and resolution of systemic crises in financial and corporate sectors.

Kawai finds that key parts of the reform process have been disappointingly slow. The regional economic recovery has been strong but uneven, and many risks remain, the most serious of which is complacency in financial and corporate sector restructuring. The financial sectors of the crisis-affected economies remain plagued by debt overhang and there is a growing temptation to slow the restructuring process because of vested interests that are concerned about losing control and a nationalistic backlash against fire sales of assets to foreigners. He argues that credible judicial, court and enforcement systems are essential to successful corporate restructuring.

While there was broad support for Kawai's argument at the conference, there was a mix of views about how best reforms could be implemented. The timing is critical. If reform progresses too quickly, it can seriously exacerbate a crisis, and many analysts argue this is what occurred in East Asia in 1997 and 1998. On the other hand, if reform moves too slowly, the political impetus may be lost and the economy is likely to stagnate under the weight of bad loans and weak firms. Although the time frame is critical, it is difficult to set out a precise regime in advance. Some also argue that innovation and entrepreneurship need to be supported during the process of reform and restructuring. While reform and policy consistency are essential, others argue that the pace and substance of reform will often depend on local, especially political, circumstances, suggesting that an *ex-ante* reform agenda should be flexible and not overly prescriptive.

In the next chapter, 'The Boom, Bust and Restructuring of Indonesian Banks', Mari Pangestu and Manggi Habir discuss bank reform and restructuring in Indonesia. They analyse the state of the banking system before, during and after the crisis, and how various economic, social and political vulnerabilities interacted with the banking crisis. They critically review the current program of bank restructuring and recapitalisation, and examine some policy implications, including the need to develop core banks, a stronger prudential regime and a viable deposit insurance scheme. They note that the speed and depth of economic recovery in Indonesia depends on successful restructuring of bank and corporate debt. The authors argue that the sheer magnitude of the problem in Indonesia suggests that recovery will take considerably longer than experience elsewhere indicates.

At the conference the discussion of Indonesia's experience focused on two issues. The first is that political transparency is crucial to bank reform in Indonesia but political reform is unlikely to proceed well or smoothly. There are a few basic rules that policymakers need to follow in restructuring banks. These include the need to enforce creditor rights in bankruptcy proceedings or negotiations and to enforce the law in defence of foreign investors. It may also be necessary to impose some limits on foreign borrowing if firms cannot manage and cannot learn to manage foreign exchange risk. The second issue is that while central bank independence is a necessary part of a well-functioning monetary and financial system, the restructuring process was undermined in Indonesia because the central bank became independent before proper reform had taken place.

In Chapter 7, 'Financial Market Liberalisation and Economic Stability in China', Fan

Gang critically assesses the concept of capital-account sequencing. He argues that while capital and technology may be highly mobile, other factors, such as the ability to manage institutions and markets, are not so mobile because they tend to be country- and history-dependent. This relative immobility of management and regulatory oversight puts developing countries on an unequal footing. Fan does not dispute the desirability of liberalisation and argues that developing countries should speed up reform to accelerate the process of ‘compatible opening’, but he argues that they should beware of ‘excessive opening’.

Fan places financial reform in China in the category of compatible opening, if not overcautious opening. He argues that China has benefited from the reforms that have taken place, most notably from the sustained surge of foreign direct investment it experienced in the 1990s. He cautions against either too rapid or too slow a reform of financial and capital markets in China, supporting compatible opening rather than sequencing. Compatible opening involves progressive and systematic reform on all fronts: partial progress in a number of sectors rather than step by step, one sector at a time. This means reforming part of ‘A’ and ‘B’ together rather than reforming ‘A’ before ‘B’. He argues, for example, that China should not wait for state-owned enterprise reform to be completed before opening its manufacturing industries to competition. The number of foreign financial intermediaries and investment funds also needs to increase. The exact path to be followed will depend on the political circumstances at the time and on the level of progress in other parts of the economy.

In the discussion of this paper at the conference, there was considerable support for the view that sequencing is rarely a clean process and that gradual integrated reform has its merits. The sequencing, timing and speed of reform are inherently hard to manage, with the process tending to create its own momentum, which governments find difficult to control. It is also vital to address rent-seeking behaviour and corruption, and to ensure officials and managers overseeing the reform are competent. There was also recognition that the nature of global connections has changed and that the speed and inter-relatedness of adjustment in the financial sector has increased.

FINANCIAL POLICIES

Several years after the financial crisis, the debate in East Asia about financial policies – the choice of monetary policy regime, exchange rate arrangement and capital account regime—is ongoing. In Chapter 8, ‘Securing Consistency in Macroeconomic Policy’, David Nellor highlights the need for consistency in the macroeconomic policy mix. He argues that the choice of any regime has an opportunity cost, with some aspect of flexibility lost. Economic stability will only be maintained if policymakers are prepared to accept this opportunity cost and pursue consistent monetary and exchange rate policies. Nellor argues that inconsistency between the settings of monetary policy and exchange rate policy—resulting in high domestic interest rates, fixed exchange rates and poor risk management—was an important feature in the crisis. Nellor states that sustainable policy regimes are yet to emerge in East Asia, although he adds this does not mean that another crisis is just around the corner.

Nellor's thoughtful paper raises many important and controversial policy issues. His analysis led to three broad lines of discussion at the conference. First, not all participants accepted that East Asia's financial crisis was only (or largely) about policy inconsistency—other factors, such as on-off exaggerated reactions by investors and destabilising speculation² were also seen as important. That said, the need for policy consistency was widely accepted, although what constitutes consistency or otherwise is, to some degree at least, in the eye of the beholder.

The second point raised was that the number of feasible policy options is probably quite small. For example, whether policymakers choose floating or fixed exchange rates, they will still need to ensure labour markets are flexible, effective governance mechanisms are in place, and central banks are competent if they want to achieve a stable economy. Similarly, few countries with large foreign currency borrowings have the option of ignoring US monetary policy, regardless of whether they have a fixed or a floating exchange rate. In the same vein, even countries with a floating exchange rate can have substantial foreign exchange reserves and may intervene in the foreign exchange market. The set of feasible policies is likely to be relatively narrow.

The third point raised in the discussion about policy consistency was the role of cooperative financial arrangements, especially at the regional level, to support stability. Nellor discusses regional cooperative financial arrangements in his chapter, noting that such arrangements can have at least three functions. These are, in order of diminishing consensus: surveillance, crisis resolution and monetary union. There is wide support for strengthening regional surveillance, for instance in the Manila Framework Group.

The potential for cooperative arrangements to support stability is more controversial. On the one hand, some see a strong regional arrangement as able to support a coordinated global response to a crisis and provide a disincentive to speculative attacks. Others, on the other hand, see such arrangements as increasing the risk that countries will avoid adjustment, a cause that is doomed to fail if the adjustment is required by a shift in fundamentals. A regional arrangement may end up raising the stakes in a speculative attack.

The scope for regional financial arrangements to support common currency arrangements has tended to be downplayed since most see little prospect for monetary union in East Asia. This is too narrow a view. There is in fact considerable debate in East Asia about common currency arrangements, even though the proposals under discussion fall far short of currency union. If arrangements, such as targeting to a common-basket peg, are to proceed, then strong regional policy cooperation will be needed.

An essential part of the debate about monetary policy is the choice of exchange rate regime: whether to adopt a fixed exchange rate, a floating exchange rate, or something in between.

Opinions about which regime works best have tended to gravitate to the two extremes of fully floating or rigidly fixed exchange rates (Mussa et al. 2000). There is a widespread belief that adjustable or soft pegs are liable to break down, sometimes calamitously, because monetary authorities do not adjust the rate fast enough, or by enough, as economic circumstances change. Some commentators see this as a problem of insufficient flexibility in the exchange rate, and advocate a floating regime. Others see it as insufficient commitment to the fixed rate, and advocate permanent pegging through a

currency board arrangement, currency union, or the replacement of the national currency with another, typically the dollar.

In Chapter 9, 'Fixed or Floating: Is It Still Possible to Manage in the Middle?', Reuven Glick assesses this debate and looks at what is happening to the 'missing middle'. He argues that the middle ground is indeed shrinking and that intermediate regimes are becoming increasingly difficult to sustain. He cites as evidence the successive widening of intervention bands by countries that have adopted target bands, the sizeable number of countries that have recently abandoned intermediate arrangements altogether, and the observation that countries that still maintain intermediate exchange rate regimes also use capital controls (although these are becoming harder to enforce as financial markets develop).

Glick discusses the feasibility of alternative exchange rate arrangements in East Asia. He argues that as openness to trade and finance increases in the region, countries will have little choice but to allow greater flexibility in their exchange rates. He warns policymakers against attempting to keep the exchange rate within a particular range for extended periods of time.

While he agrees that intermediate regimes are more difficult to sustain in a world of greater trade and financial openness, Glick argues that this does not preclude the active discretionary use of foreign exchange intervention, 'jawboning' and other policy tools to influence the exchange rate. Indeed, monetary policy needs to take exchange rate developments into account and react to them at times.

There was broad agreement at the conference with Glick's assessment that deeper integration makes it harder for countries to maintain intermediate exchange rate regimes. But there was also agreement that the corner-solution characterisation is too strong and the semantics of floating exchange rate regimes are sometimes confusing. For example, talk of a corner solution implies that a float has to be pure and free to be sustainable. But no country has been able to sustain a pure float. Almost all countries with a floating exchange rate intervene at times, to varying degrees, in the foreign exchange market. And even if a country eschews foreign exchange intervention, as New Zealand has,³ it still uses interest rates or jawboning to influence the exchange rate. In this sense, most floats are managed to some degree; the key is to maintain the right degree of flexibility and ensure competent management of the chosen regime.

In the discussion, participants made two other observations on the debate about fixed or floating. One was that the trend toward capital account liberalisation has halted as a result of the crisis: if anything, developing economies in East Asia are imposing controls on international capital flows rather than removing them. In the past few years, for example, Korea, Malaysia, Taiwan and Thailand have imposed and enforced limits on access by non-residents to domestic swap markets in order to restrict the ability of offshore speculators to sell the currency. This provides these countries with a buffer against offshore speculative attacks by highly leveraged institutions (HLIs) and others.

While imposing limits on swaps can provide some protection against speculation, the policy has a number of shortcomings. Limits tend to offer at best only partial protection from offshore speculation because they need to be strictly enforced, which many authorities in developing countries cannot do effectively (de Brouwer 2001). Limits should not be able to be circumvented as can occur, for example, when speculators obtain

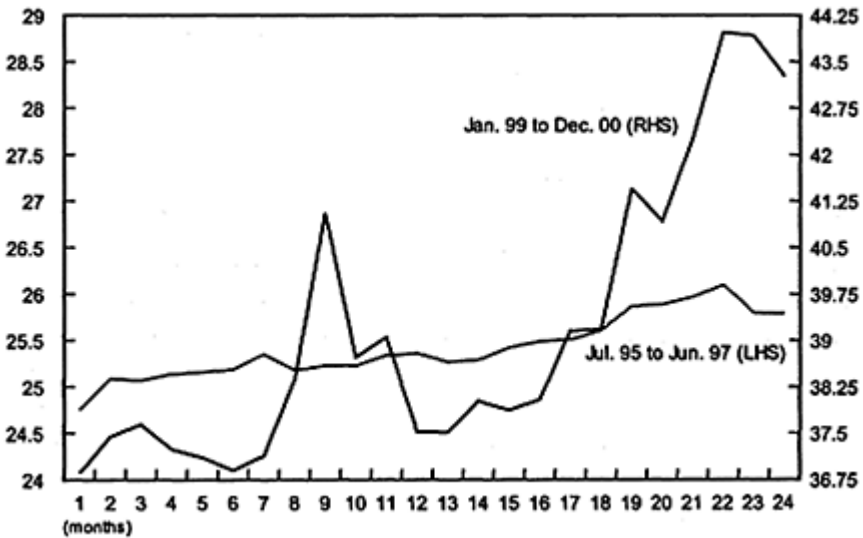
funding in offshore markets in the country's currency for short currency positions. Moreover, they do not prevent some forms of *onshore* speculation.

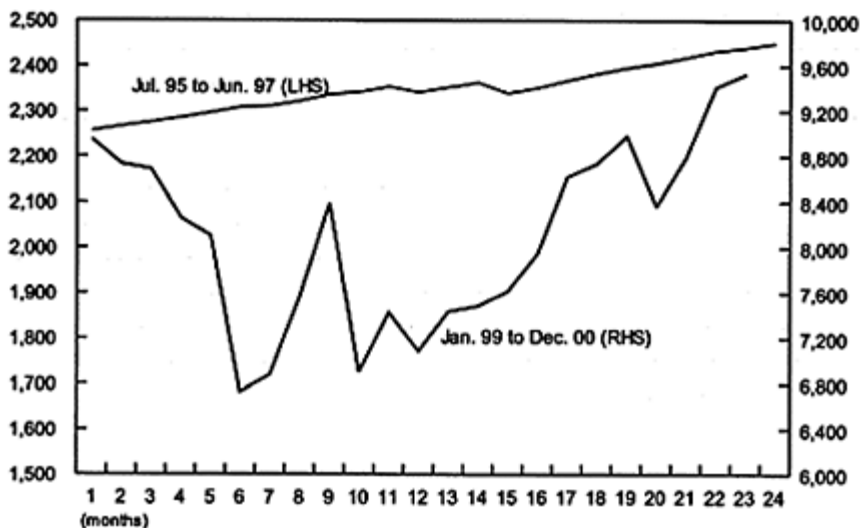
Some participants also argued that the post-crisis shift to floating exchange rates is overstated. They believe that although a number of East Asian countries *say* that their currency is freely floating, in fact they have reverted to the implicit or de facto dollar pegs that were followed before the crisis. Ogawa (2000), for example, argues that correlations between daily movements in some regional currencies and the dollar have strengthened since the crisis. It is not clear, however, that this is the case.

Figure 1.1 plots monthly movements of the baht, rupiah and won against the US dollar over the two years before the crisis, from mid-1995 to mid-1997, and after the crisis, from 1999 to 2000. The axes are scaled so that the percentage movement for each currency is the same in both periods. The won has been more stable against the US dollar since the crisis, but the baht and rupiah have not been, making it difficult to accept the proposition that there has been a return to implicit dollar pegging in East Asia in the past few years. Indeed, if the time period is restricted to 2000, then none of the three currencies appears stable against the US dollar (relative to periods of precrisis implicit dollar pegging).

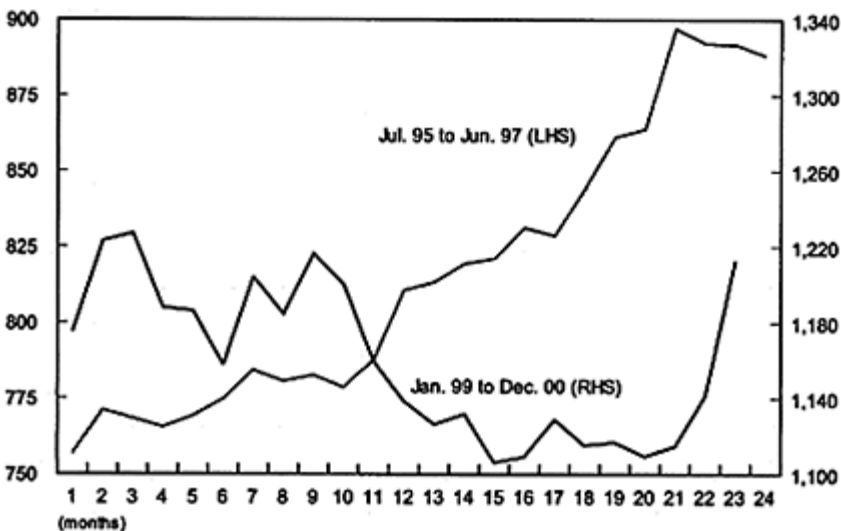
It is not clear that stability against the dollar is a good indicator of implicit dollar targeting. The crisis-affected economies have successfully sought to build up their foreign exchange reserves in the past few years, largely in the form of US dollars. In practice, they will be buying dollars when they are cheap—that is, when their own currency is strong—and not buying when the dollar is expensive. Although this will limit currency movement against

Figure 1.1 Baht, rupiah and won exchange rates before and after the crisis (Baht/US\$)





(Won/US\$)



Source: IMF, *International Financial Statistics*.

the dollar, it is not right to characterise this behaviour as implicit dollar targeting.

It is also not clear which bilateral rate is being targeted. The yen/dollar exchange rate has been relatively stable in the past few years, and it is not clear whether the crisis-affected economies are targeting the dollar or the yen. In Korea's case, in particular, there now appears to be a greater focus on bilateral stability with the yen than before the crisis (Kim, Ryou and Wang 2000).⁴ In short, won/dollar stability may be masking won/yen

stability.

Instead of choosing an exchange regime autonomously, countries in the region can do so cooperatively, with some or all of them adopting a common currency regime. Policymakers then face two issues. The first is how countries in the currency bloc should tie their exchange rates together. Currencies can either target a basket of the dollar, yen and euro with a common set of weights or a regional currency unit that is a weighted combination of regional and other currencies. Alternatively a common currency can be adopted, which may be an existing currency (either the dollar or the yen) or a new currency through a formal currency union (as in the European Union). The second issue is whether to fix or float (or somewhere in between) against currencies *outside* the bloc. The final three chapters focused on the first issue, examining various aspects of cooperative exchange rate arrangements in East Asia.

In Chapter 10, 'The Viability of Inflation Targeting for Emerging Market Economies', Guy Debelle examines whether inflation targets should be the strategic focus of monetary policy. A number of countries, mostly industrialised economies, have adopted an inflation-targeting framework over the past decade. Debelle argues that inflation targeting is also a viable policy strategy for emerging market economies in East Asia. This is not to deny that there are technical problems in adopting such a regime—such as difficulties in forecasting inflation, the volatility of inflation and a lack of knowledge about its transmission—but these problems also arise in other policy regimes and have already been faced by policymakers in many industrialised countries that adopted inflation targeting.

The argument that emerging economies in East Asia should adopt an inflation-targeting regime is controversial. In the first place, the countries that have adopted inflation targets tend to be those which have had problems with inflation. Inflation has not been a problem for most of East Asia. Moreover, policymakers in emerging economies are particularly concerned with maintaining competitiveness in export prices. This means that not only are they already concerned about inflation, but they also want to maintain a stable exchange rate, perhaps through a managed exchange rate regime. Policymakers in emerging economies prefer the policy flexibility that would be denied them under a strict inflation-targeting regime. Some participants in the discussion noted that other regimes, such as monetary targeting or nominal income targeting, may work better in some instances.

Two other criticisms of inflation targeting were raised. One is that central bank independence and accountability are essential elements for a sustainable inflation-targeting regime, but these prerequisites are absent in most countries in East Asia. Another important element of accountability is the existence of large, developed and open financial markets, but these are also absent in some cases.

Claudio Borio and Robert McCauley critically assess how monetary policy is being implemented in a number of East Asian economies in Chapter 11, 'Comparing Monetary Policy Operating Procedures in Indonesia, Korea, Malaysia and Thailand'. They note that there is no standard benchmark for assessing the suitability of a country's monetary policy operating procedures: what is best often depends on the circumstances and what works in a particular environment. They describe in rich detail how monetary policy is implemented in these four countries, and compare it with procedures elsewhere. They

conclude that the frameworks in the countries surveyed do what they are meant to do, in terms of signalling policymakers' intentions and influencing short-term interest rates with some degree of precision. The chapter provides an important reference on monetary policy operating procedures.

In Chapter 12, 'Does A Formal Common-Basket Peg in East Asia Make Economic Sense?', Gordon de Brouwer assesses the proposal that countries in East Asia should peg their exchange rates to a common basket of the yen, dollar and euro. The rationale for a common-basket peg is that it minimises variability between exchange rates in the region and, on average, against the major currencies. De Brouwer argues that a formal peg is only viable if it is consistent with a country's economic structure and policy regime. He concludes that it is not clear, at this stage at least, that common currency arrangements would suit East Asia.

He canvasses a number of reasons why this may be the case: trade structures vary substantially within the region; a peg shifts real exchange rate adjustment to inflation, which may be costly to economic efficiency; the evidence that exchange rate volatility adversely affects trade is mixed; economic structures, policies and shocks vary substantially within the region, indicating that realignment between member countries would be necessary; and substantive domestic and regional political issues would need to be resolved to make the system robust. All in all, the lack of synchronisation suggests that a common-basket system of pegged exchange rates in the region may be vulnerable to occasional speculative attack and possible collapse.

The discussion showed that there is a range of opinions about the suitability of East Asia, or parts of it, for an exchange rate regime pegged to a common basket. In the first place, many agreed that more work needs to be done to understand the role of the exchange rate in East Asian economies and the effect of exchange rate variability on economic performance. At a more visceral level, there is widespread concern in East Asia about excessive variability in the exchange rate, and deep suspicion about the capacity of freely floating exchange rate regimes to deliver stability, even if sound domestic policies are in place. The issue of common currency arrangements is not off the table. Some were of the view that even if a common-basket peg is not perfect, it is a better alternative than an independent float.

The discussion also canvassed some alternatives to common-basket pegs, such as a formal currency union. A widely recognised problem with any peg arrangement is that it may be subject to speculative attack. This is not the case with a currency union. While there is little support for currency union in East Asia (or even parts of East Asia) at the moment, some thought that the idea warrants more serious analysis as a longer-term vehicle for greater regional integration and stability. It was also noted that regional discussion about financial cooperation and currency arrangements has largely been independent of any discussion about trading arrangements; it is important to ensure that the aims and means of financial and trade integration are consistent.

The next two papers examine proposals for greater subregional integration. In Chapter 13, 'Subregional Currency Union—Japan and Korea', Eisuke Sakakibara, former vice-minister in Japan's Ministry of Finance, argues in favour of greater financial integration between Japan and Korea. He rejects the two-corner solution and argues in favour of some form of intermediate managed exchange rate regime. He prefers a *common*

managed exchange rate regime. While it is not feasible to have a common regime for all of East Asia, he argues that it is feasible to have one for particular country groupings, such as between Japan and Korea.

Although the United States is Korea's largest trading partner, it competes much more against Japan—especially areas such as steel, shipbuilding and semiconductors—and is therefore more sensitive to movements of the won against the yen than against the dollar. Sakakibara suggests that Japan and Korea adopt an unannounced implicit target zone for the yen/won rate. He also argues that they should develop a yen/won foreign exchange market, beyond the yen/dollar and won/dollar markets that currently exist. He notes that both countries have substantial foreign exchange reserves to support the exchange rate within a target band.

Sakakibara's proposal raised many questions. In the first place, it is unclear that a formal common exchange rate arrangement with Japan would be supported in Korea, where policy independence is highly prized, especially relative to Japan. While some saw formal agreement as unlikely, they thought that a de facto or informal agreement to achieve greater stability in the bilateral rate would be possible. At the very least, there was scope for greater sharing of information between the two monetary authorities and perhaps for joint intervention in the foreign exchange markets.

The prospect for greater foreign exchange market cooperation between Japan and Korea raises two other substantive issues. First, which would be the lead country? Given that Japan has the larger economy, the arrangement to target the yen would imply that Korea would be following Japan's monetary and exchange rate policies. But some participants doubted the Bank of Japan's leadership ability.

The second issue is the effect of Korean unification on the stability of such an exchange rate arrangement. Following the meeting of the presidents of North and South Korea in Pyongyang in June 2000, Korean unification seems a likely prospect. If Germany's experience is any guide, unification creates a huge need for capital—in Korea's case, the estimates range from several hundred billion to several thousand billion US dollars—which implies high real interest rates, substantial capital inflows and an appreciation of the real exchange rate. This would place enormous stress on any common currency arrangement in East Asia that involves Korea. If the real exchange rate appreciation took place through the appreciation of the won, this would destabilise a common currency arrangement. If the won is prevented from appreciating, then inflation would rise and threaten the stability of the two economies and possibly social stability.

The other possible currency union examined is that between Australia and New Zealand. This is assessed by Mark Crosby and Glenn Otto in Chapter 14, 'An Australia—New Zealand Currency Union'. Based on standard criteria and tests for judging the suitability of countries for currency union, they conclude that Australia and New Zealand do not appear to be ideal candidates. In particular, the growth cycles of both countries are not highly positively correlated, and based on a Blanchard-Quah decomposition of supply and demand shocks, the two countries' supply shocks are not highly positively correlated and are certainly less correlated than those of some European countries. They note, however, that the costs of such a currency union would be small and so should not be ruled out. They also examine for both countries the desirability of a currency union with the United States, but conclude that an independent float is the best option.

The discussion on Australia–New Zealand currency union focused on three issues. The first was that the results should not be seen as definitive. For example, while the econometric method used suggests that Australia and New Zealand do not constitute an optimal currency area, other evidence does. For example, a survey reported in Grimes, Holmes and Bowden (2000) indicates that small firms, especially in New Zealand, would benefit substantially from a currency union between the two countries. Moreover, the econometric method used to identify supply shocks—the two-variable Blanchard-Quah vector decomposition—is seen by many as too simple. There are many different types of supply shocks in an economy.

The second issue raised was that the high positive correlation between growth rates should not necessarily be interpreted as evidence that countries should fix their exchange rates. For example, the high positive correlation of Australia's economic growth with that of the United States was maintained throughout the East Asian financial crisis precisely because the Australian dollar depreciated substantially against the US dollar, helping to stabilise domestic income. If the exchange rate had been fixed, the crisis would have been substantially worse, and the growth correlation would have been weaker.

Finally, the discussion focused on the possible disadvantages for Australia from a currency union with New Zealand. One was that it could make Australia more vulnerable to shocks emanating from New Zealand, such as real shocks associated with New Zealand's larger current account deficits and foreign debt (as a share of GDP). Another was that currency union may entail changes to the central bank law in Australia. While New Zealand's central bank has been a leader in thinking about inflation targeting, it has made several serious mistakes in implementing its policy, not least in applying the target inflexibly and focusing excessively on the short term. There was concern that currency union may lead to institutional change in Australia's central bank that would increase the likelihood of such mistakes being made in Australia.

THE FUTURE

The papers and discussion in this volume show that many issues about financial markets and policies are being addressed in East Asia, but important substantive problems remain to be resolved. The need to expedite banking and corporate reform in the region remains an immediate policy priority, and the need to develop deep and stable financial markets in the region is a priority for the medium term.

Looking further into the future, three related issues emerge. One is the way policy dialogue should be advanced in the region, specifically how the different policy forums that discuss financial markets and policies should relate to each other, and what role, if any, the United States should have in these forums. The second is how regional financial support and cooperation should be structured, and how regional agreements should relate to multilateral initiatives. The third is the scope for developing and expanding common currency arrangements in East Asia, or some subset of it, and ensuring that these are consistent with the aims of deeper economic integration with, and stability in, the region and the rest of the world.

NOTES

- 1 Johnson (1991) argues that bad real estate loans had a bigger effect on bank lending in the United States than BIS capital adequacy requirements.
- 2 Speculation can be destabilising in the presence of feedback and momentum trading (De Long et al. 1990) or large players (Financial Stability Working Group on HLIs 2000; de Brouwer 2001).
- 3 It is worth noting that while the Reserve Bank of New Zealand does not intervene in the foreign exchange market, it reserves the right to do so.
- 4 This observation is based on conversations with officials in Seoul in November 2000.

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2

Recent developments in Asian financial markets

Dominic Wilson

INTRODUCTION

Stable and sophisticated financial markets offer a number of advantages for developing countries. First, and most obviously, capital markets provide an alternative means to bank lending for raising funds and a means for attracting foreign direct investment. Efficient global and local financial markets reduce the cost of raising capital (and its variability) and increase the stocks of wealth held by consumers, in turn boosting the domestic economy.

This chapter outlines some of the key trends in East Asia's financial markets over the past decade, including the period since the crisis. The focus is limited to equity and bond markets, since other chapters are covering the problems in East Asian banking systems and the distinctive problems associated with international capital movements. Some key developments over the past decade or so are examined, as are more recent trends, particularly shifts in the sources of financing. The prospects and implications for future performance are also assessed.

There are sound reasons to expect that the ability to raise funds efficiently and to divert savings in an effective manner to the most rewarding investment opportunities would be an important element of development success. It is perhaps surprising then that until recently the links between financial development and growth have been quite controversial, with prominent economists arguing they have been exaggerated (Lucas 1988). The past few years have seen more concerted attempts to argue that these links are both empirically valid and of practical importance, a task that has probably become easier since the recent financial crises.

Links between monetary variables such as money supply and growth have been established for some time (e.g., by King and Levine 1993). More recently, Levine and Zervos (1998) have found evidence of positive and robust links between stock market measures and productivity, and between capital accumulation and growth. Interestingly, their research suggests that what matters most empirically are those measures that capture the liquidity of the market, not its overall size. Rajan and Zingales (1998) find complementary evidence that industries that need external finance develop much faster when financial markets (including equity markets) are well developed. To the extent that new industries rely disproportionately on external finance, a fact also found by their study, access to high-growth sectors may be damaged by underdevelopment.

Well-developed capital markets probably reduce the vulnerability of countries to

negative shocks. Access to a diverse array of funding sources may make it easier for firms to balance debt and equity so as to keep leverage at manageable levels. Simple models of financial crises, such as that of Krugman (1999), predict that the degree of leverage is likely to affect an economy's vulnerability to shifts from 'good' to 'bad' equilibria. In other words firms are likely to suffer less for shocks that are specific to one form of financing or another if they have access to many sources of finance. In developing economies the ability to bypass the banking system, where distortions are often very severe, may help to reduce resource misallocation.

Access to low-cost equity finance may also lead to more efficient risk sharing when firms borrow abroad. Since equity finance means that borrowing is conducted in local currency, the currency depreciation is less likely to involve the high levels of foreign debt that have been so problematic in East Asia. In contrast to bank lending, the burden is more or less automatically shared when foreigners invest in local equity, avoiding the complex and destabilising debt negotiations that often follow financial crises. More sophisticated financial markets not only have the advantage of allocating resources but also allocating risk to those best placed to bear it.

A liquid and efficient equity market can also provide an easier route for the transfer of assets. This is true whether the problem is one of disposing of bankrupt assets, injecting capital into undercapitalised banking systems, or privatising the state sector. There are also reasons to believe that managerial performance is improved by providing a market for corporate control, although similar claims were made about the superior monitoring ability of the Japanese main-bank system not too long ago. Financial markets may provide strong incentives for governments and firms to improve their performance. A poorly managed firm, or one that delays corporate reforms that the market thinks are valuable, may see its share price fall, increasing pressure for future action.

Because financial markets can affect the economy in different ways, it is important to look at a number of dimensions of financial market development. Market prices are going to be important for tracking the overall cost of capital, but market capitalisation and liquidity may be more important to long-run growth. Mergers and acquisitions activity is a key indicator of the degree to which Asian capital markets are aiding asset transfers. In assessing the ability to survive shocks to particular forms of financing, the extent to which sources of financing are diversified will be relevant.

TRENDS IN ASIAN MARKETS

Share markets

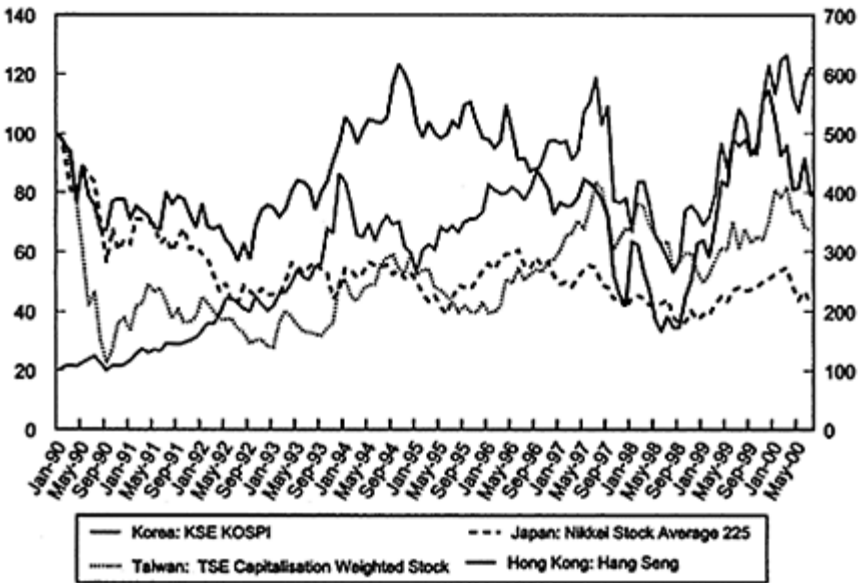
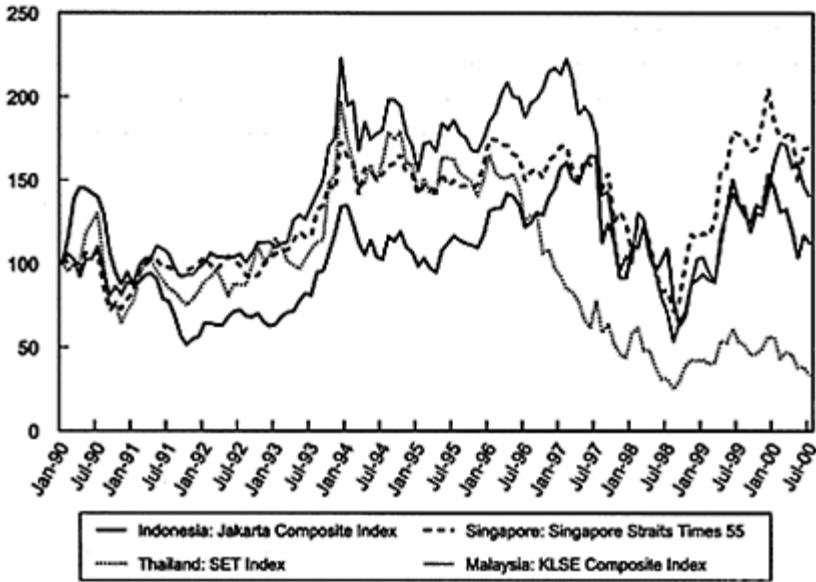
Asian equity markets have had a bumpy ride over the past ten years. Figures 2.1a and 2.1b, which chart the local markets since January 1990, tell a sobering story. In local-currency terms, annual index returns were low or negative for much of the region. In fact only China's share market has delivered higher returns than the Nasdaq since the start of the 1990s, and only China and Hong Kong have outperformed the S&P500. In Korea, Taiwan and Thailand, returns have been negative, even before adjusting for risk.

This long-term performance disguises substantial variations over time. Table 2.1

reports annual returns over the total period and six subperiods. Although these divisions may not be the most appropriate for all countries, the six stages make broad sense:

- 1) *The Nikkei slipstream (January 1990 to July 1992)*. Following the descent of the Nikkei in 1990 and 1991, many of the region's equity markets tumbled in the first two years of the decade, with Hong Kong the main exception.
- 2) *The boom (July 1992 to January 1995)*. After the initial decline, regional markets rebounded. This was a period of euphoria, when regional markets delivered double-digit performances. The Korean and Thai markets showed the most dramatic rises. Importantly, the performance of Asian markets (except Hong Kong) substantially exceeded that of the US market. Chasing those higher returns, capital flowed in to many of the region's economies, particularly since investors were predicting very optimistic growth and earnings performances.
- 3) *The pre-crisis build-up (January 1995 to June 1997)*. In the two years before the crisis, equity markets continued to climb in many of the region's economies, but warning signals appeared in some of the most fragile. In Korea and Thailand, markets drifted lower, suggesting that worries about investment returns seem to have surfaced well in advance of the crises in those markets (as McKibbin and Martin 1999 point out). There was a very sharp acceleration in US returns—US markets performed better than every regional market except China and Hong Kong. With returns looking less impressive than before, the temptation to reallocate funds away from the region was growing.
- 4) *The crisis and the wreckage (June 1997 to August 1998)*. After the Thai peg broke, the well-known and dramatic decline in regional equity markets set in. There was substantial spillover to those markets not directly affected by the crisis, although the Australian market proved strong. Substantial concern surfaced over the prospects for global growth and the fragility of the global financial system. Even in the United States, where output remained robust and liquidity was greatly increased, index growth was slower (although positive).

Figure 2.1 Regional equity market indices, January 1990—July 2000



Source: CEIC.

Table 2.1 Share market returns by subperiod, January 1990—November 2000
(per cent)

		Indonesia	Malaysia	Thailand	Singapore	Korea	China	Taiwan	Hong Kong	Australia	Japan	S&P 500	Nasdaq
Total Period	Jan-90 to Nov-00	1.1	3.3	-9.9	5.2	-2.2	26.8	-3.7	18.8	6.5	-7.9	15.0	23.4
Period 1	Jan-90 to Jul-92	-12.2	2.2	-5.3	-0.5	-20.2	n.a.	-35.0	35.5	-1.3	-28.8	10.7	14.3
Period 2	Jul-92 to Jan-95	13.3	16.6	21.8	15.3	26.9	n.a.	18.7	9.3	5.6	6.6	4.2	11.1
Period 3	Jan-95 to Jan-97	23.6	8.6	-29.3	5.0	-8.6	39.9	16.0	35.1	15.8	4.2	30.0	30.7
Period 4	Jan-97 to Aug-98	-47.4	-66.3	-53.7	-50.0	-52.8	-5.4	-24.1	-46.8	-2.3	-27.7	6.7	3.4
Period 5	Aug-98 to Dec-99	66.7	109.6	83.5	122.0	145.7	13.7	21.0	88.7	14.8	24.7	37.9	111.5
Period 6	Dec-99 to Nov-00	-42.1	-2.8	-59.4	-27.8	-47.5	95.7	-6.7	-1.2	7.9	-27.2	-4.4	-12.4

Source: CEIC.

Note: Returns are annualised average index returns in local currencies.

- 5) *Recovery euphoria (August 1998 to December 1999)*. Bottoming out near the middle of 1998, many of the region's equity markets staged equally stunning rebounds, as growth recovered more sharply than expected and an export-led recovery took hold. The sharp rises in regional equity markets (particularly in Hong Kong, Korea and Southeast Asia) coincided with a boom on the Nasdaq in the United States and a period of strong growth in the United States.
- 6) *The post-millennial pullback (December 1999 to March 2001—and beyond?)*. With concerns that the Asian growth cycle was peaking, worries about rising US interest rates and a rotation out of TMT (telecoms, media and technology) stocks by global fund managers, the first half of 2000 again saw very sharp falls in equity markets across the region. After a mild recovery in the middle of the year, regional equity markets plunged again, with catastrophic results for investors. Thailand, Korea, Indonesia and Taiwan were particularly hard hit, falling considerably further than either the US market or the Nasdaq. The latest retrenchment reflected a variety of concerns: continued financial fragility; fears of a slowdown in industrialised countries, particularly a slowdown in spending on information technology; and the vulnerability of many economies to a downturn in electronics prices and continued high oil prices that together constituted a significant terms-of-trade shock. Once again, China has bucked the trend, recording strong gains and dragging parts of the Hong Kong market with it, at least until early 2001.

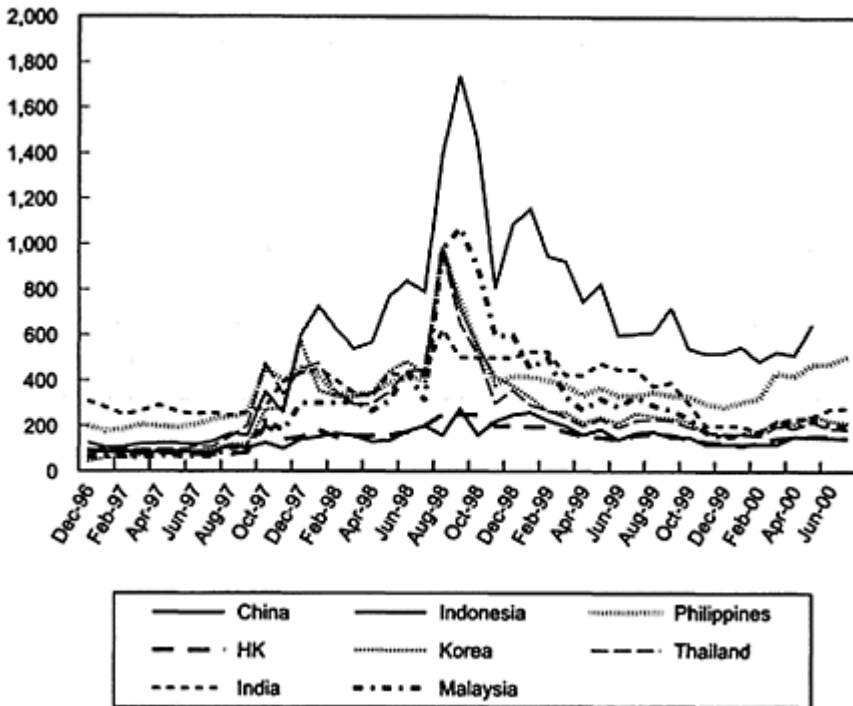
Clearly, in terms of equity market returns, East Asia has proved extremely volatile over the past decade, and this volatility will continue to feed into risk premia. Viewed over the entire period, the risk–return trade-off was not favourable, with most markets providing lower average returns with greater volatility. This applies as much to the more developed markets, such as Korea and Taiwan, as it does to the others. China stands out as delivering more reliable long-term growth, and both China and Hong Kong appear to mirror developments in the United States more closely than developments in the region (in Hong Kong this is because of its currency peg and open capital account).

The cost of capital

Although fluctuations in regional financial markets have affected the cost of capital in relatively predictable ways, the cost of capital has actually been quite stable.

The story of bond yields over the past five years is relatively familiar. Benchmark spreads over US Treasuries were generally low (below 100 basis points for most economies except Indonesia and the Philippines) before the Thai peg broke (Figure 2.2). The subsequent crisis saw very sharp widening in spreads in the most seriously hit markets, particularly Indonesia. Greater China stood out in the stability of spreads during the crisis period, reflecting relatively greater consistency in fundamentals.

Figure 2.2 Yield spreads in Asia since July 1997



Source: Goldman Sachs.

Since the peak toward the end of 1998, there has been a gradual narrowing in spreads in most regional economies, despite rising interest rates in the industrialised countries. On current yields, however, spreads remain significantly higher than they were before the crisis. The greater differentiation between the region's economies is also noticeable, with yields in Indonesia and the Philippines widening quite significantly in the second half of 2000, without much contagion to other markets. (A similar phenomenon was experienced in currency markets, where the weakness in the Philippine peso and Indonesian rupiah

did not spill over greatly into other regional currencies, despite some mild effects on the Thai baht.)

These changes in spreads have by and large reflected changes in fundamentals. The Goldman Sachs Emerging Markets Group models equilibrium or fundamentals-based predictions for bond spreads over US Treasury bonds (Ades et al. 2000) by regressing emerging market yield spreads onto a range of factors. These include: real GDP growth; total debt as a ratio of central bank reserves; the ratios of debt, the government deficit and trade to GDP; real exchange rate misalignments; global liquidity as measured by the LIBOR (London interbank offered rate) and default history. Table 2.2 shows how spreads are affected by a 1 per cent increase in the explanatory variables.

Table 2.2 Estimated impact of fundamentals on yield spreads (basis points)

	<i>Impact on spreads from 1% increase in explanatory variable</i>
Long-run real GDP growth	-7
Total amortisation/reserves	2
External debt/GDP	7
Nominal budget balance	-34
Exports/GDP	-3
Foreign exchange rate real misalignment	2
Long-run LIBOR	45
Debt restructuring dummy	165

Source: Goldman Sachs Emerging Markets Group.

Note: Estimates were taken from a multi-country regression. For details, see Ades et al. (2000).

The model suggests that the fundamental factors driving East Asian economies have not been that different from those affecting other emerging markets. Clearly the crisis saw a deterioration in several of these measures for the East Asian economies, some of which—external debt and the government deficit, for instance—were persistent. Following the crisis other indicators have improved—debt-to-reserve ratios, in particular—but the global tightening of interest rates until late 2000 contributed to rising spreads. The aggressive easing of monetary policy by the US Federal Reserve in January 2001 saw spreads fall once more across the region.

Yields in East Asia currently appear to be close to model predictions, with the exception of Indonesia, where the regression results suggest that yields should be even higher, and the Philippines, where the model suggests yields have widened too far. Given that it is difficult for models to capture political risk, it is not surprising that it is in these two markets that yields appear to be diverging from fundamentals.

The cost of equity capital

Unsurprisingly, trends in the implied cost of equity capital have largely followed the patterns of bond yields. The cost of capital generally rose, in some cases substantially, during the crisis and in many instances has fallen significantly since then. The implied cost of capital, extracted from discounted cash flow models, seems to have been much more stable than the share market indices, indicating that a large part of the share price movement has been driven by changes in expected nominal earnings growth.

Capitalisation and liquidity

Conceptually, developments in capitalisation and liquidity are quite separate from the issue of valuation, and therefore it is important to look through the fluctuations in the market index to understand the extent to which the region's equity markets have developed over the past ten years.

The degree of capitalisation has generally increased across the region (Table 2.3). Market capitalisation relative to GDP can rise either because index returns exceed nominal GDP or because of the entry of new firms. As Table 2.1 showed, annual index returns have been low, and generally much lower than the average growth in nominal GDP over the past decade. As a result, the rising capitalisation-to-GDP ratio would appear to reflect a greater degree of 'equitisation' of the economy rather than being simply the result of rapid index growth, which would be a much greater part of the story in the United States, for instance.

Liquidity, as measured by market turnover as a percentage of stock relative to market capitalisation, has increased in most countries over the past five years (Table 2.4). With the exception of Taiwan, where turnover is extraordinarily high, liquidity is still significantly lower than in the United States. This is the case particularly in Korea. In these countries the market liquidity measure probably includes a narrower portion of the market than is the case in more industrialised economies.

The increased capitalisation and liquidity suggests that equity markets are more developed than index performance might suggest. In assessing long-term progress in financial development and market sophistication, it is important not to be overly distracted by changes in valuations, which have fallen because of the financial crisis, as prices provide insufficient information about the underlying efficiency of the market.

Mergers and acquisitions

There has been a steady growth of mergers and acquisitions in the region, particularly since the crisis. Mergers and acquisitions in non-Japan East Asia rose from around 1.6 per cent of GDP in 1992 to over 3 per cent in 2000 (Figure 2.3). This level of activity is still well below that seen in Europe and the United States, but already well above that in Japan (where mergers and acquisitions are now also increasing quite sharply). Increases in activity have been particularly noticeable in Korea and Taiwan, although these have come from a very low base. Mergers and acquisitions have aided restructuring in Asia, particularly in the telecommunications and financial sectors. The recent legislative

changes in many Asian countries and increased market pressure should ensure that restructuring continues. The experience in Europe, where the mergers and acquisitions boom of the late 1990s came well after the major changes to the commercial environment from the creation of the Single European Market in 1992, suggests that it can take a considerable time for corporate consolidation to take place in earnest.

Privatisation activity has also been important, particularly in China where the initial public offerings of two major state enterprises, Petrochina and China Unicom, took China to the top of the regional equity issuance tables in 2000. A new wave of privatisations is expected.

Table 2.3 Stock market capitalisation (per cent of GDP)

	<i>Indonesia</i>	<i>Malaysia</i>	<i>Thailand</i>	<i>Singapore</i>	<i>Korea</i>	<i>China</i>	<i>Taiwan</i>	<i>Hong Kong</i>	<i>Australia</i>	<i>US</i>
Jan. 1990	n.a.	n.a.	n.a.	122.9	54.8	n.a.	154.8	110.1	45.9	50
Jan. 1995	22.8	248.8	85.6	236.3	41.2	n.a.	84.3	218.1	61.8	62
Jul. 2000	33.8	165.0	40.3	261.9	66.4	8.1	119.9	336.7	35.6	184

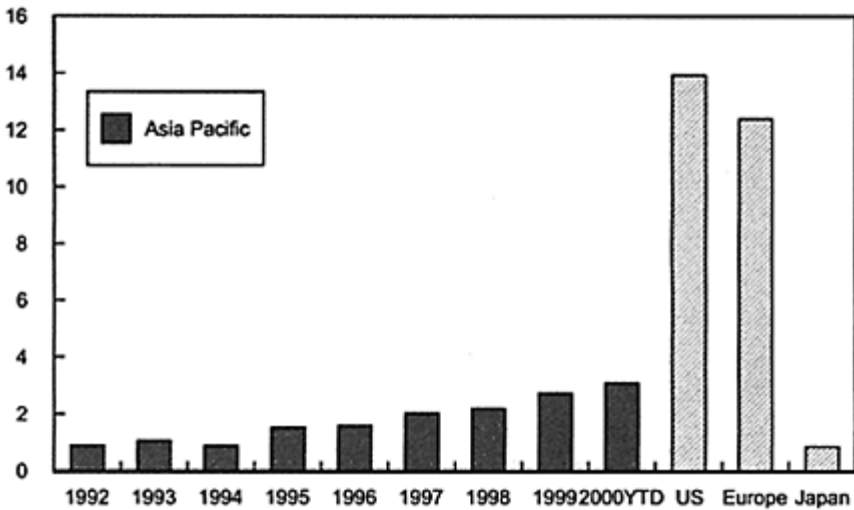
Source: CEIC.

Table 2.4 Stock market liquidity (monthly turnover/market capitalisation; per cent of GDP)

	<i>Indonesia</i>	<i>Hong Kong</i>	<i>NYSE</i>	<i>Malaysia</i>	<i>Korea</i>	<i>China</i>	<i>Taiwan</i>	<i>Thailand</i>	<i>Singapore</i>
Average (1990–95)	3.7	4.1	4.1	3.8	0.6	n.a.	25.1	8.4	n.a.
Average (1995–00)	3.7	5.2	5.8	4.1	1.5	6.7	23.8	4.9	3.1

Source: CEIC.

Figure 2.3 Asia Pacific mergers and acquisitions as per cent of GDP, non-Japan East Asia average 1992–2000, compared with other regions (1999)



Source: Goldman Sachs.

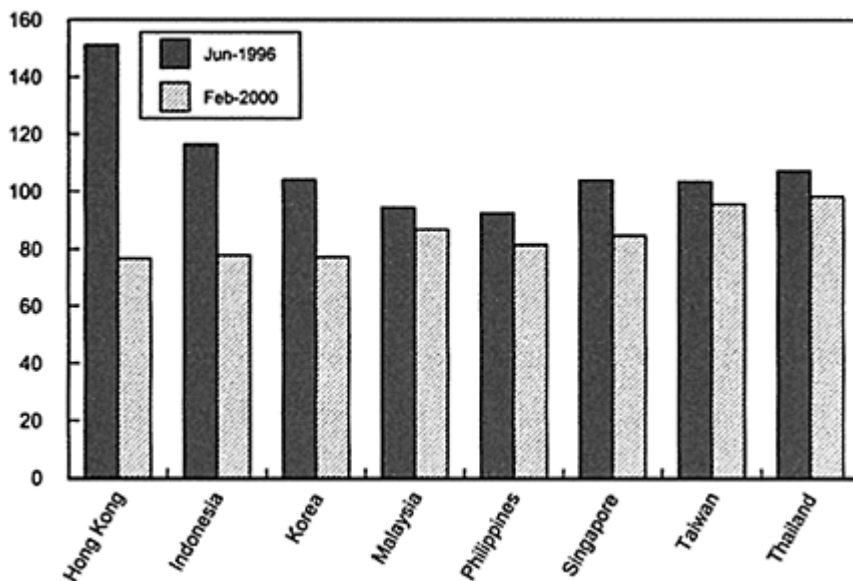
Sources of finance

The crisis and its effects on the banking system have also led to dramatic shifts in sources of credit. Private credit outstanding has declined in Hong Kong, Thailand, Malaysia and Korea, and bank loan-to-deposit ratios around the region are also very low, suggesting that banks are flush with liquidity but unwilling to lend (Figure 2.4). Anecdotal evidence suggests that there is little demand for loans from creditworthy borrowers in the tradables sector.

Despite the blockage in the banking system, a dramatic rebound occurred in 1999. The phenomenon of ‘creditless growth’ that characterised much of the period between the end of 1999 and early 2000 was sustainable for two main reasons. First, buoyant capital markets allowed firms to bypass banks and issue bonds and equities. Second, low interest rates and rising demand, particularly in tradable sectors, boosted cash flows and allowed considerable financing from internal funds.

Table 2.5 indicates the shifts in financing sources between 1996 and mid-2000. There has been a very sharp decline in bank finance and a rise in equity issues either to undertake investment (in Hong Kong and Korea) or to recapitalise the banking system (Thailand). Bond financing has picked up somewhat in Thailand and in Singapore—although with leverage still an issue, the appetite for debt financing has been more limited. The clearest trend has been the financing of investment from retained earnings, particularly in Hong Kong, Malaysia and Singapore.¹ In general, financing constraints appear to have been more severe in Southeast Asia than elsewhere.

Figure 2.4 Bank loan-to-deposit ratios (per cent)



Source: Goldman Sachs.

In mid-2000 equity markets were less buoyant, reflecting concerns about regional financial markets and predictions of tighter global monetary conditions. In the second quarter, it seemed that creditless growth would be less likely in the future. With growth predicted to slow and interest rates rise, at least at the margin, the ability to finance investment internally may have peaked. In Korea, in particular, the fall in equity valuations has exposed the degree to which improvements in leverage had reflected rising stock prices rather than substantial reductions in debt. It seems likely that deleveraging will take place through the more painful and traditional forms of write-downs of debt and equity and the exit of non-viable firms.

Table 2.5 Changes in the sources of investment financing (per cent of GDP)

	1996				1999				2000 (annualised)			
	Equity	Bond	Bank	Total	Equity	Bond	Bank	Total	Equity	Bond	Bank	Total
Hong Kong	8.4	0.1	17.7	26.1	12.0	0.3	(7.1)	5.2	4.5	0.2	1.7	6.5
Korea	1.3	3.6	17.7	22.5	8.5	(0.6)	1.9	9.8	4.0	(6.9)	4.5	1.6
Malaysia	6.3	5.7	17.9	29.9	1.9	1.7	(0.9)	2.7	1.9	1.7	2.0	5.5
Singapore	2.4	1.8	14.0	18.2	1.9	2.1	(3.1)	0.9	2.1	2.0	2.0	6.1
Taiwan	0.8	0.1	2.6	3.5	0.5	(0.2)	4.4	4.6	0.5	(0.2)	2.7	3.0

Thailand	2.1	1.1	9.8	13.0	5.3	4.8	(3.9)	6.2	1.7	2.5	(3.7)	0.4
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Sources: CEIC; Goldman Sachs estimates.

Note: Figures in brackets represent negative changes.

These risks should not be exaggerated, but they have clearly grown. The financial sector still has enough liquidity to support growth, but the task of recapitalisation has some way to run and banks are likely to remain cautious about taking on additional credit risk. Because outstanding bank credit to the private sector is traditionally large in these economies (usually more than 100 per cent of GDP), even a modest increase in bank lending would provide a substantial cushion against a less-buoyant environment for raising funds through the capital market. For most emerging East Asian economies, a 5 per cent increase in bank lending would go a long way toward, and in some cases substantially exceed, the funds that were raised through equity markets in 1999 (Figure 2.5).

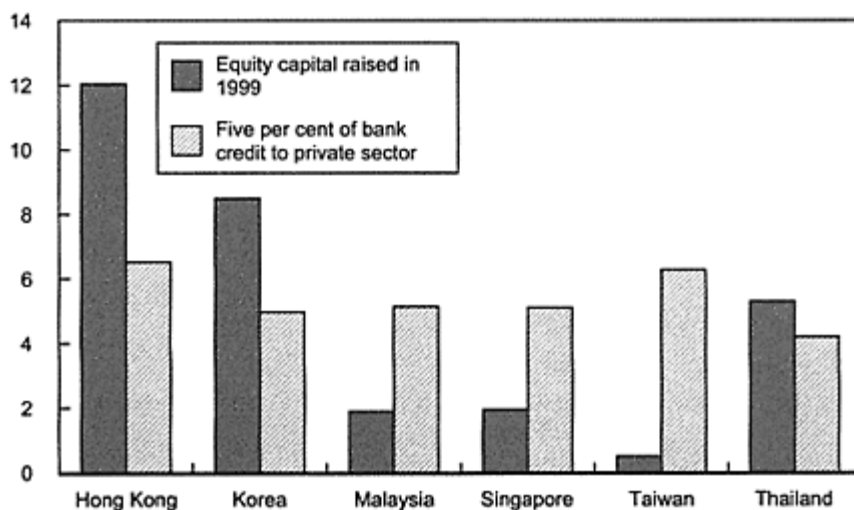
In June 2000 the pressure on capital markets eased and issuances rebounded sharply, as a more optimistic outlook for equities and a more benign view of global conditions took hold. That process was reversed drastically again in the second half of 2000, and the region's ability to finance growth will remain vulnerable as long as local banking systems remain weak. Looking further ahead, bank credit will remain an essential ingredient of sustainable financing, even as capital markets continue to grow. As of early 2001, however, against a background of slowing global growth, there is little indication of an incipient private-sector credit recovery in most of the region's economies.

PROSPECTS AND CONCERNS

The past decade has been rocky for Asia's financial markets. Despite fluctuations in stock market valuations, the underlying trend appears to be toward greater liquidity and efficiency in regional capital markets. There are encouraging signs of further growth in the equitisation of the region's economies, particularly in China, where further privatisations are expected. Many of the legal and policy developments discussed here and in other chapters have been important in that regard. The greater involvement of foreign financial institutions in regional markets, although naturally a sensitive issue, is likely to provide a further catalyst to move capital markets toward best practice.

These developments are, in a sense, among the positive legacies of the crisis. There have also been negative legacies. The crisis has led to increased fiscal vulnerability and large increases in government debt, largely as a result of the recapitalisation of the banking sector. The government will need steady economic growth and to improve the profitability of some of the assets that it has acquired in order to reduce this debt. Bloated fiscal positions, particularly in Southeast Asia, will continue to make economies more vulnerable to external shocks, such as further monetary tightening in the Organisation for Economic Cooperation and Development (OECD) countries. If growth falls, public debt is likely to constrain the government's ability to stimulate growth.

Figure 2.5 Funds raised in equity markets, 1999 (per cent of GDP)



Source: Goldman Sachs.

A second legacy lies in the problems of regional banking systems, where reform and recovery clearly still have a considerable way to go. It would certainly be a mistake to think that capital markets are sufficiently developed to allow firms to radically reduce their dependence on bank financing. The continued seizure in the banking system has led to an inefficient allocation of resources, as many firms are unable to borrow. The sharp falls in regional equity markets have reflected continuing concerns that the problems of debt overhang and non-performing assets have not been adequately or aggressively addressed.

Other, more traditional obstacles to capital market efficiency also remain. Transparency, both at the corporate and government levels, still lags significantly behind standards in the industrialised world. When the costs of gathering information are high, herding behaviour becomes more likely in financial markets. Political and policy-execution risk is an extremely important element in valuation; although it is always hard to price, uncertainty over the direction or coherence of public policy directly raises the cost of capital.

The perception remains that the region's economies are exceptionally sensitive to external influences. While this vulnerability has probably been exaggerated, there is still a high degree of concern over the ability of the region to weather downturns in global activity or interest rates, particularly in the United States. This perceived lack of separation from the United States may be lessening the willingness to invest in the region.

A final important issue is whether the fortunes of the region's more industrialised economies will be decoupled from those of developing Southeast Asia, both in terms of economic and financial market performance. There is already considerable evidence that investors are differentiating more strongly on that basis than before the financial crises.

On many measures, the economies of Thailand, Indonesia and the Philippines have already slipped sharply over the past three years. Market capitalisation and turnover have fallen dramatically as a proportion of non-Japan East Asian totals, Public debt is large, limiting the room for manoeuvre both in dealing with the remaining problems in banking systems and in cyclical demand management.

It would be dangerous for the region as a whole, both economically and politically, if the uncertainty over the outlook for Southeast Asia's economies, particularly Indonesia and the Philippines, was to force them even further behind in the development process.

NOTES

This paper reflects the personal views of the author. No part of it should be taken to reflect the view of Goldman Sachs. My thanks to Sun-Bae Kim and Adam le Mesurier for discussion and to Anand Aithal, Kenneth Kok, Dick Li and Rumi Masih for providing me with data from their research.

- 1 The tendency to finance a considerable fraction of investment out of retained earnings is a characteristic of developed markets, but represents quite a sharp change from earlier periods in the Asia Pacific, suggesting that its consequences are less benign.

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3

Patterns of bank intermediation and structure: a Korean perspective

Sang Whan Kim, Haesik Park and Hae Wang Chung

INTRODUCTION

Only a few months after the financial crisis in 1997, the Korean government embarked on a large-scale program of financial sector reform. More than 100 trillion won of public money has been spent to close down non-viable financial institutions and clean up the balance sheets of viable financial institutions. Ten banks were closed or merged, leaving twenty-three banks in business in an environment where only a small number of large and competitive institutions can survive.

The reforms of the financial sector have expedited the change in the composition of banking assets that began in the early 1990s. A huge amount of public funds were injected into Korea's banks in the form of bonds issued or guaranteed by the government. The Bank for International Settlements (BIS) capital adequacy requirement was strongly enforced, discouraging banks from lending to the corporate sector and increasingly shifting resources into the securities market.

The recent trend of bank disintermediation in Korea may prevent monetary policy from working effectively. For instance, a looser monetary stance designed to promote economic recovery may not achieve its intended objective if banks use the extra liquidity to increase their holdings of securities rather than to make additional loans to the corporate sector. In 1998 a credit crunch occurred in Korea, resulting in the worst recession in over three decades.

This chapter describes the changes in the asset composition of Korean banks over the 1990s, the factors that have driven these changes and some of the policy implications that have resulted.

CHANGES IN THE FLOW OF FUNDS

Direct financing of the corporate sector

The early 1990s saw a dramatic increase in corporate debt. The huge size and low profitability of Korea's conglomerates (*chaebols*) encouraged borrowing for large-scale investments until successive *chaebol* bankruptcies in 1997 forced banks to realise that the principle of 'too big to fail' no longer held. The sharp downturn of business activity after the financial crisis cut the demand for finance, as shown in Figure 3.1. In addition managers realised the importance of maintaining cash flows and profitability, and

attempted to reduce debt, resulting in low demand for capital even after the economy recorded double-digit growth in 1999.

The corporate sector has been increasingly relying on capital markets rather than the banking sector for finance (see Table 3.1). Bank loans were the main source of corporate finance until the mid-1980s, when the development of high-return financial products such as equity and bond issuances allowed non-bank financial institutions to lend at a faster pace than commercial banks. Such products have played a bigger role in the corporate loan market, but their high risk seriously damaged the soundness of non-bank financial institutions after the crisis. In the 1990s bank loans were not able to satisfy the ever-growing need that firms, especially *chaebols*, had for finance. By the end of 1999, direct financing accounted for 45.7 per cent of corporate financing, with indirect financing falling to 31.4 per cent of the total (Table 3.1).

The pattern of household savings

Despite the fact that the corporate sector has been sourcing more of its finance from capital markets, Korean households still prefer to deposit their money in banks. With the growing popularity of high-return financial products provided by non-bank financial institutions, the share of bank deposits in

Figure 3.1 Corporate sector financing demand (trillion won; per cent)

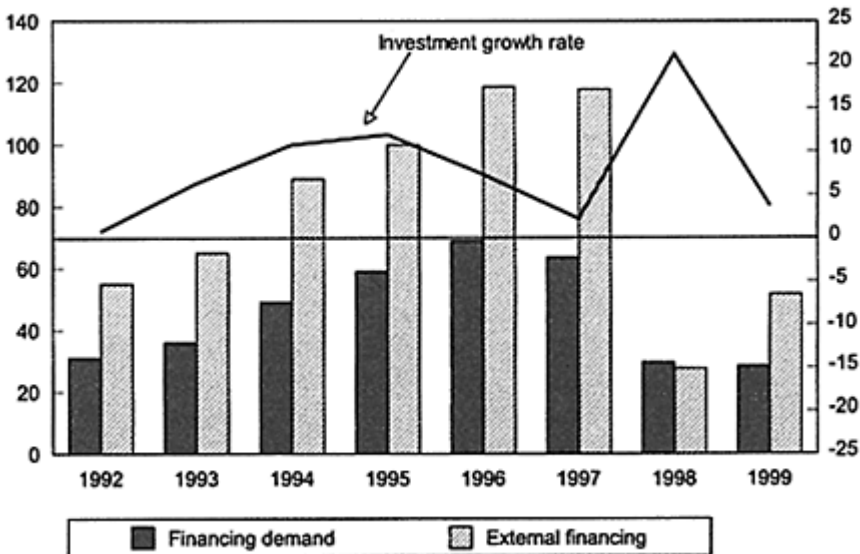


Table 3.1 Stock of funds raised by the corporate sector (trillion won; per cent)

	1985	1990	1995	1996	1997	1998	1999
<i>Indirect finance</i>	47.1 (35.8)	97.8 (36.5)	235.7 (37.2)	268.9 (35.8)	312.3 (35.9)	296.4 (33.0)	298.8 (31.4)
Borrowing from deposit money banks	26.0 (19.7)	50.1 (18.7)	112.4 (17.8)	129.1 (17.2)	144.3 (16.6)	144.5 (16.1)	159.7 (16.8)
Borrowing from non-banks	21.1 (16.0)	47.7 (17.8)	123.3 (19.5)	139.8 (18.6)	168.0 (19.3)	151.9 (16.9)	139.1 (14.6)
<i>Direct finance</i>	35.9 (27.2)	96.2 (35.9)	257.9 (40.8)	314.1 (41.8)	358.2 (41.2)	407.7 (45.4)	434.5 (45.7)
Commercial paper	3.5	12.7	44.2	64.9	69.4	57.7	41.2
Stocks	21.6 (18.2)	48.9 (16.0)	101.1 (15.2)	114.1 (14.1)	123.0 (15.2)	136.5 (18.5)	175.5 (16.4)
Corporate bonds	9.5 (7.2)	29.4 (10.9)	87.2 (13.8)	108.5 (14.4)	135.9 (15.6)	181.8 (20.3)	183.6 (19.3)
<i>Overseas borrowing</i>	12.4	14.6	28.0	40.4	46.9	37.1	47.2
<i>Other^a</i>	36.4 (22.1)	59.3 (17.6)	111.2 (17.1)	28.3 (17.5)	152.3 (17.4)	156.1 (18.0)	170.8 (27.6)
Total	131.7	268.0	632.9	751.7	869.7	897.3	951.0

Source: Bank of Korea, Flow of Funds.

Note

a Trade credits, borrowing from the government, bills payable, and so on.

household savings had declined up until 1997, when insolvencies damaged the safety of these products. Although funds did shift to non-banks over the 1990s, households still held 63.1 per cent of their savings as bank deposits at the end of 1999 (see Table 3.2). The imbalance between corporate sector financing and household savings caused funds held in capital markets by domestic institutional investors to dry up, which may partially account for the recent phenomenon of stock prices being mainly driven by changes in the positions of foreign investors.

The imbalance should right itself as interest rates start to rise and the transparency of fund management improves. The Financial Supervisory Service (FSS)¹ has improved the governance of financial institutions by requiring the appointment of outside directors to prudently monitor the management of funds. Since a lack of transparency was the fundamental reason why market confidence in investment funds plummeted, this reform is expected to restore confidence. The advantages of bank deposits relative to investment funds should fall in terms of both returns and safety. The corporate sector's reduced need for funds will also act to lower market interest rates and push bank deposit rates down. Therefore, liquidity is likely to flow into the capital market as it moves away from bank deposits.

Table 3.2 The composition of household savings (trillion won; per cent)

	1985	1990	1995	1996	1997	1998	1999
<i>Deposits</i>	27.2 (43.3)	90.0 (46.0)	278.2 (59.6)	338.2 (62.2)	398.6 (63.3)	420.3 (61.5)	471.0 (63.1)
Deposit money banks	15.9 (25.2)	39.4 (20.1)	95.4 (20.4)	112.9 (20.8)	131.8 (20.9)	142.7 (20.9)	180.5 (24.2)
(Demand deposits)	1.7	2.9	7.8	6.6	4.3	5.1	7.0
(Savings deposits)	13.8	34.5	78.6	92.9	109.2	132.4	169.5
Deposits in non-banks	11.4 (18.1)	50.6 (25.9)	182.9 (39.2)	225.3 (41.5)	266.8 (42.4)	277.6 (40.6)	290.5 (38.9)
(Trust accounts of banks)	2.8	11.8	57.8	67.5	80.3	65.6	56.7
<i>Securities</i>	18.7 (29.8)	56.0 (28.6)	106.8 (22.9)	120.9 (22.3)	141.0 (22.4)	173.7 (25.4)	176.7 (23.7)
(Beneficiary certificates)	4.7	18.9	40.8	44.9	51.9	86.6	77.0
(Stocks)	11.3	28.5	44.3	50.3	59.4	65.3	78.7
<i>Other^a</i>	6.3 (10.0)	14.9 (7.6)	23.3 (5.0)	25.7 (4.7)	31.5 (5.0)	30.9 (4.5)	40.3 (5.4)
Total	62.9	195.6	467.0	543.3	629.6	683.5	746.6

Source: Bank of Korea, Flow of Funds.

Note

a Currency, bills receivable, and so on.

CHANGES IN THE PATTERN OF BANK LENDING

Unsecured loans

Until the late 1980s, most bank loans were collateralised by real estate. During the rapid economic growth and high inflation of the 1970s and 1980s, the real estate market boomed and banks were confident about the value of real estate held as collateral. In the 1990s government restrictions on speculation in real estate suppressed prices. The collapse of the real estate market after the financial crisis was the final blow to commercial banks that had issued collateralised loans. As Table 3.3 shows, such loans are becoming less common. Note the rise in guaranteed loans in 1998 and 1999, which reflects the fact that subsidiaries of *chaebols* guaranteed each other's loans to enhance credit ratings.

Lending to households and SMEs

The policy of using banks to channel liquidity to the industrial sector in the 1960s and 1970s encouraged Korean banks to compete for shares of the corporate loan market. Even

after the economy was highly industrialised, the share of corporate loans in bank lending showed little sign of declining. The *chaebols* continued to hold strong bargaining power in the loan market

Table 3.3 Types of bank lending (billion won; per cent)

	1985	1990	1996	1997	1998	1999
Collateralised	9,993 (55.6)	21,599 (51.1)	49,078 (42.8)	70,404 (47.6)	64,078 (45.9)	85,147 (46.2)
Guaranteed	772 (4.3)	2,654 (6.3)	8,906 (7.8)	14,863 (10.1)	19,974 (14.3)	23,181 (12.6)
Unsecured	7,209 (40.1)	18,056 (42.7)	56,721 (49.4)	62,622 (42.3)	55,678 (39.8)	75,954 (41.2)
Total	17,974 (100.0)	42,309 (100.0)	114,705 (100.0)	147,889 (100.0)	139,730 (100.0)	184,282 (100.0)

Source: Financial Supervisory Service, Financial Statistics of Banks, 2000.

Note

a End of period.

because of their size and the government's guarantees on nationally important business projects. The principle of 'too big to fail' broke down in early 1997 when the once-invincible *chaebols* successively went bankrupt. Banks, which had not been too concerned about credit risk, realised that corporate lending is highly risky if extended without a careful examination of creditworthiness. The relative advantage of *chaebols* disappeared, and profitability emerged as a significant determinant in the flow of credit to firms. In the wake of financial restructuring, most of the major banks strategically positioned themselves as retail banks, aimed at lending mainly to households and small and medium-sized enterprises (SMEs).

Lending to households has increased to over 30 per cent of total bank lending, although this percentage is still lower than in the United States (Figure 3.2). Unlike household lending, however, lending to SMEs only started to pick up in 1999 (see Table 3.4). SMEs were severely hit during the credit crunch of 1997 and 1998. As Gertler and Gilchrist (1993) point out, small firms are generally financially weaker than large firms, the cost of lending to small firms (that is, of gathering information and monitoring firms) is large in comparison with the size of the loans, and the shorter average life span of SMEs reduces the incentive for banks to build up long-term lending relationships. When banks are forced to reduce lending, SMEs tend to be the first target. The sharp decline in lending to SMEs in 1997 and 1998 proved this to be the case in Korea. Recently, however, as the financial market recovers from the credit crunch, SME lending has picked up, reflecting the changed priorities of banks and the government's policy of encouraging large firms to reduce their debt and increase equity financing.

Investment in securities

In 1990 loans accounted for 58 per cent of the banking sector's assets but only 46 per cent of total assets in 1999, whereas the share of securities increased from 25 per cent to 47 per cent over the same period (Table 3.5).

Figure 3.2 Bank lending by sector (trillion won, per cent)

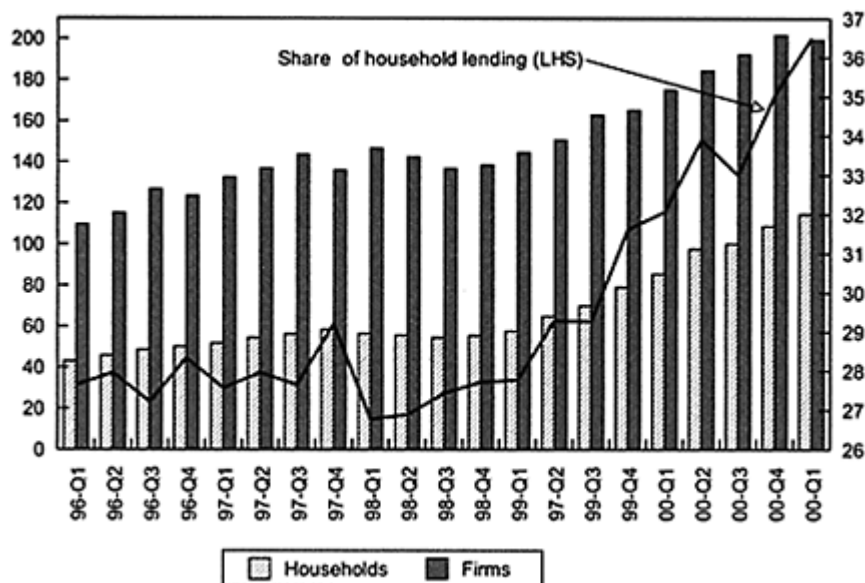


Table 3.4 Bank lending in terms of firm size (trillion won; per cent)

	1991	1992	1993	1994	1995	1996	1997	1998	1999
SMEs	26.0 (58.8)	30.2 (58.5)	34.2 (62.2)	41.2 (66.6)	54.3 (72.5)	61.6 (72.3)	64.9 (68.8)	59.3 (68.3)	78.6 (69.6)
Large firms	18.2 (41.2)	21.4 (41.5)	20.8 (37.8)	20.6 (33.4)	20.6 (27.5)	23.6 (27.7)	29.4 (31.2)	27.5 (31.7)	34.3 (30.4)
Total	44.2 (100.0)	51.6 (100.0)	55.0 (100.0)	61.8 (100.0)	74.9 (100.0)	85.2 (100.0)	94.3 (100.0)	86.8 (100.0)	112.9 (100.0)

Source: Financial Supervisory Service, Financial Statistics of Banks, 2000.

Note: Values in parentheses are shares in total lending.

The recent trend of bank disintermediation reflects both cyclical and structural factors. The economic recession that followed the financial crisis reduced the corporate sector's demand for funds, and the rising risk of insolvencies discouraged banks from lending. In addition to these cyclical factors, structural factors such as strengthened prudential

regulations, capital market development and securitisation have also contributed to bank disintermediation.

Table 3.5 Asset composition of banks^a (billion won; per cent)

	1990	1995	1996	1997	1998	1999
Loans	48,047 (58.0)	131,483 (51.0)	151,338 (48.5)	200,243 (50.9)	194,804 (49.3)	195,831 (45.9)
Securities	21,027 (25.4)	104,096 (40.3)	137,407 (44.0)	167,096 (42.5)	174,895 (44.3)	198,314 (46.5)
Other ^b	13,718 (16.6)	22,211 (8.6)	23,585 (7.5)	25,995 (6.6)	25,182 (6.4)	32,082 (7.6)

Source. Financial Supervisory Service, Financial Statistics of Banks, 2000.

Notes

a End of period.

b Required reserves, currency, and so on.

SOURCES OF BANK DISINTERMEDIATION

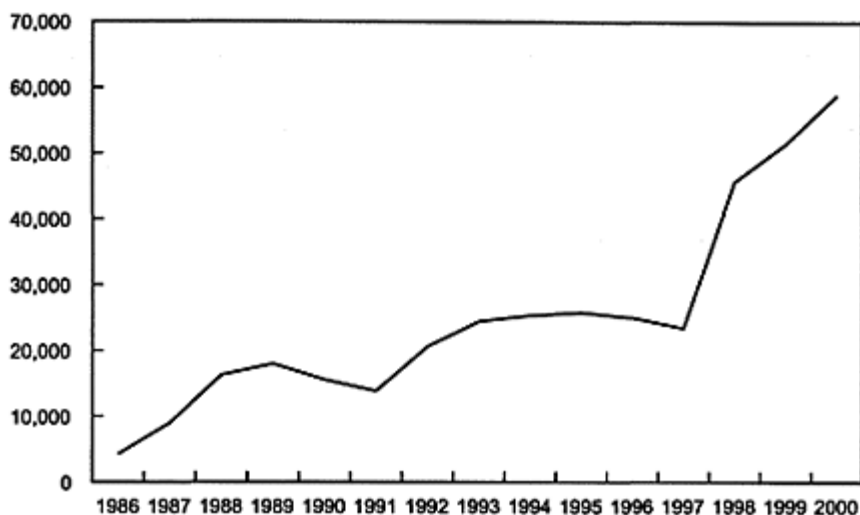
Government policy

Government policy to stabilise domestic capital markets has been one of the main reasons behind bank disintermediation. In the early 1990s, the government established the Stock Market Stabilisation Fund (SMSF), injecting 4 trillion won into stabilising the stock market. In 1999, when the stability of the bond market was threatened following the near-bankruptcy of the Daewoo group, the government raised 20 trillion won in the form of the Bond Market Stabilisation Fund (BMSF) to meet demands to redeem outstanding bonds. The Korean government encouraged banks to invest in both funds.

The government's sterilisation policy also contributed to the rising share of securities in bank assets. Since the mid-1980s, the government has responded to balance of payments surpluses by continuously issuing Monetary Stabilisation Bonds (MSBs) to sterilise the increase in the domestic money supply. The policy was intensified in the 1990s when cross-border capital flows increased rapidly in response to the liberalisation of the capital account (see Figure 3.3). Given that banks have always been major buyers of MSBs, holdings of MSBs have greatly increased in recent years.

The financial restructuring has also increased banks' holdings of securities. By the end of April 2000, the Korean government had spent more than 100 trillion won on financial restructuring, of which 64 trillion won was financed by government bonds issued by the Korea Deposit Insurance Corporation (KDIC) and the Korea Asset Management Corporation (KAMCO). Of this 64 trillion won, 17.3 trillion won was used to pay off the non-performing loans of the banking sector (see Table 3.6). Banks sold non-performing loans at a discount to KAMCO in return for KAMCO bonds, picking up an additional 17.3 trillion won in government bonds.²

Figure 3.3 Outstanding issues of MSBs in Korea (billion won)



Source: Bank of Korea.

Note: Data for 2000 are to February.

Reduced profitability of bank lending

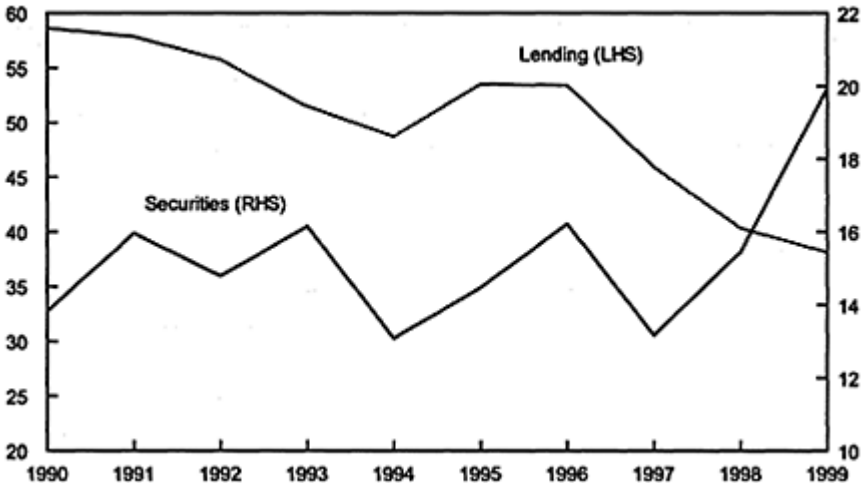
Korean banks earn profits in three main ways: from interest income, by investing in securities markets, and from commission fees. Lending profits gradually started to decline in the early 1990s, and banks started to shift into investing in securities. Figure 3.4 plots the annual interest income that commercial banks obtained from lending and securities. Interest income from lending gradually declined from under 60 per cent of total profits in 1990 to less than 40 per cent of total profits by the end of 1999. In contrast, interest income from investing in securities gradually increased over the same period, rising from 14 per cent of total profits to nearly 20 per cent of total profits.

Table 3.6 Injection of public money for financial restructuring (trillion won; per cent)

	<i>Recapitalisation</i>	<i>Disposal of non-performing loans</i>	<i>Total</i>
Banks	27.9	17.3	45.2
Non-banks	15.6	3.2	18.8
Total	43.5	20.5	64.0

Source: Ministry of Finance and Economy.

Figure 3.4 Shares of interest income in total profits of commercial banks in Korea (per cent)



Source: Financial Supervisory Service.

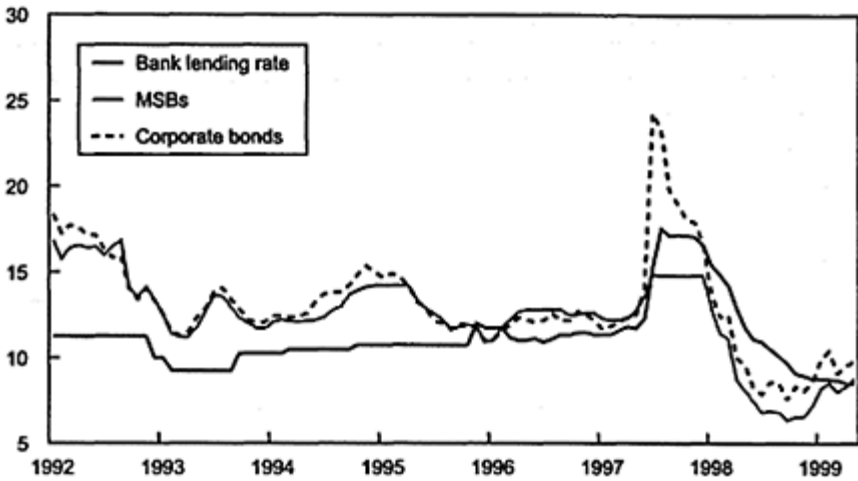
The reduced profits from lending can be mainly attributed to the falling net interest margin. The deregulation of interest rates in the early 1990s encouraged non-bank financial institutions to introduce high-yield financial products, and banks faced the threat of a massive move of deposits to the non-bank sector. In response, banks aggressively developed new high-yield products, which raised lending costs.

Although financing costs rose, the bank lending rate was under de facto regulation throughout most of the 1990s despite the liberalisation of interest rates. This can be shown by comparing the yields from MSBs and corporate bonds with the bank lending rate (Figure 3.5). In general, interest rates in the asset market are negatively related to liquidity and positively related to the riskiness of assets. MSBs are issued by the central bank and actively traded in the market. Thus, the yield of MSB should be lower than the bank lending rate. Most corporate bonds, especially those issued before 1998, are guaranteed by banks and thus have a lower credit risk than bank loans. In addition, the corporate bond market is deep, whereas bank loans are not traded in Korea. This suggests that, at least until 1998, the yield on corporate bonds should have been lower than the bank lending rate. Figure 3.5, however, shows that the reverse was true, indicating that the bank lending rate was being regulated despite the liberalisation of interest rates. Such de facto regulation of the bank lending rate worsened the net interest margin of the banking sector and encouraged banks to shift resources into the securities market.

Enforcement of BIS capital adequacy requirements

After an agreement with the International Monetary Fund (IMF) in 1998, the Korean government strengthened the prudential regulations of the banking

Figure 3.5 Market interest rates versus the bank lending rate (per cent)



Source: Bank of Korea.

sector to meet the Basle Committee's Core Principles for Effective Banking Supervision. Government measures, including the adoption of prompt corrective action (PCA), helped raise capital adequacy to over 10 per cent for most banks. Loan classification and accounting principles were upgraded to international standards. Forward-looking criteria designed to reflect the capacity of borrowers to service their obligations, rather than being based on past performance, were introduced. The FSS issued revised guidelines based on these criteria for the classification and provisioning of all loans, guarantees and commitments.

Among the various measures to strengthen the prudential regulation of the banking sector, the strong enforcement of the 8 per cent BIS capital adequacy requirement has been the most important factor behind the fall in bank intermediation. The Financial Supervisory Commission (FSC) based its determination of whether to resolve the problems of financial institutions on the BIS requirement.³ This decreased banks' willingness to lend and encouraged investment in government bonds or government-guaranteed bonds, which are categorised as riskless assets in the calculation of capital adequacy.

The FSC's strong enforcement of the BIS capital adequacy requirement led to the credit crunch in 1998. The poorly timed tightening of capital requirements during the prolonged economic recession went against the view that banks should build up capital during a boom to cushion against unforeseen losses in bad times. To reach the capital adequacy standard, many Korean banks had little choice but to downsize their assets and liabilities, in many cases by reducing lending.

Table 3.7 shows the BIS capital adequacy standards of Korean commercial banks between June 1998 and December 1999. Capital adequacy standards have significantly improved over the past two years. At the end of 1998, the average standard for commercial banks was only 8.23 per cent, but by 1999 this had risen to 10.83 per cent.

The improvement is remarkable in that it was achieved during a period of massive losses because of the adoption of forward-looking criteria⁴ and then the near-collapse of the Daewoo group in the second half of 1999.

Another factor behind the improvement in capital adequacy standards was the government's injection of 45.2 trillion won of public money to recapitalize the banking sector and clean up the sector's bad loans. This represented 70 per cent of the 64 trillion won originally planned for the financial restructuring program. Table 3.8 shows the relationship between the BIS standard and bank lending. In 1996 there was little difference in lending between banks that met the 8 per cent criterion and those that did not, but in 1997 and 1998 banks that satisfied the requirement were found to lend more.

Table 3.7 BIS capital adequacy standards of Korean commercial banks (per cent)

	<i>Jun. 1998</i>	<i>Dec. 1998</i>	<i>Jun. 1999</i>	<i>Dec. 1999</i>
Nationwide banks	9.14	8.22	9.79	10.79
Local banks	9.72	8.31	10.04	11.36
Commercial banks	9.19	8.23	9.84	10.83

Source: Financial Supervisory Service.

Note: Commercial banks in Korea include nationwide banks and local banks that only operate in particular regions.

Table 3.8 The BIS standard and the growth of bank lending (per cent)

	<i>Growth rate of bank lending</i>		
	<i>1996</i>	<i>1997</i>	<i>1998</i>
Banks satisfying standard	18.03	17.62	11.65
Banks not satisfying standard	15.85	7.46	4.04

Source: Hahm and Jung (1999).

Note: Values are percentage increases from the previous year.

Increase in direct financing and securitisation

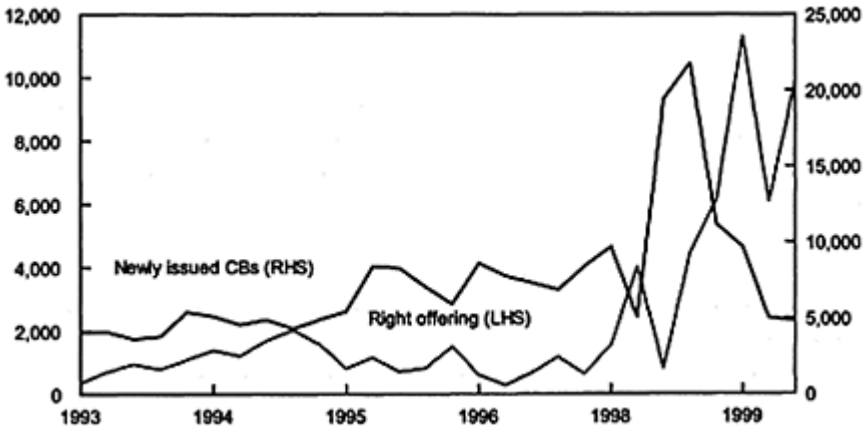
Bank disintermediation has also been associated with the development of domestic capital markets. As capital markets have increased in size, it has become easier and less costly for the corporate sector to finance directly through the share market or bond market than indirectly through banks. Figure 3.6 plots the offering price of listed companies on the Korean stock exchange and the value of newly issued corporate bonds in the Korean bond market. It can be seen that the corporate sector has increasingly relied on capital markets to finance business projects, especially since the crisis. The exception was in 1999 when newly issued corporate bonds declined dramatically to the pre-crisis level in response to the problems in the Daewoo group, which made it extremely difficult for the corporate sector to find investors for bonds. Given the ongoing deepening of

domestic capital markets, direct financing is expected to continue to increase. Furthermore, the rapid securitisation that is taking place, with the recent introduction of asset-backed securities and mortgage-backed securities, will further accelerate bank disintermediation, as firms find new opportunities to diversify financing.

POLICY IMPLICATIONS

Before the financial crisis, Korea's intermediate monetary policy target was the broad-money aggregate. This measure was emphasised for three reasons: money supply was an effective nominal anchor to curb inflation, money and real economic variables were closely correlated, and interest rates had not functioned well as a price mechanism.

Figure 3.6 Offering price of listed companies and newly issued corporate bonds (billion won)



Sources: Korea Stock Exchange; Financial Supervisory Service.

Recently, however, it has been advocated that interest rates should be the main instrument of monetary policy, given the improved ability of interest rates to influence prices and the weakened relationship between the broad-money aggregate and economic growth. The increase in bank investments in securities may lie behind this loosening linkage. To overcome the 1998 credit crunch, the Bank of Korea allowed the money supply to grow beyond its targeted rate. Contrary to the aim of the policy, banks invested in riskless assets, including government bonds, rather than supplying credit to the private sector. It was not until the Bank of Korea lowered the call rate that bank loans slowly picked up, leading to the rebound of business activity in 1999.

Another implication of the recent changes in the financial market is that capital market stability is becoming increasingly necessary to ensure a stable financial system. To encourage foreign investment in the Korean stock market, the government has eased regulations on foreign investment. The ceiling on foreign stock investment was abolished

in May 1998, allowing foreign investors to own 100 per cent of listed companies. Daily price limits were expanded to 15 per cent in December 1998. These measures have further exposed the Korean stock market to external shocks, as shown in Table 3.9 by the increased sensitivity to the exchange rate and foreign investment. Volatility appears to have increased, in response to offshore movements in stock prices and greater foreign investment in Korean stocks. Such volatility has been seen in other countries after a financial crisis, as Table 3.10 shows. The government has found it increasingly difficult to stabilise price swings in capital markets. Volatility in financial markets is likely to hurt the soundness of banks' capital bases, given the increase in their investment in securities, and eventually affect their willingness to lend to the corporate sector.

In the past it was believed that the banks would never fail because the government would always intervene. This perception was behind the public's confidence in the safety of bank deposits. The Korean government's market

Table 3.9 KOSPI determinants before and after the crisis

	<i>Before crisis</i>		<i>Full period</i>	
	<i>1990Q1–1997Q2</i>		<i>1990Q1–2000Q1</i>	
Constant	10.97	(16.84)	11.28	(12.23)
log(yen/dollar rate)	-0.89	(-6.61)	-0.98	(-5.04)
Growth rate during this period	0.03	(2.88)	0.02	(3.21)
Real interest	-0.06	(-4.94)	-0.03	(-3.26)
Foreign investment in stocks/GDP	0.00	(0.00)	0.07	(0.24)
Growth rate during the previous period	0.01	(0.89)	0.02	(3.39)
	$\bar{R}^2 = 0.87$; D.W.=1.89		$\bar{R}^2 = 0.92$; D.W.=1.72	

Note: The dependent variable is log(KOSPI).

Table 3.10 Comparison of financial market volatility: Korea and Mexico

	<i>Interest rate^a</i>		<i>Foreign exchange rate</i>		<i>Stock price^a</i>	
	<i>Korea</i>	<i>Mexico</i>	<i>Korea</i>	<i>Mexico</i>	<i>Korea</i>	<i>Mexico</i>
Before crisis ^b	0.02	2.73	0.07	0.70	1.85	2.40
After crisis ^c	1.28	25.42	5.01	5.29	8.83	3.78

Notes

a Based on daily data. The conditional variance is estimated by GARCH(1,1). In estimation, daily changes ((logA—logA(-1))x100) are used for exchange rate and stock price series.

b The period before the Korean crisis is May 1996—October 1997; and the period before the Mexican crisis is December 1992—October 1994

c The period after the Korean crisis is December 1994—June 1996; and the period after the Mexican crisis is December 1994—June 1996.

oriented reforms have enhanced the competitiveness of financial institutions, while increasing the accountability of market participants. In this new environment, precautionary measures, such as the strengthening of bank monitoring, will reduce the susceptibility to systemic risk induced by bank failure. However, once the financial system shows signs of a breakdown, what can the government do about it? Unfortunately, no magic solution exists. Restoring public confidence will probably be the best way to stop risk from spreading throughout the system. A more flexible implementation of the BIS capital adequacy requirement, especially when banks are weakened with bad loans and poor profitability, may help restore public confidence by alleviating the harmful effects of the credit crunch.

NOTES

- 1 The Financial Supervisory Service is the implementing body of the Financial Supervisory Commission—the government body that engineered and is supervising Korea’s financial reforms.
- 2 The Korean government recently introduced a primary dealership system to expedite the development of the bond market. To be a primary dealer, large holdings of government bonds are needed, which has given banks an incentive to hold government bonds.
- 3 The FSC has taken a five-step approach to resolving non-viable financial institutions:
 - 1) BIS capital adequacy standards have been used to identify troubled financial institutions.
 - 2) Those institutions that fail to meet the standards are required to submit rehabilitation plans.
 - 3) A committee appraises the plans.
 - 4) The FSC reviews the committee’s evaluation and implements the following measures:
 - a) financial institutions whose rehabilitation plans are rejected are to be resolved;
 - b) financial institutions whose rehabilitation plans are conditionally approved are required to submit self-rescue plans, the implementation of which will be closely monitored by the FSC; and
 - c) financial institutions whose rehabilitation plans are unconditionally approved will be provided with financial support to clean up bad loans and to restructure.
 - 5) Non-viable institutions are resolved either by:
 - a) purchase and assumption (P&A), whereby shares of the institutions are bought by the government and then sold to domestic and foreign investors;
 - b) merger between non-viable institutions; or
 - c) merger between viable and non-viable institutions.

In all three cases, financial support is provided to prevent the assets of acquiring or merging institutions from deteriorating.
- 4 It is estimated that the banking sector has incurred an additional 15.4 trillion won of

non-performing loans as the result of adopting the forward-looking criteria.

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4

Private capital flows in East Asia: boom, bust and beyond

Ramkishen S.Rajan and Reza Siregar

INTRODUCTION

Authoritative studies of the Mexican currency crisis of 1994–95 agree that it ought to be seen in terms of two distinct stages: an initial devaluation that acted as an adverse signal triggering massive capital outflows, and a post-devaluation financial and economic collapse (Calvo and Mendoza 1996; Sachs et al. 1996). Calvo (1996:219) has noted that:

if there is a ‘bad’ equilibrium lurking in the background, a devaluation—especially, an unscheduled devaluation—could coordinate expectations and help push the economy to the ‘bad’ equilibrium.

A recent detailed study of the crisis in Thailand of 1997–98 similarly argued that the financial turmoil should be seen as consisting of two distinct but related components (Rajan 2001). The first was a fundamentals-based devaluation arising from an actual and anticipated banking system bail-out and consequent monetary disequilibrium. The second was a bank panic following the initial devaluation of the baht (on 2 July 1997), which led to an economic collapse by the end of that year.¹

More generally, the central difference between financial crises in emerging markets and in industrialised ones (such as the 1992–93 crisis in Europe’s Exchange Rate Mechanism) has been that output did not collapse in industrialised countries (Calvo and Reinhart 2000). A post-devaluation economic contraction is incompatible with first- and second-generation models of currency crises, which stress that a devaluation should be the end of the crisis, as the depreciated currency and accompanying macroeconomic policies ought to stimulate real economic activity (Rajan 2001). This inconsistency has contributed to the recent interest in so-called third-generation currency crisis models, which emphasise or attempt to rationalise the over-reaction or overshooting of markets and the degeneration of a currency crisis into a financial and economic collapse.

These third-generation models may more specifically be characterised as emphasising the capital account, in contrast to the older models that focus on the current account (Yoshitomi and Ohno 1999). For instance, Caballero and Krishnamurthy (1998:2) have observed that:

the Asian crisis is just the most recent chapter of an increasing trend toward shifting the ‘blame’ from current to capital account issues. Many think that this trend is an almost unavoidable side effect of increasing globalisation of capital

markets.

This shift has come into vogue in policy circles. For instance, Japan's finance minister, Kiichi Miyazawa, noted that the East Asian crisis was 'a new form of capital account crisis rather than the traditional current account crisis'.² The Group of Seven (G-7) leaders who met in Tokyo in July 2000 concurred with this analysis. In a declaration entitled 'Strengthening the International Financial Architecture', they noted the need for IMF reforms so that 'In future the IMF would be better able to cope with capital account crises, such as the Asian crisis which broke just over three years ago'.³

The new interest in capital account crises motivates a detailed examination of the capital account transactions of the five crisis-hit East Asian economies (Indonesia, Malaysia, the Philippines, Thailand and South Korea)—the Asian-5 economies. This chapter is concerned in particular with the changing dynamics of cross-border capital flows in the Asian-5 economies in the 1990s.

The chapter briefly reviews selected new or third-generation currency crisis models. Relying on data on international capital flows from a number of multilateral sources (the International Monetary Fund, the Bank for International Settlements and the Institute of International Finance), a detailed overview is given of international capital flows in the Asian-5 economies during the pre-crisis boom period (between 1990 and 1996) and during the bust and eventual recovery that followed (1997 to early 2000). The data indicate that the recent recoveries in regional growth rates, surges in equity prices and stabilisation of exchange rates have been accompanied by renewed inflows of portfolio capital, while foreign direct investment (FDI) inflows remained stable. Some simple but indicative statistical tests are therefore conducted on time-series data to explore the determinants of private portfolio capital flows to the Asian-5 economies plus Singapore (Southeast Asia's trade and financial centre). The analytical basis of the empirics is the information-frictions model of portfolio flows developed by Calvo and Mendoza (2000). To examine the evidence on regional contagion, the appendix looks at the extent of intraregional correlations in East Asian currencies and equity prices.

THIRD-GENERATION CURRENCY CRISIS MODELS

The third-generation currency crisis models are commonly viewed as being bank centred (Krugman 1999). However, not all third-generation models are necessarily bank based, a prominent example being the model by Calvo and Mendoza (2000) that centres on portfolio equity. Two prominent third-generation models are outlined—the Calvo-Mendoza capital crisis model and the Chang-Velasco (1998) bank panic model.

The Calvo-Mendoza capital crisis model

Consider a bare-bones version of the Calvo-Mendoza capital crisis model: a simple one-period, mean-variance model of optimal portfolio diversification/ allocation.

Assume the existence of homogeneous atomistic investors. Assume J countries in which investors allocate a fixed pool of funds, which is normalised to one unit. Assume

returns in each country are independent and identically distributed (iid) with a mean of r and a variance of σ_0^2 . Focusing on a single agent, assume the investor hears a rumour that country k 's new stochastic return is r , where $(r-p)=\varepsilon \neq 0$. Let returns in country $k=\sigma_1$. Let \emptyset be the share of the portfolio invested in all countries other than country k . Denote the portfolio by X . Thus, the portfolio's mean and variance are respectively:

$$E(X)=p+(1-\emptyset)\varepsilon, \text{ and} \quad (1)$$

$$\text{Var}(X)=[(\emptyset\sigma_0)^2/(J-1)+(1-\emptyset)\sigma_1^2]. \quad (2)$$

Assume that the representative agent is a price taker. Under the assumption of a normal distribution of returns, let the agent maximise the following quadratic objective function (U) with respect to \emptyset :

$$\text{Max } EU(X)=[(1-\emptyset)\varepsilon+p]-v/2[(\emptyset\sigma_0)^2/(J-1)+(1-\emptyset)^2\sigma_1^2], v > 0 \quad (3)$$

Solving for the proportion of funds devoted to country k obtains:

$$(1-\emptyset)=[\gamma+\varepsilon/v]/[\gamma+\sigma_1^2], \quad (4)$$

$$\text{Where: } \gamma=\sigma_0^2/(J-1).$$

In the absence of news on returns in country k (i.e., country k is identical to all other countries *ex ante*), from equation (4), the share of portfolio allocated to the country is $1/J$, as would be expected a priori. Accordingly, in the absence of news, the portfolio allocated to country k tends to become negligible as J gets arbitrarily large; that is, with abundant alternatives for portfolio diversification. On the other hand, from equation (4), with the impact of news, the change in portfolio composition to country k becomes extremely sensitive to the expected mean return differential (*ee*) and variance in country k as $J \rightarrow \infty$. Specifically,

$$\partial(1-\emptyset)/\partial\varepsilon=[v/[\gamma+\sigma_1^2]]^{-1}, \quad (5)$$

$$\text{and, } \partial(1-\emptyset)/\partial\varepsilon \rightarrow 1/(v\sigma_1^2) \text{ as } J \rightarrow \infty. \quad (5')$$

$$\partial(1-\emptyset)/\partial\sigma_1^2=-[\gamma+\varepsilon/v]/[\gamma+\sigma_1^2]^2, \quad (6)$$

and, $\partial(1-\emptyset)/\partial\sigma_1^2 \rightarrow -\varepsilon/(\nu\sigma_1^4)$ as $J \rightarrow \infty$. (6')

Those who take a benign view of speculation argue that it would be in the agent's best interests to gather the necessary information upon which to make these investment decisions. To the extent that these actions are based on the best available information, speculation cannot be considered arbitrary—Krugman's (1979) first-generation model being a case in point. The incentive for investors to gather information may be explored within this portfolio diversification model.

Let there be an unspecified fixed cost involved in learning about country k . Assume that the learning costs allow the agent to obtain information about returns in the country with certainty (i.e., $\sigma_1^2=0$). From equation (4):

$(1-\emptyset)=[1+\varepsilon/(\nu\gamma)]$. (4')

Assuming no short sales, the following relationship between the range of values of ε and $(1-\emptyset)$ may be derived:

If ε :	then, $(1-\emptyset)$:
$[0, \infty)$	1
$[-\nu\gamma, 0)$	$(0, 1)$
$(-\infty, -\nu\gamma)$	0

From the above conditions we see that for $\varepsilon \geq 0$, as long as the fixed information costs are not prohibitively large, there is gain to be had from information gathering *ex post*. Conversely, for $\varepsilon \leq -\nu\gamma$, there is no *ex-post* gain to be reaped from information gathering. What about the intermediate case of $\varepsilon \in [-\nu\gamma, 0)$? As $J \rightarrow \infty$, there is no *ex-post* gain to be had, as the iid distribution of returns ensures that a highly diversified portfolio will provide a return of rr that exceeds r (as $\varepsilon=r-p$). However, for a small J , *ex-post* utility could still increase with information gathering. Putting all this together and assuming continuity, the marginal gain of information gathering about any single country falls as portfolios get increasingly diversified internationally.

The second-generation (escape-clause-based) multiple-equilibria models such as that of Obstfeld (1994,1996) require the existence of a range or zone of weakness, the gray area in which a currency is potentially vulnerable to a speculative attack. In contrast, the Calvo-Mendoza model does not require the existence of any actual macroeconomic weaknesses. Rather, just a rumour of such vulnerabilities may suffice to generate a large-scale reallocation of funds away from one destination to another, making small open economies susceptible to large swings in capital flows and costly boom-and-bust cycles. In this light, the Calvo-Mendoza model is most appropriately seen as an open economy extension of the information-based herding and cascades genre of models that have been recently developed to explain herding behaviour in domestic financial markets, such as

Banerjee (1992), Scharfstein and Stein (1990) and others.⁴

Bank-based third-generation models

The Calvo-Mendoza model focuses on portfolio flows rather than bank lending. While the former was instrumental in the Mexican crisis of 1994–95, the latter was the central factor in the East Asian crisis. More generally, the high correlation between banking and currency crises (so-called twin crises) since the late 1980s and 1990s is well documented, with the causation most often running from banking to currency crises (Kaminsky and Reinhart 1999). What is more, these twin crises are far more pervasive in developing countries than in industrialised ones (Glick and Hutchison 1999).

The significance of these twin crises has given rise to two broad subclasses of bank-based models: those emphasising insolvency and those focusing on illiquidity. Chang and Velasco (1998) and Rajan (2001) have provided strong evidence in favour of the liquidity crisis models over the solvency-based ones. Radelet and Sachs (1998a, b) argue convincingly in favour of such a bank panic model; while Fernández-Arias (2000) also emphasises the liquidity-based crises models in his policy discussion of new features of recent currency crises in Latin America and Asia, and possible solutions to them. As such, in the remainder of this section, we consider a highly simplified but intuitively appealing version of Chang and Velasco's (1998) bank panic model, which is essentially an open economy extension of the Diamond and Dybvig (1983) model of illiquidity.⁵

The Chang-Velasco bank panic model

Assume a small open economy with identical agents. Let there be three distinct periods: $t=0$ (the planning period), $t=1$ (the short run) and $t=2$ (the long run). Each agent is endowed with e units of consumption with world prices normalised to 1. The agent is indifferent between consumption in either time period (the short run or long run). In addition to their endowment, domestic residents have access to international capital markets and are able to borrow at most d units. There exists a technology in the planning period that yields R units of consumption in the long run or r units of consumption if liquidated in the short run, where $0 < r < 1 < R$. However, owing to indivisibilities, agents are unable to access the technology if acting individually, only being able to do so if they pool their resources (i.e., if they coalesce and form a bank). If agents do form a bank, the relationship/contract between the bank and agents as depositors/owners is as follows. The agents surrender their endowment, e , and the capacity to borrow, d , to the bank. In exchange, the agents can withdraw either the initial deposit, e , in the short run or an amount, y , in the long run.

Both deposits and loans are assumed to be short term, needing to be renewed at $t=1$. The banks operate in a perfectly competitive environment such that long-run profits are zero, and they distribute all their remaining value to the agents at $t=2$. Banks are faced with a reserve requirement of b per depositor. These reserves are held in liquid form (i.e., world assets). Given these assumptions, at $t=2$, investment by each bank is $(k)=e+d-b > 0$ per depositor.⁶ Consequently, $y=R(e+d-b)-d+b = Re+(d-b)(R-1)$. Since $R > 1$, and as long as b is 'small' (compared with d), $y > e$, thus providing the incentive for depositors

to form a bank or invest in a bank. As noted by Chang and Velasco (1998:20):

The typical bank will offer demand deposits, borrow in the world market, and allocate investment in order to maximise profits; in so doing, the banking system will improve social welfare.

Assume that some trigger causes depositors and creditors to panic and attempt to withdraw funds from the banks at $t=1$. To be precise, creditors will recall d units, while depositors will attempt to withdraw their initial endowment of e units. The bank however has only b units of liquid assets and receives just r from the premature liquidation of the funds. Since $r < 1$ and $k=e+d-b > 0$, the potential capital outflows from the bank ($e+d$) are greater than the resources available ($b+rk$). In other words, the bank is *internationally illiquid*. Thus, banks in this model maximise social welfare by channelling the liquid assets of depositors into illiquid but high-yielding (productive) investments. By so doing they help increase capital inflows to the economy and the potential for higher growth and consumption. However, this role makes banks susceptible to panic withdrawals.

Following some negative shock, depositors, concerned about the safety of their savings, attempt to withdraw funds en masse (which occurs according to the first-come-first-served rule of deposit withdrawals), while creditors are unwilling to roll over short-term loans. Since the banks' liquid assets/reserves are less than their potential foreign currency obligations, they are forced into the premature liquidation of long-term investments. Given the partial irreversibility of investments, they obtain a lower return on liquidation. However, insofar as the foreign currency revenues obtainable in the short term are still less than the corresponding short-term potential foreign currency obligations, the banks are internationally illiquid. This sudden termination of bank finance forces the abandonment of potentially solvent investment projects. The consequent decline in capital formation—indeed, capital destruction—leads to a sudden output/economic collapse.

CAPITAL FLOWS IN EAST ASIA

Having outlined the theoretical foundations of the third-generation models, the focus of this chapter turns to examining the available data on capital flows in East Asia in the 1990s.

The boom

Speculative attacks on emerging economies have almost always been preceded by very large inflows of private capital (Dooley 2000). Radelet and Sachs (1998a: 8) observed that 'at the core of the Asian financial crisis were the massive capital inflows that were attracted into the region during the 1990s'. A proper perspective of the East Asian crisis may therefore only be gained by considering the pre-crisis boom period.

Balance of payments data from the IMF's *World Economic Outlook*,⁷ show that net private capital inflows to the Asian-5 economies were positive and exceeded corresponding current account deficits, resulting in a sustained accumulation of

international reserves (Tables 4.1 and 4.2). This accumulation was particularly high in Thailand, which was among the ten largest emerging-market recipients of net private capital flows during the 1990s (as were Malaysia and Indonesia) (Lopez-Mejia 1999; World Bank 1997a).

Cumulative capital inflows into Thailand accounted for approximately half of their respective GDPs between 1989 and 1995 (Table 4.3). Table 4.3 examines changes in key macroeconomic variables over the boom period. The boom was especially long lasting in Thailand (between 1988 and 1995). During this period, GDP growth rates in Thailand and Malaysia were about 4

Table 4.1 Net capital flows to emerging East Asian economies (US\$ billion)

	1992	1993	1994	1995	1996	1997	1998	1999	2000 ^b	2001 ^c
<i>Total</i>										
Private capital flows	112.6	172.1	136.3	226.9	215.9	147.6	75.1	80.5	70.9	127.8
Direct investment	35.4	59.4	84.0	92.6	113.2	138.6	143.3	149.8	153.0	144.6
Portfolio investment	56.1	84.4	109.6	36.9	77.8	52.9	8.5	23.3	30.4	33.5
Other investment	21.0	28.3	-57.3	97.4	24.9	-43.9	-76.7	-92.5	-112.5	-50.3
Official flows	21.2	17.2	3.4	11.7	0.4	23.5	44.7	3.0	14.4	6.6
Change in reserves ^a	-56.9	-63.7	-63.9	-117.9	-114.2	-73.1	-37.8	-78.5	-102.2	-100.7
<i>Asian-5 economies</i>										
Private capital flows	29.0	31.8	36.1	74.2	65.8	-20.4	-25.6	-24.6	-40.6	-18.1
Direct investment	7.3	7.6	8.8	7.5	8.4	10.3	8.5	10.2	12.0	7.2
Portfolio investment	6.4	17.2	9.9	17.4	20.3	12.9	-6.0	6.3	6.6	3.0
Other investment	15.3	7.0	17.4	49.2	37.1	-43.6	-28.2	-41.1	-59.2	-28.3
Official flows	2.0	0.6	0.3	0.7	-0.4	17.9	19.7	-4.1	5.0	-1.9
Change in reserves ^a	-18.1	-20.6	-6.1	-18.5	-5.4	30.5	-52.1	-44.5	-17.2	-20.3
<i>Other Asian emerging economies</i>										
Private capital flows	-8.3	25.6	27.5	30.8	38.3	19.0	-17.0	-2.5	10.6	10.3
Direct investment	8.4	26.3	38.3	39.1	44.6	45.1	49.7	39.6	41.3	39.3
Portfolio investment	2.6	4.6	1.8	-3.2	-7.4	-9.4	-11.9	-11.9	-0.4	-3.5
Other investment	-19.3	-5.3	-12.7	5.1	1.1	-16.7	-54.7	-30.2	-30.4	-25.6
Official flows	8.3	7.9	10.4	5.8	4.1	3.7	7.9	3.8	5.1	8.6
Change in reserves ^a	-6.6	-16.6	-47.3	-27.6	4.8	-46.7	-18.2	-15.9	-32.9	-40.2

reserves^a

4

*Source: IMF, World Economic Outlook (2000).**Notes*

a A minus sign denotes a rise.

b Estimate.

c Forecast.

Table 4.2 Indonesia, Malaysia, Philippines and Thailand: net capital flows (per cent of GDP)

	1991	1992	1993	1994	1995	1996	Simple average ^b	1997
<i>Indonesia</i>								
Private capital flows	4.6	2.5	3.1	3.9	6.2	6.3	5.1	1.6
Direct investment	1.2	1.2	1.2	1.4	2.3	2.8	1.7	2.0
Portfolio investment	0.0	0.0	1.1	0.6	0.7	0.8	0.5	-0.4
Other investment	3.5	1.4	0.7	1.9	3.1	2.7	3.0	0.1
Official flows	1.1	1.1	0.9	0.1	-0.2	-0.7	0.7	1.0
Change in reserves ^a	-2.4	-3.0	-1.3	0.4	-0.7	-2.3	-1.7	1.8
<i>Malaysia</i>								
Private capital flows	11.2	15.1	17.4	1.5	8.8	9.6	10.2	4.7
Direct investment	8.3	8.9	7.8	5.7	4.8	5.1	7.2	5.3
Portfolio investment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	2.9	6.2	9.7	-4.2	4.1	4.5	2.9	-0.6
Official flows	0.4	-0.1	-0.6	0.2	-0.1	-0.1	0.0	-0.1
Change in reserves ^a	-2.6	-11.3	-17.7	4.3	2.0	-2.5	-5.1	3.6
<i>Philippines</i>								
Private capital flows	1.6	2.0	2.6	5.0	4.6	9.8	4.1	0.5
Direct investment	2.0	1.3	1.6	2.0	1.8	1.6	1.8	1.4
Portfolio investment	0.3	0.1	-0.1	0.4	0.3	-0.2	0.2	-5.3
Other investment	0.2	0.6	1.1	2.5	2.4	8.5	2.1	4.5
Official flows	3.3	1.9	2.3	0.8	1.4	0.2	2.0	0.8
Change in reserves ^a	-2.3	-1.5	-1.1	-1.9	-0.9	-4.8	-1.8	2.1
<i>Thailand</i>								
Private capital flows	10.7	8.7	8.4	8.6	12.7	9.3	11.5	-10.9
Direct investment	1.5	1.4	1.1	0.7	0.7	0.9	1.6	1.3
Portfolio investment	0.0	0.5	3.2	0.9	1.9	0.6	1.4	0.4
Other investment	9.2	6.8	4.1	7.0	10.0	7.7	8.5	-12.6
Official flows	1.1	0.1	0.2	0.1	0.7	0.7	0.1	4.9
Change in reserves ^a	-4.3	-2.8	-3.2	-3.0	-4.4	-1.2	-4.3	9.7

*Source: IMF (1997).**Notes*

a A minus sign denotes a rise.

b 1989 to 1996.

percentage points higher than in the five-year period before the boom, while GDP growth was approximately 2 percentage points higher in the Philippines and Indonesia. Only in Korea was growth slower than in the preceding period. Furthermore, in contrast to Mexico in the period before what has been termed the Tequila crisis (1989–94), where capital inflows fuelled a consumption boom, average consumption (as a percentage of GDP) actually

Table 4.3 Asian-5: macroeconomic effects of capital inflows, 1989–95 (per cent)

	<i>Inflow episode</i>	<i>Cumulative inflows/ GDP at end of period</i>	<i>Maximum annual inflow</i>	<i>GDP growth^a</i>	<i>Inflation rate^a</i>	<i>Current account deficits^b</i>	<i>Change in investment</i>	<i>change in consumption^b</i>
Indonesia	1990–95	8.3	3.6	2.2	1.3	0.2	5.7	-5.2
Malaysia	1989–95	45.8	23.2	4.0	1.4	2.9	4.8	-1.8
Philippines	1989–95	23.1	7.9	2.2	-3.1	0.7	1.7	6.1
Thailand	1988–95	51.5	12.3	3.9	-1.1	2.3	13.4	-11.2
Korea	1991–95	9.3	3.5	-2.5	0.8	5.0	4.7	1.1
Mono item								
Mexico	1989–94	27.1	8.5	2.9	-74.4	7.1	2.4	6.7

Notes

a Change from immediately preceding period of equal length.

fell in Thailand, Indonesia and Malaysia, while average investment increased sharply, especially in Thailand.⁸ This rise in productive capacity ensured that growth was relatively non-inflationary—although, in hindsight, insufficient attention was paid to the productive deployment of the resources (Rajan 1999).

Push versus pull factors

The burgeoning literature on the determinants of capital inflows focuses particularly on whether capital has been pulled or pushed into emerging markets. Improvements in a developing country's or region's investment attractiveness pulls investment in, while an investment push comes when industrialised economies see investing in the home market as less attractive, leading to a search for opportunities in emerging markets. In other words, push factors are largely external to the emerging economies, while pull factors are specific to the country or region (for instance, a more conducive policy regime). Recent research suggests that the two phenomena are complementary. Specifically, while push factors determine the *timing and magnitude* of new capital inflows to emerging economies in general, pull factors are instrumental in determining the *geographic distribution* of these flows (Dasgupta and Ratha 2000; Montiel and Reinhart 2000).

The generally favourable international macroeconomic environment in the 1990s—in terms of sustained rapid growth in trade, GDP and wealth creation, especially in the United States, and relatively low interest rates—were among the cyclical push factors

from industrialised economies (World Bank 1997a). Further structural or trend factors leading to greater global capital flows include rapid improvements in telecommunications and information technologies, the proliferation of financial instruments, the institutionalisation of savings, and the internationalisation of investment portfolios (mutual and pension funds) in search of opportunities for risk diversification (World Bank 1997a).

It is also important to consider the *type* of external financing when thinking about the distribution of capital inflows. For instance, it is revealing that, on average, the category of 'other net investment' accounted for a much higher share of overall capital flows in the crisis-hit Asian-5 economies than in other Asian countries (Tables 4.1 and 4.2)—about 75 per cent in the case of Thailand, the 'trigger' country. This category of capital flows includes syndicated bank lending, trade financing and some other, smaller items. It therefore captures movements in bank financing and has been consistently found to be the most volatile component of capital flows in the balance of payments account.⁹

International bank lending to the Asian-5 increased rapidly in the 1990s, particularly between 1995 and 1996 (Table 4.4). The incentive for this lending boom to Thailand in particular is apparent from Table 4.5, which reveals the significant and sustained interest rate premium offered by the country over the LIBOR rate despite an extremely stable exchange rate relative to the US dollar. Indeed, it is revealing that the interest rate differential in Malaysia over the LIBOR was fairly low, and Malaysia was the only crisis-hit economy where direct investment constituted some 70 per cent of total capital flows on average. As a group, the East Asian economies attracted fairly high levels of FDI owing primarily to plant relocations from Japan, particularly to Malaysia and Thailand. FDI into the region reflected general considerations of long-term profitability and the region's attractiveness as an integrated production hub (World Bank 1999). Thus, Malaysia and Thailand were among the top ten recipients of FDI among developing countries in the 1990s (Table 4.6).

Therefore, while the attractive growth prospects, sound domestic macroeconomic policies (actual or perceived) and progressive financial and capital account deregulation in the Asian-5 economies were forces pulling

Table 4.4 Asian-5: international banks and bond finance, 1990–97 (US\$ billion)

	1990–94	Q1 1996–Q3 1996	Q4 1996–Q3 1996
Net interbank lending	14	43	11
Bank lending to non-banks	2	15	11
Net bond issuance	3	17	32
Total	19	75	54

Source: BIS (1998).

Table 4.5 Asian-5: macroeconomic conditions stimulating capital inflows, Jan. 1991—Jun. 1997 (per cent)

	<i>Interest rate spread^a</i>	<i>Annual average appreciation against the US dollar^b</i>	<i>Exchange rate variability^c</i>
Indonesia	11.5	-3.8	0.7
South Korea	4.1	-3.2	3.4
Malaysia	1.6	1.2	2.6
Philippines	6.5	0.9	3.8
Thailand	4.0	-0.3	1.2

Source: World Bank (1998).

Notes

a Local deposit rate less LIBOR (US\$) for East Asian economies, period average.

b +implies an appreciation;—implies a depreciation.

c Standard deviation of percentage change of exchange rate from regression time trend.

capital flows into the region in general, other pull factors were probably more specific to the type of capital inflow (Dasgupta and Ratha 2000).

Origin of bank flows

In light of the significance of bank lending in the East Asian crisis, it is useful to consider Bank for International Settlements (BIS) data on the stock of bank exposures (i.e., rather than flows). It is important to keep in mind the important caveat that such data exclude non-bank institutions, which played a significant role in the intermediation of capital flows in the region, and that only transactions by BIS-reporting banks are covered. Table 4.7 reports the nationality of banks that have extended bank loans to the region. Japanese banks were highly exposed to the crisis-hit economies, being responsible for over one-third of total bank credit to the Asian-5 countries as of mid-1997. Interestingly, Western European banks as a group (almost one-third) had large exposures in the regional economies, Korea in particular, while US banks had low and stable exposures, less than 10 per cent of total bank credit.

The bust and beyond

The East Asian crisis has been comprehensively discussed elsewhere and it is not the intention of this chapter to go over well-travelled terrain.¹⁰ Suffice it to note that the region-wide contagion in East Asia may be broadly divided into four subperiods. The devaluation of the Thai baht was the first period (July 1997). The second period was when the contagion spread to the other Southeast Asian countries (Indonesia, Malaysia and the Philippines) between July and mid-October 1997. The third period was when the crisis engulfed the larger East Asian region (Hong Kong, Singapore, South Korea and

Taiwan)

Table 4.6 Net FDI in developing countries (US\$ billion)

	1992	1994	1996	1997	1998
<i>Major 10 recipients</i>					
China	11.2	33.8	40.2	44.2	42.0
Brazil	2.1	3.1	11.2	19.7	24.0
Mexico	4.4	11.0	9.2	12.5	10.0
Argentina	4.0	3.1	5.1	6.6	5.6
Poland	0.7	1.9	4.5	4.9	5.5
Chile	0.9	2.6	4.7	5.4	5.0
Malaysia	5.2	4.3	5.1	5.1	5.0
Venezuela	0.6	0.8	2.2	5.1	5.0
Russian Federation	0	0.6	2.5	6.2	3.7
Thailand	2.1	1.4	2.3	3.7	3.0
<i>Share of total (per cent)</i>					
Low-income countries	6.9	7.2	7.4	6.5	6.8
Middle-income countries	93.1	92.8	92.6	93.5	93.2
Top 10 countries	67.6	69.2	68.8	69.5	70.1
Transition economies	9.0	9.4	13.3	14.3	13.5

Source: World Bank (1999).

following the pre-emptive devaluation of the New Taiwan dollar in October 1997. When the South Korean won was devalued in November 1997, the crisis then reverberated back to Southeast Asia and eventually emerging markets in general. This was the fourth period (Berg 1999). The crisis did intensify during 1998, particularly around the time of the liquidity crunch during the Russian debt moratorium (discussed below).

Crisis scenario

Of importance is that the collapses of the baht and then other regional currencies principally resulted from reversals of capital flows from the banking sector rather than changes in portfolio equity investments. Balance of payments data from the Institute of International Finance (IIF) reveal a sharp fall in net private capital flows to the Asian-5 economies of almost US\$130 billion between 1996 and 1998 (Table 4.8). This reversal was primarily of short-term lending by foreign commercial banks, which averaged about US\$60 billion in inflows between 1995 and 1996, but turned into an average net outflow of about US\$30 billion over the following two years as international banks became unwilling to roll over existing short-term debts to the region.

International bank lending to the Asian-5 economies remained buoyant at almost US\$50 billion in the first half of 1997, but fell by US\$40 billion in the third quarter of 1997, and then averaged a contraction of close to US\$100 billion for the three

consecutive quarters that followed (Table 4.9). Interestingly, the data also reveal that while Japanese and US banks reduced their exposures

Table 4.7 Asian-5: nationality of BIS-reporting banks providing loans, 1997–99 (US\$ million)

	<i>Japan</i>	<i>France</i>	<i>Germany</i>	<i>UK</i>	<i>US</i>	<i>Total</i>
<i>End June 1997</i>						
Indonesia	23,153	4,787	5,610	4,332	4,591	58,273
Malaysia	10,489	2,934	5,716	2,818	2,400	28,820
Philippines	2,109	1,678	1,991	1,076	2,816	14,115
Thailand	37,749	5,089	6,028	2,361	4,008	69,382
Korea	23,732	10,070	10,794	6,064	9,964	103,432
Asian-5	97,232	24,558	30,139	16,651	23,779	274,022
Asia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>End December 1997</i>						
Indonesia	22,018	4,773	6,174	4,492	4,893	58,211
Malaysia	8,551	2,883	7,197	2,014	1,787	27,333
Philippines	2,624	2,165	2,999	1,607	3,225	19,715
Thailand	33,180	4,718	6,028	2,361	2,533	58,534
Korea	2,0,278	11,135	9,616	6,924	9,531	93,364
Asian-5	86,651	25,674	32,014	17,398	21,969	257,157
Asia	114,745	42,856	48,656	32,287	29,444	378,700
<i>End June 1998</i>						
Indonesia	19,030	4,009	7,542	3,967	3,226	50,268
Malaysia	7,905	2,391	5,160	1,613	1,149	23,024
Philippines	2,308	1,780	2,161	1,775	3,025	17,803
Thailand	26,120	3,943	5,286	2,088	1,757	46,801
Korea	18,934	7,913	8,400	5,634	7,409	72,444
Asian-5	74,297	20,036	28,549	15,077	16,566	210,340
Asia	98,544	35,373	42,240	30,156	22,609	324,811
<i>End June 1999</i>						
Indonesia	14,043	3,967	7,542	3,428	3,724	43,764
Malaysia	6,056	2,225	2,837	2,837	1,074	18,623
Philippines	2,263	1,996	2,689	1,760	2,912	16,521
Thailand	18,278	2,922	4,632	1,476	1,232	34,694
Korea	15,018	8,752	7,605	4,685	6,420	63,482
Asian-5	55,658	19,862	25,305	14,186	15,362	177,084
Asia	74,824	35,535	44,168	25,927	22,687	286,970

Source: BIS, *Consolidated International Banking Statistics*, various issues.

in the Asian-5 countries between June and December 1997, the European banks were still

expanding their lending to the region in these months (Table 4.7). This was probably owing to the fact that the Japanese banks had particularly large exposures in Thailand, the first country to be affected by the regional crisis, while European banks were most exposed to Korea, which was affected later in the year.

This sudden reversal in bank lending is often portrayed as strong evidence of a bank panic model (Chang and Velasco 1998; Radelet and Sachs 1998a, b).¹¹ A much less noticed aspect of the sharp contraction of private market

Table 4.8 Asian-5: aggregate net capital flows (US\$ billion)

<i>Type of capital flow</i>	1995	1996	1997	1998	1999 ^c
Current account balance	-40.6	-54.8	-26.1	69.2	44.6
External financing	83.0	99.0	28.3	-4.2	7.8
Private flows	80.4	102.3	0.2	-27.6	0.3
Equity investment	15.3	18.6	4.4	13.7	18.5
Direct	4.2	4.7	5.9	9.5	12.5
Portfolio	11.0	13.9	-1.5	4.3	6.0
Private creditors	65.1	83.7	-4.2	-41.3	-18.2
Commercial banks	53.2	62.7	-21.2	-36.1	-16.0
Non-banks	12.0	21.0	17.1	-5.3	-2.3
Resident lending/others ^a	-28.3	-27.3	-33.7	-22.9	-21.0
Reserves (exc. gold) ^{a,b}	-14.1	-16.9	31.5	-42.1	-31.4

Source: IIF (1999).

Notes

a Minus denotes an increase.

b Includes resident net lending, monetary gold and errors and omissions.

c Estimate.

financing is the decline in portfolio flows in 1997–98 following the initial bank panic, as investors tried to scale down their regional financial exposures (in a ‘flight to quality’). This appears to be consistent with the Calvo-Mendoza capital crisis model, which rationalises an equity-based boom-and-bust cycle of capital flows as exacerbating if not triggering domestic economic difficulties. In contrast, FDI flows remained remarkably stable during the period.¹² Indonesia was the sole exception, FDI having collapsed owing to ongoing socio-political uncertainties (World Bank 1999).

Table 4.9 International bank lending to emerging Asian economies^a (US\$ billion; annual rate)

	1996	1997			1998		
		First half	Q3	Q4	First half	Q3	Q4
Asia ^b	80	74	-8	-109	-103	-94	-32
<i>Of which:</i>							
China	13	13	21	-1	-6	-25	4
Asian-5	58	49	-39	-96	-96	-59	-43

Source: BIS (1999).

Notes

a Exchange rate-adjusted change in claims of BIS-reporting banks.

b Excluding the regional financial centres of Hong Kong and Singapore.

Toward stabilisation and recovery

Having peaked in late 1997, the East Asian crisis seemed to be abating by early 1998 in all the regional economies except for Indonesia, where the rupiah remained extremely weak in light of economic policy slippages and civil unrest. As an example, Korea, the most rapidly improving regional economy, was upgraded by two of the major ratings agencies in February 1998. However, market turbulence re-emerged and intensified with the devaluation and unilateral domestic debt default by Russia in mid-August, followed by the near-collapse of the US hedge fund, Long-Term Capital Management (LTCM). The depreciation of the Japanese yen against the US dollar—which in turn caused concerns about the recovery prospects of the other Asian economies—and uncertainties following the imposition of capital controls by Malaysia on 1 September 1998 exacerbated the bearish sentiments in East Asia at the time (IMF 1998b, 1999a; World Bank 1999).

Marked as this downturn was, it proved to be temporary, as the easing of official interest rates in the United States and other industrialised countries, as well as an agreement on an IMF rescue package for Brazil, worked in tandem to generate a broad-based recovery in emerging markets in general by the fourth quarter of 1998. While the devaluation of the Brazilian real in early 1999 threatened to derail the recovery in East Asia yet again, in actuality it did not, and there was very limited fall-out from the Brazilian crisis.¹³ Korea, Malaysia and Thailand were all upgraded by ratings agencies in the first half of 1999.

External financing in the Asia and Pacific region

The discussion of capital flows is not complete without an analysis of the external financing of imbalances in the Asia and Pacific region. This analysis draws mostly on the IIF balance of payments data (Table 4.10).

Net private capital flows, which peaked at US\$176 billion in 1996, fell sharply by over US\$100 billion the next year and reached a trough of US\$4 billion in 1998 before recovering in 1999 and 2000, still far below the precrisis level. What about the components of capital flows? The obvious starting point is aggregate cross-border bank lending flows which, as previously emphasised, were the prime factors in East Asia's boom-and-bust cycle. Net commercial bank inflows, which peaked at US\$80 billion in 1996, swung into a net outflow of about US\$75 billion over the next two years. Inflows are expected to total about US\$50 billion in 1999 and 2000, despite a renewed willingness of lenders to maintain, if not slightly increase, exposures to the region because of the progress in repaying external liabilities, especially by Indonesia and Thailand. The IIF has estimated that Indonesia and Thailand are together expected to make net repayments of around US\$18 billion to private creditors in 2000, having repaid US\$89 billion in 1997 and 1998. These repayments have been made possible without derailing recovery because of the large current account surpluses and equity inflows.

Table 4.10 Aggregate net capital flows to the Asia Pacific region (US\$ billion)

Type of capital flow	1995	1996	1997	1998	1999 ^c	2000 ^d
Current account balance	-45.3	-52.0	-2.9	94.7	69.5	47.5
External financing	141.8	182.7	108.6	32.5	42.8	68.8
Private flows	32.8	176.4	66.8	4.2	40.2	59.3
Equity investment	56.8	62.7	57.8	60.3	72.8	77.4
Direct	42.6	45.4	51.9	55.2	54.0	53.6
Portfolio	14.2	17.2	5.9	5.1	18.8	23.8
Private creditors	76.0	113.7	8.9	-56.1	-32.6	-18.1
Commercial banks	63.3	80.1	-14.5	-59.6	-31.8	-17.6
Non-banks resident	12.6	33.6	23.5	3.5	-0.8	-0.5
Lending/others ^a	-63.0	-76.1	-96.8	-76.3	-58.7	-67.0
Reserves (exc. gold) ^{a,b}	-33.6	-54.6	-9.0	-51.0	-53.6	-49.2

Source: IIF (2000).

Notes

a Minus denotes an increase.

b Includes resident net lending, monetary gold and errors and omissions.

c Estimate.

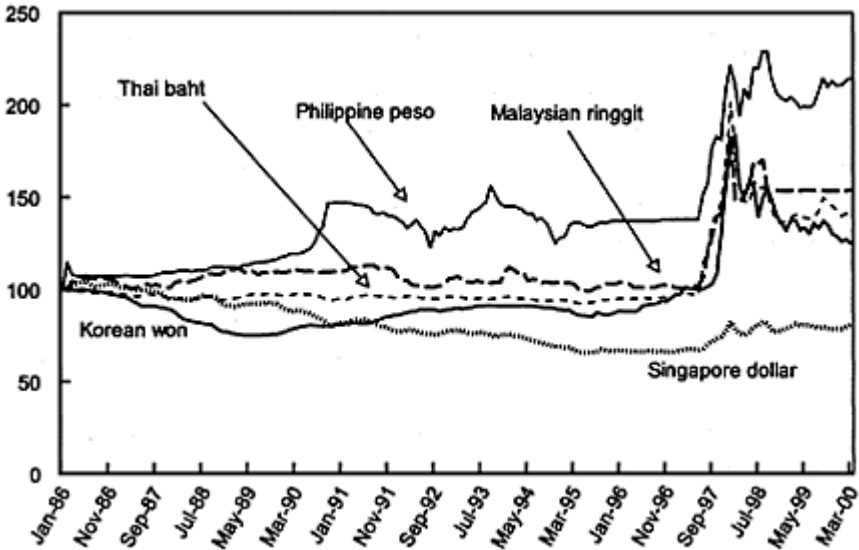
d Forecast.

Repayments of short-term debts as they have come due have, by and large, lengthened the average maturity of external debts in the region.¹⁴ Consistent with this, the IMF balance of payments data show that the 'other net investment' component (mainly bank loans) continued to fall in 1999 and is projected to further decline in 2000 (Table 4.1). Additional insight on bank flows can be obtained from the BIS data on the nationality of creditor banks. While there was a sharp retrenchment in lending to the region by all major creditor banks between December 1997 and June 1998, only the UK and Japanese banks

continued this trend between June 1998 and June 1999, as most Asian repayments were to these creditors (Table 4.7). In contrast, outstanding loans by US, French and German banks have stabilised.

Non-bank debt is expected to continue to be a rather negligible source of finance. As discussed, direct investment remained remarkably stable throughout the crisis with a slightly upward trend as deflated asset prices encouraged mergers and acquisitions in some of the regional economies (Thailand and Korea) (World Bank 1999). Portfolio (equity) flows played an important 'supporting role' in the regional crisis. Portfolio capital flows had fallen after 1996 but rebounded in 1999 to US\$19 billion, and are projected to rise further in 2000. Reflecting this growth, regional equity markets, which rallied strongly in the final quarter of 1998 and the whole of 1999, consolidated their performance in 2000.¹⁵ In line with these movements in cross-border capital flows, in early 1998 regional currencies strengthened from their historic lows against the US dollar and are now fairly stable (Figures 4.1a and 4.1b).¹⁶

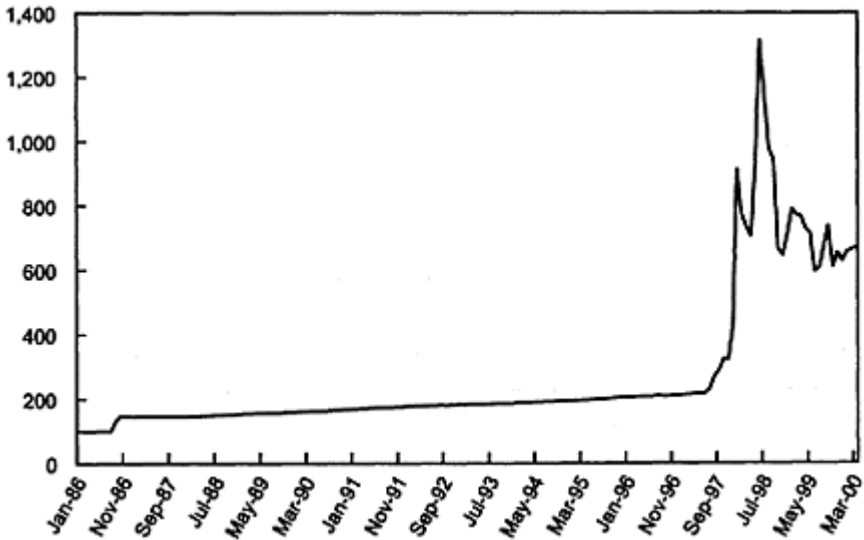
Figure 4.1a Bilateral exchange rates relative to US dollar



Source: CEIC.

Note: January 1986=100.

Figure 4.1b Indonesian rupiah per US dollar



Source: CEIC.

Note: January 1986=100.

EMPIRICAL ANALYSIS

Determinants of portfolio capital flows

The above discussion highlights that the recent recovery in capital flows to East Asia has been primarily because of a rebound in portfolio flows (as opposed to bank loans). It would therefore be useful to explore the determinants of private portfolio capital flows to the Asian-5 economies, including the nexus between portfolio and direct investment. No attempt is made to provide a fully specified regression analysis.¹⁷ Rather, insofar as the recovery in portfolio capital flows has been accompanied by a rebound in regional output and currencies, the focus is on the importance of the nominal exchange rate (nominal variable), GDP (real variable) and the stock exchange index (financial variable) in determining portfolio flows in the Asian-5 economies.¹⁸ What is the rationale for doing this?

The Calvo-Mendoza model illustrates how rumours or bad news can trigger capital outflows because investors, spoilt for choice, may not undertake detailed country evaluations when making investment decisions. Exchange rates, GDP and equity market performance are among the most timely and easily available indicators of a country's economic performance. As such, it would be expected that these variables would be important determinants of portfolio flows.

However, there is a circular reasoning at work, as changes in portfolio flows ought in turn to affect an economy's exchange rate and economic performance; that is, the two-

way interaction creates an endogeneity problem. To overcome this problem, Granger-causality tests are used to determine the direction of causation. We are aware of the limitations of this test;¹⁹ however, it remains a useful and widely used first statistical tool, particularly in instances of limited degrees of freedom (Kwan et al. 1995).

The model uses quarterly data available from the Hong Kong-based CEIC database for the Asian-5 economies plus Singapore (Table 4.11). All variables are found to be integrated of order 1, or 1(1), at a 5 per cent critical value,²⁰ allowing us to proceed to the next sets of tests for all six economies.

Bi-directional Granger-causality tests are used to examine whether portfolio flows are influenced by the various variables under consideration. A general specification of this test in the bivariate context (X, Y) can be expressed as:

$$\Delta Y_t = \sum_{i=1} \alpha_{1i} \Delta y_{t-i} + \sum_{i=1} \beta_{1i} \Delta X_{t-i} + \varepsilon_{1t} \text{ and} \tag{7}$$

$$\Delta X_t = \sum_{i=1} \alpha_{2i} \Delta y_{t-i} + \sum_{i=1} \beta_{2i} \Delta X_{t-i} + \varepsilon_{2t}, \tag{8}$$

where ε_t is a white-noise error term and Δ is the first-difference operator. All variables are in logs. The Granger-causality test examines the statistical significance of the ΔX_t in explaining ΔY_t (equation 7) and vice versa (equation 8). In our tests the vectors (X and Y) include all the variables listed in Table 4.11. Given the size of the quarterly observations, we are unable to divide

Table 4.11 Data description

	<i>Nominal exchange rate^a</i>	<i>Portfolio investment^b</i>	<i>Direct investment^c</i>	<i>Gross domestic product</i>	<i>Stock exchange index^d</i>
Indonesia	January 1986–	Q1 1986–	Q1 1986–	Q1 1986–	January 1986–
	May 2000	Q4 1999	Q4 1999	Q4 1999	May 2000
Korea	January 1986–	Q1 1986–	n.a.	Q1 1986–	January 1986–
	May 2000	Q4 1999		Q4 1999	May 2000
Malaysia	January 1986–	Q1 1991–	n.a.	Q1 1986–	January 1986–
	May 2000	Q4 1999		Q4 1999	May 2000
Philippines	January 1986–	Q1 1990–	Q1 1990–	Q1 1990–	January 1987–
	May 2000	Q4 1999	Q4 1999	Q4 1999	May 2000
Singapore	January 1986–	Q1 1986–	n.a.	Q2 1986–	January 1986–

	May 2000	Q4 1999		Q4 1999	May 2000
Thailand	January 1986–	Q1 1990–	Q1 1990–	n.a.	January 1986–
	May 2000	Q4 1999	Q4 1999		May 2000

Source: CEIC database.

Notes

a Exchange rate=local currency per US dollar.

b Private portfolio capital flows.

c For Indonesia: direct investment; and for Thailand and Philippines: foreign direct investment.

d Stock exchange indices-. Indonesia (Jakarta Composite Index); Korea (Korean Stock Exchange Index); Malaysia (KLSE Composite Index); Philippines (Manila Composite Index); Singapore (Singapore Straits Times Index); Thailand (SET Index).

the observations into the pre- and post-crisis periods. We introduce a dummy variable (Cdummy) as an additional explanatory variable to account for the effects of the crisis on the relationship between the two variables being tested. Note that Cdummy=0 for all the periods up to Q1 1997 and Cdummy =1 for Q2 1997.

Table 4.12 (a-f) reports the results of the Granger-causality tests. Some of the variables are not reported either because of poor test statistics (insignificant at a 5 per cent critical value) or missing data (see Table 4.11).²¹ In general, we find the test results do not seem to be affected by the Cdummy variable. The main results of the tests can be summarised as follows.

First, there is evidence that changes in the nominal exchange rate (ΔNEX) 'Granger cause' fluctuations in portfolio flows ($\Delta PORT$) within one to two quarters for all the regional economies except Thailand.²² More volatility in one of the variables generates significant forces that cause substantial changes in the other. In fact, the causality runs both ways in all the regional economies. In the case of Thailand, variations in portfolio flows Granger cause currency movements.

Second, less clearly generalisable evidence exists between portfolio flows and GDP. In the more advanced economies of Korea and Singapore, changes in GDP growth Granger cause portfolio flows. The causation is bi-directional

Table 4.12a-f Asian-5 economies plus Singapore: Granger-causality tests

a Indonesia: Q2 1986—Q4 1999

H_0 :	<i>F</i> -statistic	Probability
ΔNEX does not Granger cause $\Delta PORT$ (lags=2)	3.4571	0.0396
$\Delta PORT$ does not Granger cause ΔNEX (lags=2)	50.178	0.0000
ΔNEX does not Granger cause ΔDI (lags=2)	1.2721	0.2895

Δ DI does not Granger cause Δ NEX (lags=2)	6.9735	0.0022
Δ GDP does not Granger cause Δ PORT (lags=2)	4.3493	0.0189
Δ PORT does not Granger cause Δ GDP (lags=2)	67.964	0.0000
Δ GDP does not Granger cause Δ DI (lags=2)	0.7252	0.4899
Δ DI does not Granger cause Δ GDP (lags=2)	45.600	0.0000
Δ SXI does not Granger cause Δ PORT (lags=1)	1.6299	0.2075
Δ PORT does not Granger cause Δ SXI (lags=1)	6.4186	0.0141
Δ SXI does not Granger cause Δ DI (lags=1)	3.8416	0.0555
Δ DI does not Granger cause Δ SXI (lags=1)	0.1122	0.7390

With crisis dummy (Cdummy):

Case 1:	Δ PORT=f (Δ PORT(-1), Δ PORT(-2), Δ NEX(-1), Δ NEX(-2), Cdummy) Δ NEX(-1)=(0.1309) ^c ; Δ NEX(-2)=(0.0074) ^c Δ NEX=f (Δ PORT(-1), Δ PORT(-2), Δ NEX(-1), Δ NEX(-2), Cdummy) Δ PORT(-1)=(0.000) ^c ; Δ PORT(-2)=(0.0000) ^c
Case 2:	Δ DI=f (Δ DI(-1), Δ DI(-2), Δ NEX(-1), Δ NEX(-2), Cdummy) Δ NEX(-1)=(0.9598) ^c ; Δ NEX(-2)=(0.0022) ^c Δ NEX=f (Δ DI(-1), Δ DI(-2), Δ NEX(-1), Δ NEX(-2), Cdummy) Δ DI(-1)=(0.0533) ^c ; Δ DI(-2)=(0.0082) ^c
Case 3:	Δ PORT=f (Δ PORT(-1), Δ PORT(-2), Δ GDP(-1), Δ GDP(-2), Cdummy) Δ GDP(-1)=(0.1372) ^c ; Δ GDP(-2)=(0.0003) ^c Δ GDP=f (Δ PORT(-1), Δ PORT(-2), Δ GDP(-1), Δ GDP(-2), Cdummy) Δ PORT(-1)=(0.0000) ^c ; Δ PORT(-2)=(0.0000) ^c
Case 4:	Δ DI=f (Δ DI(-1), Δ DI(-2), Δ GDP(-1), Δ GDP(-2), Cdummy) Δ GDP(-1)=(0.5110) ^c ; Δ GDP(-2)=(0.1824) ^c Δ GDP=f (Δ DI(-1), Δ DI(-2), Δ GDP(-1), Δ GDP(-2), Cdummy) Δ DI(-1)=(0.0000) ^c ; Δ DI(-2)=(0.0001) ^c
Case 5:	Δ PORT=f (Δ PORT(-1), Δ SXI(-1), Cdummy) Δ SXI(-1)=(0.2221) ^c

$$\begin{aligned} \Delta SXI &= f(\Delta PORT(-1), \Delta SXI(-1), Cdummy) \\ \Delta PORT(-1) &= (0.0128)^c \\ \text{Case 6: } \Delta DI &= f(\Delta DI(-1), \Delta SXI(-1), Cdummy) \\ \Delta SXI(-1) &= (0.1259)^c \\ \Delta SXI &= f(\Delta DI(-1), \Delta SXI(-1), Cdummy) \\ \Delta DI(-1) &= (0.6032)^c \end{aligned}$$

Note: ()^c=Probability of rejecting H₀ (coefficient estimate=0) based on the t-statistics.

b The Philippines: Q2 1990—Q4 1999

<i>H₀</i> :	<i>F-statistic</i>	<i>Probability</i>
ΔNEX does not Granger cause $\Delta PORT$ (lags=2)	2.1359	0.1347
$\Delta PORT$ does not Granger cause ΔNEX (lags=2)	2.5002	0.0979
ΔNEX does not Granger cause ΔFDI (lags=2)	2.2269	0.1243
ΔFDI does not Granger cause ΔNEX (lags=2)	0.1637	0.8497

With crisis dummy (Cdummy):

$$\begin{aligned} \text{Case 1: } \Delta PORT &= f(\Delta PORT(-1), \Delta PORT(-2), \Delta NEX(-1), \Delta NEX(-2), Cdummy) \\ \Delta NEX(-1) &= (0.094)^c; \Delta NEX(-2) = (0.2371)^c \\ \Delta NEX &= f(\Delta PORT(-1), \Delta PORT(-2), \Delta NEX(-1), \Delta NEX(-2), Cdummy) \\ \Delta PORT(-1) &= (0.0572)^c; \Delta PORT(-2) = (0.7169)^c \\ \text{Case 2: } \Delta FDI &= f(\Delta FDI(-1), \Delta FDI(-2), \Delta NEX(-1), \Delta NEX(-2), Cdummy) \\ \Delta NEX(-1) &= (0.2743)^c; \Delta NEX(-2) = (0.0484)^c \\ \Delta NEX &= f(\Delta DI(-1), \Delta DI(-2), \Delta NEX(-1), \Delta NEX(-2), Cdummy) \\ \Delta FDI(-1) &= (0.4821)^c; \Delta FDI(-2) = (0.9253)^c \end{aligned}$$

Note: ()^c=Probability of rejecting H₀ (coefficient estimate=0) based on the t-statistics; GDP and SXI results for the Philippines are not reported because of poor statistical significance.

c Thailand: Q2 1990—Q4 1999

<i>H₀</i> :	<i>F-statistic</i>	<i>Probability</i>
ΔNEX does not Granger cause $\Delta PORT$	1.5889	0.2158
$\Delta PORT$ does not Granger cause ΔNEX	2.9993	0.0921
ΔNEX does not Granger cause ΔFDI	1.8877	0.1782
ΔFDI does not Granger cause ΔNEX	3.4468	0.0716

Δ SXI does not Granger cause Δ PORT	2.0077	0.1653
Δ PORT does not Granger cause Δ SXI	0.1195	0.7316
Δ SXI does not Granger cause Δ FDI	4.5793	0.0394
Δ FDI does not Granger cause Δ SXI	1.4424	0.2378

With CrisisDummy (Cdummy).

Case 1	Δ PORT=f (Δ PORT(-1), Δ NEX(-1), Cdummy) Δ NEX(-1)=(0.2153) ^c Δ NEX=f (Δ PORT(-1), Δ NEX(-1), Cdummy) Δ PORT(-1)=(0.0880) ^c
Case 2:	Δ FDI=f (Δ FDI(-1), Δ NEX(-1), Cdummy) Δ NEX(-1)=(0.1527) ^c Δ NEX=f (Δ FDI(-1), Δ NEX(-1), Cdummy) Δ FDI(-1)=(0.0667) ^c
Case 3:	Δ PORT=f (Δ PORT(-1), Δ SXI(-1), Cdummy) Δ SXI(-1)=(0.1572) ^c Δ SXI=f (Δ PORT(-1), Δ SXI(-1), Cdummy) Δ PORT(-1)=(0.7256) ^c
Case 4:	Δ FDI=f (Δ FDI(-1), Δ SXI(-1), Cdummy) Δ SXI(-1)=(0.0504) ^c Δ SXI=f (Δ FDI(-1), Δ NEX(-1), Cdummy) Δ FDI(-1)=(0.2626) ^c

Note: ()^c=Probability of rejecting H_0 (coefficient estimate=0) based on the t-statistics; GDP results are not reported because the data series was not long enough.

d Malaysia: Q1 1991—Q3 1999

H_0 :	<i>F</i> -statistic	Probability
Δ NEX does not Granger cause Δ PORT (lags=1)	4.4664	0.0427
Δ PORT does not Granger cause Δ NEX (lags=1)	15.842	0.0004
Δ PORT does not Granger cause Δ GDP (lags=1)	4.2183	0.0488
Δ GDP does not Granger cause Δ PORT (lags=1)	0.3695	0.5479
Δ SXI does not Granger cause Δ PORT (lags=1)	1.1790	0.2859
Δ PORT does not Granger cause Δ SXI (lags=1)	3.7704	0.0613

With crisis dummy (Cdummy):

Case 1:	Δ PORT=f (Δ PORT(-1), Δ NEX(-1),
---------	--

Cdummy)
 $\Delta NEX(-1)=(0.0186)^c$
 $\Delta PORT=f(\Delta PORT(-1), \Delta NEX(-1),$
 Cdummy)
 $\Delta PORT(-1)=(0.0002)^c$
 $\Delta PORT=f(\Delta PORT(-1), \Delta GDP(-1),$
 Cdummy)
 $\Delta GDP(-1)=(0.5034)^c$
 $\Delta GDP=f(\Delta PORT(-1), \Delta GDP(-1), Cdummy)$
 $\Delta PORT(-1)=(0.0656)^c$
 Case 3: $\Delta PORT=f(\Delta PORT(-1), \Delta SXI(-1), Cdummy)$
 $\Delta DSXI(-1)=(0.2460)^c$
 $\Delta SXI=f(\Delta PORT(-1), \Delta SXI(-1), Cdummy)$
 $\Delta PORT(-1)=(0.0595)^c$

Note: () ^c=Probability of rejecting H₀ (coefficient estimate=0) based on the t-statistics; FDI results are not reported because of a lack of data.

e Korea: Q2 1986—Q4 1999

<i>H</i> ₀ :	<i>F</i> -statistic	Probability
ΔNEX does not Granger cause $\Delta PORT$ (lags=2)	69.932	0.0000
$\Delta PORT$ does not Granger cause ΔNEX (lags=2)	2.3192	0.1088
$\Delta PORT$ does not Granger cause ΔGDP (lags=2)	0.8151	0.4484
ΔGDP does not Granger cause $\Delta PORT$ (lags=2)	8.3399	0.0008
ΔSXI does not Granger cause $\Delta PORT$ (lags=2)	4.7937	0.0126
$\Delta PORT$ does not Granger cause ΔSXI (lags=2)	6.7424	0.0026

with crisis dummy (*Cdummy*):

Case 1: $\Delta PORT=f(\Delta PORT(-1), \Delta PORT(-2), \Delta NEX(-1),$
 $\Delta NEX(-2), Cdummy)$
 $\Delta NEX(-1)=(0.8640)^c$
 $\Delta NEX(-2)=(0.0000)^c$
 $\Delta PORT=f(\Delta PORT(-1), \Delta PORT(-2), \Delta NEX(-1),$
 $\Delta NEX(-2), Cdummy)$
 $\Delta PORT(-1)=(0.6592)^c$
 $\Delta PORT(-2)=(0.0431)^c$
 Case 2: $\Delta PORT=f(\Delta PORT(-1), \Delta PORT(-2), \Delta GDP(-1),$
 $\Delta GDP(-2), Cdummy)$
 $\Delta GDP(-1)=(0.0059)^c$
 $\Delta GDP(-2)=(0.0005)^c$
 $\Delta GDP=f(\Delta PORT(-1), \Delta PORT(-2), \Delta GDP(-1),$

$$\begin{aligned}
 & \Delta \text{GDP}(-2), \text{Cdummy} \\
 & \Delta \text{PORT}(-1) = (0.8061)^c \\
 & \Delta \text{PORT}(-2) = (0.2244)^c \\
 \text{Case 3: } & \Delta \text{PORT} = f(\Delta \text{PORT}(-1), \Delta \text{PORT}(-2), \Delta \text{SXI}(-1), \\
 & \Delta \text{SXI}(-2), \text{Cdummy}) \\
 & \Delta \text{SXI}(-1) = (0.8505)^c \\
 & \Delta \text{SXI}(-2) = (0.0038)^c \\
 & \Delta \text{SXI} = f(\Delta \text{PORT}(-1), \Delta \text{PORT}(-2), \Delta \text{SXI}(-1), \Delta \text{SXI} \\
 & (-2), \text{Cdummy}) \\
 & \Delta \text{PORT}(-1) = (0.2497)^c \\
 & \Delta \text{PORT}(-2) = (0.0012)^c
 \end{aligned}$$

Note: ()^c = Probability of rejecting H_0 (coefficient estimate = 0) based on the t-statistics; FDI results are not reported because of a lack of data.

f Singapore: Q3 1986—Q4 1999

H_0 :	F-statistic	Probability
ΔNEX does not Granger cause ΔPORT (lags=2)	4.4886	0.0163
ΔPORT does not Granger cause ΔNEX (lags=2)	2.7330	0.0751
ΔPORT does not Granger cause ΔGDP (lags=2)	0.3688	0.6935
ΔGDP does not Granger cause ΔPORT (lags=2)	5.3859	0.0078

With crisis dummy (Cdummy):

$$\begin{aligned}
 \text{Case 1: } & \Delta \text{PORT} = f(\Delta \text{PORT}(-1), \Delta \text{PORT}(-2), \Delta \text{NEX}(-1), \Delta \text{NEX}(-2), \text{Cdummy}) \\
 & \Delta \text{NEX}(-1) = (0.1100)^c \\
 & \Delta \text{NEX}(-2) = (0.0153)^c \\
 & \Delta \text{NEX} = f(\Delta \text{PORT}(-1), \Delta \text{PORT}(-2), \Delta \text{NEX}(-1), \Delta \text{NEX}(-2), \text{Cdummy}) \\
 & \Delta \text{PORT}(-1) = (0.0382)^c \\
 & \Delta \text{PORT}(-2) = (0.5536)^c \\
 \text{Case 2: } & \Delta \text{PORT} = f(\Delta \text{PORT}(-1), \Delta \text{PORT}(-2), \Delta \text{GDP}(-1), \Delta \text{GDP}(-2), \text{Cdummy}) \\
 & \Delta \text{GDP}(-1) = (0.2591)^c \\
 & \Delta \text{GDP}(-2) = (0.1506)^c \\
 & \Delta \text{GDP} = f(\Delta \text{PORT}(-1), \Delta \text{PORT}(-2), \Delta \text{GDP}(-1), \Delta \text{GDP}(-2), \text{Cdummy}) \\
 & \Delta \text{PORT}(-1) = (0.0953)^c \\
 & \Delta \text{PORT}(-2) = (0.3710)^c
 \end{aligned}$$

Note: No data on FDI are available; test results on the stock exchange index are excluded because of poor statistical significance.

in the case of Indonesia. In the case of Malaysia, the causation seems to run from portfolio flows to GDP growth. No results are reported for Thailand owing to limited degrees of freedom.

Third, the tests between equity price changes and portfolio flows are inconclusive in the cases of Singapore, Thailand and the Philippines, as there are no significant results.

As for Indonesia and Malaysia, the results reveal that changes in portfolio flows Granger cause changes in equity prices. The causality runs both ways for Korea.

As anticipated there tends to be bi-directional interaction between the key variables and portfolio flows. At best, it is possible to conclude that there is weak evidence that GDP growth and currency variations affect the decision to undertake portfolio investments in a country.²³

PORTFOLIO AND DIRECT INVESTMENT FLOWS IN EAST ASIA

A potential concern when focusing on just portfolio flows are the possible interactions between portfolio flows and FDI. For instance, the World Bank (1999:54) has noted that:

during a crisis 'direct investors' may contribute...to capital withdrawals by accelerating profit remittances or reducing the liabilities of affiliates towards their mother companies. While these are non-FDI flows, they result from decisions by foreign investors.

This suggests a possible negative relationship between the two types of flows. On the other hand, Dasgupta and Ratha (2000) find FDI to be a statistically significant positive determinant of portfolio flows in developing countries, while Bosworth and Collins (2000) do not find any correlation between these two types of capital flows.

It is important to examine this issue in more detail in the case of the East Asian economies, although data on direct investment are problematic. The available data from CEIC are on a net basis. This becomes of particular concern in the case of Korea and Singapore, which have large levels of overseas investment, and therefore the focus is limited to Indonesia, Malaysia and the Philippines. Also note that the available direct investment data for Indonesia cannot be broken down into local and foreign investment.

Table 4.13 shows there was a relatively strong correlation between these two components of flows in Indonesia during the pre-crisis period but not during the crisis and recovery period. The two components were negligibly correlated in the other two cases both before and after the crisis.

Table 4.14 reports the results of the Granger-causality tests. As in the case of the correlations, the results are mixed at best with no clear evidence of systematic causality. Evidence is found of two-way causality only in the case of Indonesia during the pre-crisis period. The Philippines seems to show no evidence of causality between the two variables in either period. Some weak evidence of causality exists in the cases of Indonesia and Thailand during the second (post-crisis) period. FDI Granger causes portfolio flows in the case of Thailand, with the reverse holding in the case of Indonesia. These ambiguous results are not inconsistent with the inconclusiveness of the literature on the subject, as noted above.

For completeness, as in the case of portfolio flows, Tables 4.12a-f report separate tests for two-way Granger causality between direct investment and the three variables—the nominal exchange rate, equity prices and GDP—for Indonesia, the Philippines and Thailand. Causality in only one direction was found to be significant; namely, movements in direct investment Granger cause currency variations in the cases of

Indonesia and Thailand. As for the relationship between direct investment and GDP growth, only uni-directional causality from direct investment to GDP growth is significant for Indonesia,

Table 4.13 Correlations between quarterly changes in portfolio capital and direct investment, 1986–99 (all variables are in logs)

Country	Pre-crisis ^a	Crisis and recovery ^b
Indonesia	0.6389	0.0069
Thailand	0.2773	-0.3730
Philippines	0.2819	0.4169

Source: CEIC database.

Notes

a For Thailand and the Philippines, this period includes Q1 1990—Q1 1997; for Indonesia the period covers Q1 1986—Q1 1997.

b The crisis period includes Q2 1997—Q4 1999.

Table 4.14a-c Two-way Granger-causality test between portfolio capital flows (Δ PORT) and direct investment flows (Δ DI)

a Indonesia

H_0 : (Q2 1986—Q1 1997)	Obs. ^a (No. of lags ^b)	F-statistic	Probability
Δ DI does not Granger cause Δ PORT	42(2)	3.2901	0.0480
Δ PORT does not Granger cause Δ DI	42(2)	8.3109	0.0010
H_0 : (Q2 1986—Q4 1999)			
Δ DI does not Granger cause Δ PORT	53(2)	0.0434	0.9575
Δ PORT does not Granger cause Δ DI	53(2)	14.255	0.0000

With crisis dummy (Cdummy): Q2 1990—Q4 1999

Case 1 1: Δ DI=f (Δ DI(-1), Δ DI(-2), Δ PORT(-1), Δ PORT(-2), Cdummy)

Δ PORT(-1)=(0.0005)^c; Δ PORT(-2)=(0.0004)^c

Case 2: Δ PORT=f (Δ PORT(-1), Δ PORT(-2), Δ DI(-1), Δ DI(-2), Cdummy)

Δ DI(-1)=(0.6769)^c; Δ DI(-2)=(0.7827)^c

Note: ()^c=Probability of rejecting H_0 (coefficient estimate=0) based on the t statistics.

b The Philippines

H_0 : (Q2 1990—Q1 1997)	Obs. ^a (No. of lags ^b)	F-statistic	Probability
Δ DI does not Granger cause Δ PORT	26(2)	1.3381	0.2838

Δ PORT			
Δ PORT does not Granger cause Δ DI	26(2)	0.4566	0.6396
H_0 : (Q2 1990—Q4 1999)			
Δ DI does not Granger cause Δ PORT	39(2)	0.4765	0.6253
Δ PORT does not Granger cause Δ DI	39(2)	0.6819	0.5129

With crisis dummy (Cdummy): Q2 1990—Q4 1999

Case 1: Δ FDI=f (Δ FDI(-1), Δ FDI(-2), Δ PORT(-1), Δ PORT(-2), Cdummy)

Δ PORT(-1)=(0.3473)^c; Δ PORT(-2)=(0.4358)^c

Case 2: Δ PORT=f (Δ PORT(-1), Δ PORT(-2), Δ FDI(-1), Δ FDI(-2), Cdummy)

Δ FDI(-1)=(0.9037)^c; Δ FDI(-2)=(0.9809)^c

Note: ()^c=Probability of rejecting H_0 (coefficient estimate=0) based on the t-statistics.

c Thailand

H_0 : Q2 1990—Q1 1997	Obs. ^a (No. of lags ^b)	F-statistic	Probability
Δ DI does not Granger cause Δ PORT	26(2)	1.2057	0.3194
Δ PORT does not Granger cause Δ DI	26(2)	0.5948	0.5607
H_0 : Q2 1990—Q4 1999			
Δ DI does not Granger cause Δ PORT	39(2)	5.6599	0.0079
Δ PORT does not Granger cause Δ DI	39(2)	0.8344	0.4434

With crisis dummy (Cdummy): Q2 1990—Q4 1999

Case 1: Δ FDI=f (Δ FDI(-1), Δ FDI(-2), Δ PORT(-1), Δ PORT(-2), Cdummy)

Δ PORT(-1)=(0.0077)^c; Δ PORT(-2)=(0.0143)^c

Case 2: Δ PORT=f (Δ PORT(-1), Δ PORT(-2), Δ FDI(-1), Δ FDI(-2), Cdummy)

Δ FDI(-1)=(0.5004)^c; Δ FDI(-2)=(0.1587)^c

Note: ()^c=Probability of rejecting H_0 (coefficient estimate=0) based on the t-statistics.

with a two-period lag. This result is interesting. Indonesia, as noted, was the only economy to suffer a sharp fall in FDI flows and has been the growth laggard in the region. The causality test suggests that the collapse of direct investment in Indonesia may have contributed significantly to a worsening of the country's growth. As for the nexus between the stock exchange index and direct investment, the two significant cases (Indonesia and Thailand) confirm the role of equity price changes as a pull factor in

attracting foreign direct investment.

CONCLUSION—POLICY IMPLICATIONS

Some policy implications can be gleaned from these findings.

Fernández-Arias (2000:8) notes that ‘recent experience is humbling concerning the limitations of market discipline in the context of external financing of emerging economies’.²⁴ Capital inflow surges in the 1990s, followed by a sudden, sharp and swift bust, which precipitated an outright economic collapse, has focused attention squarely on the destructiveness and contagious nature of liquidity crises.²⁵ In response to this, and in recognition that such crises could be avoided, there have been some concrete steps taken at the regional and international levels to assist emerging economies by ensuring easier access to finance when needed.

At the international level, the IMF has rapidly expanded its crisis prevention role by establishing a new lending facility called the contingent credit line (CCL) in April 1999. The CCL is aimed at those countries that the IMF views as being potential ‘innocent victims’ of contagion effects, but otherwise have ‘sound’ domestic policies. This is in addition to the supplementary reserve Facility (SRF) established in December 1997 to aid emerging markets already experiencing a crisis of confidence. At the regional level, the East Asian economies have attempted to respond to the crisis by expanding ASEAN’s web of bilateral swap and repurchase arrangements initiated in the 1990s to include China, Japan and Korea (the Chiang Mai Initiative).

Concerns have been voiced about the effectiveness of such measures. In particular, while the Chiang Mai Initiative has yet to be fully articulated,²⁶ the IMF has come under criticism from those who believe such lending facilities could engender moral hazard. Others have argued that there appears to be an absence of clear guidelines as to the terms and conditions that would apply to the new CCL facility. A high-profile Independent Task Force on the Future of the International Financial Architecture, sponsored by the US Council on Foreign Relations (1999), recently recommended the abolishment of the CCL and SRF programs and a significant reduction in ‘extraordinary’ IMF lending in order to reduce moral-hazard problems. The task force argued that the operational guidelines for qualification for a CCL are ‘unnecessarily complex’, and that no ‘new money’ has been set aside for the facility. In relation to this, questions have been raised about whether the scale of funding through the CCL is sufficient to be effective.

In view of the limitations of such regional and international initiatives, on the one hand, and the fact that the countries least affected by the crisis did clearly have in place the ‘best fundamentals’ (defined to include appropriate safeguards), on the other, it is crucial that the regional economies give priority to fortifying domestic economic policies to protect themselves against the adverse consequences of sudden boom-and-bust cycles in external finance (Feldstein 1999; Kletzer and Mody 2000; World Bank 2000). For emerging markets in East Asia and elsewhere, such policies should: encourage the growth of equity and bond markets and market instruments in order to diversify the sources of finance; establish strong prudential and supervisory arrangements in the financial sector, particularly with respect to banks; and avoid severe maturity mismatches

and excessive foreign exchange exposure. The challenge for regional policymakers is to facilitate the ongoing recovery in foreign capital inflows while ensuring that the economies' vulnerabilities to sudden reversals in capital flows do not increase in tandem.

APPENDIX: CORRELATIONS OF REGIONAL EXCHANGE RATES AND EQUITY PRICES

Krugman (1999:8–9) has noted that there is no way 'to make sense of the [East Asian] contagion of 1997–98 without supposing the existence of multiple equilibria, with countries vulnerable to self-validating collapses in confidence'. More generally, contagion is an important characteristic of the new breed of currency crises. Indeed, a whole industry devoted to defining, highlighting and testing the various channels through which currency and financial crises may spread contagiously has recently developed.²⁷

The goal here is much more modest. Taking contagion to broadly refer to the co-movement of asset values and capital flows that are not owing to observable fundamentals, a set of correlation tests is undertaken on the weekly percentage changes in regional currencies and in equity market indices in order to determine whether there have been substantive changes in regional relationships before and after the crisis. The data is divided into two broad periods. The first is between January 1990 and May 1997, which was a time of growing financial integration both regionally and internationally because of financial and capital market deregulation and concomitant surges of capital inflows. The second is between June 1997 and May 2000, which broadly covers the financial crisis and recovery, and the move to more flexible exchange rates.

All currency series are integrated of order 1 using monthly data. Conventional correlation tests of the percentage changes in both variables in log forms are undertaken. Appendix Table A4.1 reports the results for the percentage changes in the currencies of the Asian-5 economies plus Singapore.

For the pre-crisis period, the test results indicate both positive and negative correlations, and the coefficients are, on average, relatively small. The significant exception is the relationship between the Singapore dollar and Thai baht, with a correlation coefficient of almost 0.7. To lesser extents, the Malaysian ringgit and Korean won also co-moved with the other two currencies (correlation coefficients of 0.2 to 0.3). The Philippine peso and Indonesian rupiah showed no correlation with any regional currency before the crisis.

In sharp contrast, the monthly fluctuations of the regional currencies became far more correlated during the crisis and recovery periods, providing indicative, albeit crude, evidence of regional contagion. The correlation coefficient of the five economies rose sharply from a pre-crisis average of 0.13 to an average of 0.55. Most revealing is the spike in the correlation coefficients of the rupiah and Philippine peso with the other regional currencies (averaging 0.7 to 0.8). Such increases almost certainly cannot be because of equivalent increases in trade, financial and other fundamentals linking regional economies. This 'excessive' correlation of exchange rates (i.e., that not explained by changes in underlying fundamentals) is suggestive of contagion during the crisis and recovery periods.

Appendix Table A4.2 reports the correlation between regional equity prices, showing that regional equity markets became more interdependent in the second period relative to the first—the correlation coefficient of the five economies rose from an average of 0.45 to an average of 0.58. Most significant was the increase in the average correlation of the Korean market with the rest of Southeast Asia.

Table A4.1 Asian-5 economies plus Singapore: correlation between monthly percentage changes in nominal exchange rates, 1990–2000^a

	<i>Indonesian rupiah</i>	<i>Korea won</i>	<i>Malaysian ringgit</i>	<i>Philippine peso</i>	<i>Singapore dollar</i>	<i>Thai baht</i>
<i>January 1990–May 1997</i>						
Indonesian rupiah	1.000	-0.012	-0.035	-0.178	0.114	0.098
Korean won	-0.012	1.000	0.079	0.001	0.276	0.257
Malaysian ringgit	-0.035	0.079	1.000	-0.002	0.334	0.311
Philippine peso	-0.178	0.001	-0.002	1.000	-0.198	-0.184
Singapore dollar	0.114	0.276	0.334	-0.198	1.000	0.682
Thai baht	0.098	0.257	0.311	-0.184	0.682	1.000
Simple average ^b	-0.003	0.120	0.137	0.073	0.242	0.233
<i>June 1997–May 2000</i>						
Indonesian rupiah	1.000	0.367	0.652	0.429	0.565	0.656
Korean won	0.367	1.000	0.289	0.464	0.315	0.529
Malaysian ringgit	0.652	0.289	1.000	0.601	0.723	0.788
Philippine peso	0.429	0.464	0.601	1.000	0.474	0.800
Singapore dollar	0.565	0.315	0.723	0.474	1.000	0.608
Thai baht	0.656	0.529	0.788	0.800	0.608	1.000
Simple average ^b	0.534	0.393	0.611	0.554	0.537	0.676

Notes

a The nominal exchange rate refers to local currency per US dollar.

b Excludes the correlation of the currency on itself.

Table A4.2 Asian-5 economies plus Singapore: correlation between monthly percentage changes in regional equity prices, 1990–2000

	<i>Singapore</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Philippines</i>	<i>Indonesia</i>	<i>Thailand</i>
<i>January 1990—May 1997</i>						
Singapore	1.000	0.037	0.460	0.451	0.520	0.505
Korea	0.037	1.000	0.234	0.042	0.283	0.145
Malaysia	0.460	0.234	1.000	0.663	0.798	0.659
Philippines	0.451	0.042	0.663	1.000	0.705	0.617
Indonesia	0.520	0.283	0.798	0.705	1.000	0.644
Thailand	0.505	0.145	0.659	0.617	0.644	1.000
Simple average ^a	0.3946	0.1482	0.5628	0.4956	0.59	0.514
<i>June 1997—May 2000</i>						
Singapore	1.000	0.508	0.532	0.595	0.478	0.567
Korea	0.508	1.000	0.380	0.509	0.428	0.693
Malaysia	0.532	0.380	1.000	0.652	0.652	0.555
Philippines	0.595	0.509	0.652	1.000	0.794	0.724
Indonesia	0.478	0.428	0.652	0.794	1.000	0.651
Thailand	0.567	0.693	0.555	0.724	0.651	1.000
Simple average ^a	0.536	0.504	0.554	0.655	0.601	0.638

Note

a Excludes the correlation of the currency on itself.

NOTES

Comments by participants of the ANU conference that led to this book are gratefully acknowledged, as is research assistance by Regan Engelhardt. The analysis in this paper is based on data up to March 2000.

1 Thus, Montiel (1999:41) rightly concludes that ‘The upshot is that the similarities between Mexico and Thailand mattered much more than the differences, and the policy message from the two experiences is the same’. In the case of Mexico, though, there remains some disagreement as to whether the initial devaluation of the peso was self-validating (Sachs et al. 1996) or fundamentals based (Calvo 1996a; and Calvo and Mendoza 1996).

2 Cited in the Asian Development Bank Institute Newsletter (January 2000).

3 Quoted in an Agence France-Presse report, ‘G7 calls for major overhaul of world’s finances’, 8 July 2000.

4 Bikhchandani and Sharma (2000) provide a succinct discussion of various recent models of herding in financial markets.

5 Goldfajn and Valdes (1997) offer a similar mechanism to the Chang-Velasco

framework, but without multiple equilibria. The Goldfajn-Valdes model depicts a bank run as responding to either a rise in international interest rates or a fall in investment productivity, and shows how bank intermediation can generate bank runs, capital outflows and currency crises.

6 Since the depositor is indifferent between consuming in the short and long runs, the bank will maintain only the required amount of reserves, b , the rest being invested in the high-yielding asset. This could be seen as implying that no excess reserves are being held.

7 The other source of comparable cross-country balance of payments data, for a selected number of emerging markets, is the International Institute of Finance (IIF). This data is drawn on below.

8 The aggregate data must, however, be interpreted with some caution. Disaggregated savings data reveal that household savings in Thailand collapsed during the boom period (Thanompongphan et al. 1999).

9 In contrast, foreign direct investment has been the most resilient form of external financing (Bird and Rajan 2001; World Bank 1999). As such, economies most prone to currency crashes tend to have a relatively smaller share of FDI in total capital inflows and a relatively higher share of short-term external debt (Frankel and Rose 1996; World Bank 1999). Short-term indebtedness has been found to be a robust predictor of financial crises (Rodrik and Velasco 1999; World Bank 2000).

10 For detailed accounts of the East Asian crisis, see: IMF (1997, 1998a); Berg (1999), Corsetti et al. (1999); Radelet and Sachs (1999a, b); Rajan (1999); and World Bank (1998).

11 Of course, these *ex-post* swings in bank flows are only necessary and not sufficient evidence in support of a bank panic model. Accordingly, at least in the case of Thailand, Rajan (2001) provides data on foreign asset and liability positions in order to determine Thailand's *ex-ante* vulnerability to an external shock (such as a devaluation), and then discusses capital outflows following the shock. Since the scenario of a devaluation followed by a collapse is closely intertwined with the important issue of the illiquidity versus the insolvency of domestic financial institutions, this issue is also examined, as are the consequences of the systemic liquidity crisis that occurs after the devaluation. The evidence presented strongly supports a bank panic view. Such a systematic exploration of the data remains to be done for the other crisis-hit economies.

12 Latin America also shared this experience of stable FDI flows during a boom-and-bust period (Fernandez-Arias 2000).

13 The other significant negative shock during this period was the collapse of one of China's largest investment and trust corporations (ITCs), the Guangdong International Trust and Investment Corporation ITIC (GITIC) in October 1998.

14 Korea is the one exception: the share of short-term external debt rose marginally between 1998 and 1999. This was, however, owed more to long-term claims becoming short-term than to an increase in short-term borrowing per se. Total external debt fell from 47 per cent in 1998 to 33 per cent in 1999 (IMF 2000).

15 General flatness in US equity markets (the Nasdaq in particular) as well as concerns about 'too rapid' a rise in regional equity markets in late 1999 and early 2000 are

among the factors that may have contained their growth in 2000–01.

- 16 Of course, the more interesting question here is the direction of causality—did the recoveries in capital flows lead to more stable currencies and a rebound in output growth or vice versa? This issue is explored below.
- 17 Dasgupta and Ratha (2000) do undertake a regression analysis of both portfolio and FDI flows. However, in the absence of a theoretical framework, their results, while interesting, are open to criticism of mis-specification.
- 18 In addition, the relationship between direct investment (especially foreign direct investment) and portfolio investment is also examined, for reasons noted below.
- 19 There exist more ‘structural approaches’ to examine the interdependence of different variables than the conventional Granger-causality test, such as the GARCH or ARCH models (Edwards and Susmel 2000; Hamao et al. 1990) and cointegration tests between various variables based on a fully specified theoretical model (Dickinson 2000).
- 20 The ADF (Augmented Dickey and Fuller) unit-root tests are not reported in the paper. However, test results can be obtained upon request from the authors.
- 21 Most of the unreported results have very low F-statistics (even rejected at the 10 per cent significance level). These results are available from the authors on request.
- 22 By construction, the Granger-causality test is a tool to evaluate how movements in one variable are explained by the variable itself and other explanatory variable(s). Hence, the focus is on the changes in capital flows and not the flows themselves.
- 23 While not reported here, tests show that, during the crisis, equity prices Granger cause currency variations in all the countries except Indonesia. This is consistent with Nagayasu (2000) who reports similar findings for the Philippines and Thailand.
- 24 See Willett (2000) for a detailed discussion of how and why financial markets tend to react ‘too late’ and when they do, tend to ‘over-react’.
- 25 To illustrate the ferocity of the crisis, by the end of 1999, only Korea had surpassed its 1996–97 real per capita GDP (ADB 2000).
- 26 As with a number of such initiatives, the ‘devil lies in the detail’. While the details of the Chiang Mai Initiative remain unknown, this has not stopped some from proposing that the scheme be extended to a full-fledged regional ‘organisation’ or ‘fund’ to support regional monetary and financial cooperation and stabilisation (for instance, see Hiramatsu 2000 and the Executive Summary Series No. S19/00, Asian Development Bank Institute). Of course, these proposals emanate from the earlier Japanese Asian monetary fund proposal, which was itself never fully articulated (Bird and Rajan 2000; and Chang and Rajan 2001).
- 27 See Dornbusch et al. (2000) and Chang and Rajan (2001) for overviews of the recent contagion literature. The World Bank has assembled a comprehensive collection of recent papers on contagion on its Web site: <<http://www1.worldbank.org/economicpolicy/managing%20volatility/contagion/index.html>>.

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5

Bank and corporate restructuring in crisis-affected East Asia: from systemic collapse to reconstruction

Masahiro Kawai

INTRODUCTION

The financial crisis in East Asia has had a far-reaching impact on the financial and corporate sectors of the affected countries. It has caused systemic insolvency problems for commercial banks and non-bank financial institutions as well as for highly indebted corporations. The crisis has also provided an opportunity for countries to improve prudence and efficiency in financial intermediation and enhance corporate governance to enable better resource allocation and allow the private sector to lead economic development. Among policymakers, international financial institutions, private organisations and academics, views are converging that the crisis was the result of interactions between massive capital flows and weak domestic institutions, notably in the financial and corporate sectors. As a result discussions are proceeding on how domestic financial and corporate systems can be improved to maximise the benefits of, and reduce the risks posed by, global economic and financial integration.

This chapter furthers the discussion by examining the financial and corporate sector issues that were at the heart of the crisis. It revisits the fundamental weaknesses in financial and corporate sectors that existed before the crisis, reviews the economic consequences of these weaknesses and outlines the progress in financial and corporate sector restructuring. The reforms to strengthen these sectors are core components of the domestic institutional changes that are needed if East Asia is to enjoy sustainable economic growth in the years to come.

STRUCTURAL WEAKNESSES OF THE BANKING AND CORPORATE SECTORS

The pre-crisis period

Three factors heightened the vulnerability of the banking and corporate sectors in East Asia before the crisis: first, domestic macroeconomic environments that allowed large inflows of short-term, unhedged capital to fuel a credit boom; second, newly liberalised but insufficiently regulated financial markets; and third, highly leveraged corporations with large domestic and external debt. In essence, the push that came from global capital

markets, often without due diligence and beyond prudence, interacted with poorly regulated domestic financial systems to fuel a domestic credit expansion. This combination led domestic corporations to borrow funds directly from international lenders or indirectly from domestic financial institutions that had access to external financing and to overinvest in non-tradables sectors (which manifested as property price bubbles, especially in Thailand) and in inefficient manufacturing sectors. Weakly regulated financial systems and highly leveraged corporations exposed many East Asian countries to the shocks of changing investor expectations.¹

Patterns of indebtedness varied across countries (Table 5.1). In Thailand finance companies and commercial banks—availing themselves of foreign-currency-denominated loans at low interest rates—borrowed heavily from abroad to invest in projects with low rates of return, such as construction and real estate. The net foreign liabilities of financial institutions rose from 6 per cent of domestic deposit liabilities in 1990 to one-third by 1996 (World Bank 1999). In Indonesia corporations were the primary borrowers from foreign sources, mostly offshore. Korean banks also increased their exposure to foreign borrowing, while Korean corporations borrowed heavily from domestic sources. Countries with relatively low external debt (in particular short-term debt relative to foreign exchange reserves), such as Malaysia and the Philippines, were not affected significantly, at least in the initial phase of the East Asian crisis.

Three factors accentuated the crisis-affected countries' incentives for borrowing abroad. First, explicit or implicit government guarantees of financial institutions' liabilities motivated excessive risk taking, which was passed on to the rest of the domestic economy. Second, de facto fixed exchange rate arrangements provided a perception that foreign-currency-denominated loans posed no risks for domestic borrowers or foreign lenders. Third, high domestic financing costs and market segmentation created further incentives to borrow abroad. The domestic cost of funds appeared significantly higher than the costs of borrowing offshore, even after taking into account exchange rate risks. Access to foreign markets was only available to the largest and most creditworthy borrowers, giving these firms and banks significant competitive advantage.²

The capital inflows also fed into a system of corporate finance that heightened risks from either abrupt changes in interest rates or the exchange rate. The corporate sector had grown rapidly over the previous decades, in a context of underdeveloped bond markets and over-reliance on bank financing. Despite the fact that productivity in the manufacturing sector in many East Asian countries had already started to decline in the pre-crisis period, corporate debt-to-equity ratios had climbed.³ At the same time, interest burdens became high. This would present an excruciating dilemma for macroeconomic

Table 5.1 Initial conditions in East Asia, 1997

<i>Indicators</i>	<i>Indonesia</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Philippines</i>	<i>Thailand</i>
External debt	US\$137.0 bn	US\$154.4 bn	US\$43.9 bn	US\$46.5 bn	US\$102.0 bn
-public	US\$54.0 bn	US\$15.0 bn	US\$16.8 bn	US\$27.8 bn	US\$31.5 bn
-private	US\$83.0 bn	US\$139.4 bn	US\$27.1 bn	US\$18.5 bn	US\$70.5 bn

Short-term foreign currency loans/	232%	325%	81%	188%	162%
FXR ^a					
Loans/GDP	60.0%	87.3%	152.0%	65.0%	150.0%
Foreign liabilities of banks/total liab.	15.0%	55.2%	7.4%	31.5%	27.4%
Capital adequacy ratio	8% target, 87% of banks	8% target, 7.25% actual	8% target, 11.4% actual	10% target, 16.0% actual	8.5% target, 9.8% actual
NPL ^b /total loans (end-97)	7.2%	5.9%	5.9%	4.7%	22.6%
Corporate debt (98)	US\$118.0 bn	US\$444.0 bn	US\$120.2 bn	US\$47.5 bn	US\$195.7 bn
-external	US\$67.1 bn	US\$64.0 bn	US\$40.0 bn	US\$23.3 bn	US\$32.5 bn
-domestic	US\$50.9 bn	US\$380.0 bn	US\$80.2 bn	US\$24.2 bn	US\$163.2 bn
Debt/equity (96)	200%	350%	110%	140%	240%
Major financial Institutions (early 97)	238 banks (including 10 foreign banks)	26 commer cial banks, 30 merchant banks	48 banks (including 13 foreign banks), 39 finance companies	53 commer cial banks and 117 thrift banks	29 banks (including 14 foreign banks) and 91 finance companies
Deposit insurance (guarantee)	None (explicitly unlimited, Jan. 98)	Yes (explicitly un limited, un conditional, Nov. 97)	None (uncon ditional, unlimited, Jan. 98)	Yes	None (explicitly unlimited, Aug. 97)
Bankruptcy law	Outdated, 1908	Modern	Modern	Outdated	Outdated, 1940

Sources: Asian Development Bank, Asia Recovery Report (March 2000); World Bank (2000); Kawai (2000a, b).

Notes

a FXR refers to foreign exchange reserves.

b NPL refers to non-performing loans.

policymakers when the crisis eventually came. Policymakers attempted to use a high interest rate policy to support the exchange rate, at the cost of imperilling their highly leveraged corporate sectors and adding distress to already weak domestic financial institutions.⁴

To summarise, against the background of global financial market integration, large capital inflows fed into an institutional setting of poor regulation, limited transparency

and imprudent lending, often with negligible due diligence from foreign lenders. Government guarantees of bank liabilities, coupled with a promise of fixed exchange rates, encouraged a domestic credit boom that macroeconomic policy failed to manage. East Asian countries took risks that left them exposed to shocks in several ways:

- Widening current account deficits, financed by short-term, unhedged capital inflows, exposed the economies to sudden reversals in capital flows.
- Weaknesses in under-regulated financial sectors had allowed expansion of lending into risky investments with low rates of return and inflated values, and often with currency and maturity mismatches. This in turn exposed banks, non-bank financial institutions and corporations to exchange rate risks.
- Corporations, often having insider relationships with banks and only weak incentives to use capital efficiently, became even more highly leveraged when presented with additional funding options from abroad. This exposed them to both interest rate and exchange rate shocks.

Evolution into systemic crisis

The financial crisis in East Asia was initially believed to be benign and unlikely to carry significant consequences for the real economy. However, its adverse effect on real economic activity proved much deeper than was initially anticipated. Indeed the financial crisis evolved into a full-blown crisis with systemic proportions within a matter of months. Indonesia, Korea, Malaysia and Thailand were the most severely hit.

All these countries began to contract soon after the onset of the crisis, and all registered sharply negative GDP growth rates in 1998. Surprisingly, the pace of GDP contraction was faster than anticipated by the market, which continued to underestimate the severity of the projected contraction for 1998 over the eighteen months following the devaluation of the Thai baht.

The major reason these East Asian economies underwent such a rapid economic contraction is that financial and corporate sectors were virtually paralysed by the steep exchange rate depreciation and subsequent interest rate hikes and by shrinking domestic demand. In response to exchange rate depreciation, all governments in the crisis-affected countries raised domestic interest rates in an attempt to prevent further depreciation. The combination of steep currency depreciations and interest rate rises adversely affected the balance sheets of domestic firms. Depreciation suddenly inflated the local-currency value of external debts held by banks and highly indebted corporations, and increased their debt-servicing obligations. High domestic interest rates also raised the cost to corporations of servicing domestic debt, mainly in the form of loans from commercial banks and non-bank financial institutions.

It was clear that the potential demand-stimulating effects of the large currency depreciations, working through changes in the relative price of tradables, were completely swamped by the negative balance sheet effects, at least until the autumn of 1998. The economies were also particularly vulnerable to interest rate hikes because corporations were highly leveraged and because commercial banks were extensively exposed to the property sector through lending against the collateral of real estate, the value of which was highly sensitive to interest rates.

A large number of highly leveraged corporations found themselves unable to make debt-service payments to creditors, domestic or foreign, thus turning their loans into non-performing status. This aggravated the already deteriorating portfolios of commercial banks, making it difficult for them to continue providing new loans to those borrowers with overdue debt. In addition the contraction of aggregate demand—largely brought about by steep currency depreciation (debt deflation) and austere macroeconomic policy—began to suppress corporate cash flows and profits. Corporate difficulties only added to the further deterioration of the banking sector. The systemic crisis in the financial sector induced a flight of deposits to quality institutions; many financial institutions began to shift their assets to safer government bonds and central bank certificates instead of extending new loans to the corporate sector. The lack of bank credit further aggravated the corporate sector's difficulties. Banking sector distress, corporate sector difficulties and macroeconomic deterioration mutually reinforced the rapid economic contraction.⁵

Another reason for the unexpectedly rapid contraction of the crisis-affected economies is the large multiplier effects from falling demand. Because of the degree of regional economic integration through trade and investment, one country's economic contraction and import decline meant another's export decline, spreading negative shocks across the region. Regional economic linkages reinforced mutual contraction and magnified the severity and depth of economic crisis in these countries beyond expectations.

In response to the economic contraction, all the crisis-affected East Asian countries reversed their previously conservative fiscal policy and began to increase public spending by mid-1998. Policymakers began to allow interest rates to fall, as stability in foreign exchange and stock markets was restored. Nonetheless, corporate insolvency had become so widespread, and commercial non-performing loans so large, that these countries continued to contract despite the reversal of macroeconomic policy. Frameworks for resolving problem banks, for recapitalising weak but viable banks and for restructuring corporate debt were introduced, and substantial progress has been made in all of these areas—although with varying pace and degrees across countries. A functioning financial system, however, has not been fully restored particularly in Indonesia and Thailand, and the progress on corporate debt and operational restructuring has been slow.

Fundamental structural weaknesses

The list of fundamental structural deficiencies in East Asia's financial and corporate sectors is long. It includes a lack of prudent risk management on the part of commercial banks, ineffective banking regulation and supervision, poor accounting, auditing and disclosure practices, and weak governance of corporations. The close relationship between corporations and banks, coupled with their influence over governments and legislatures, undermined even the weak prudential safeguards that did exist. Ineffective legal and court systems contributed to inadequate protection of minority shareholders.

It was known well before the crisis that East Asian banking systems relied on tacit government approval of large loans (to sectors, if not to individual firms), and it was understood that the major banks would not be allowed to fail. Under these circumstances, credit analysis and risk management were largely redundant and, considering the

functioning of courts, even documenting loans and liens was pointless. These weaknesses reinforced each other. The motivation to upgrade bank supervision was undermined by the powerful political connections of the major banks. The enforcement of single borrower or connected lending limits and consolidated bank supervision was also problematic because of the web of enterprises, banks and non-bank financial institutions controlled by the conglomerates.

Lacking effective legal protection, non-controlling shareholders were routinely exploited. Outsiders therefore preferred to fund firms through debt (with a specified stream of payments) rather than through equity (which requires closer monitoring of firms). This tendency toward high corporate leverage was compounded by the controlling owners' reluctance to cede control or disclose much about the firm. The inadequacy of courts in enforcing creditor contracts contributed to a shortening of loan maturities, with each lender believing it would be possible to refuse to rollover the loan if problems arose.

Such East Asian countries as Indonesia, the Philippines and Thailand rank very low on measures of judicial efficacy and relatively high on concentration of ownership control. The subservience of banks within larger conglomerates is most prevalent in Indonesia, the Philippines and Malaysia. In Korea legislation prohibits *chaebols* (conglomerates) from having a controlling ownership in banks, but the largest Korean *chaebols* have instead influenced bank lending through the government and have obtained much of their credit through their control of non-bank financial institutions. Although Thailand's major private banks are not part of broader conglomerates and are therefore not subservient to non-financial enterprises, they are, as in other countries, politically well connected.

Economic recovery in 1999–2000

The worst period of output contraction ended during the first or second quarter of 1999 for the economies hit by the crisis. Economic recovery was much stronger than expected. After a sharp recession (with GDP averaging -7.8 per cent in 1998) the crisis-affected countries grew by 5 per cent in 1999 and 6 per cent in 2000. The pace of recovery, however, has been uneven. The economic consolidation and recovery began in Korea, which recorded the most dramatic improvements in output, exports and employment, registering economic growth of 11 per cent in 1999 and 9 per cent in 2000. Even Indonesia, despite its political turmoil, has shown signs of an incipient economic rebound at 0.8 per cent in 1999 and 4.8 per cent in 2000. As a result of the recovery, real GDP has exceeded the pre-crisis levels in Korea, Malaysia and Thailand, while it may take a few more years for Indonesia to attain its pre-crisis level.⁶

The crisis-affected countries began to turn around for essentially three reasons. First, initial economic adjustment and countercyclical macroeconomic policy allowed confidence to be restored, leading to financial stabilisation (in the foreign exchange, money and capital markets). Second, efforts in each country toward financial and corporate restructuring, together with various measures of structural reform, helped boost consumer and investor confidence in the economy. Third, strong growth in the United States and Europe bolstered external demand in East Asia, thus supporting a mutually reinforcing recovery because of the deepening trade linkages within the region. Export growth was strong, particularly in manufacturing sectors such as electronics and

information technology (IT) products. The export expansion and the favourable current account balance, together with a threefold increase in portfolio and foreign direct investment inflows, were sufficient to offset continuing outflows of capital from the banking sector.

Despite economic recovery and its favourable effects on the banking and corporate sectors, the crisis-affected countries continue to carry large non-performing loans and corporate debt. In this sense the recovery is still vulnerable to external and domestic shocks, because such shocks could erode bank and corporate profits and derail the restructuring process.

FINANCIAL SECTOR RESTRUCTURING

Frameworks were created to resolve systemic crises in the financial and corporate sectors (Table 5.2) and there has been some progress, albeit at a substantial fiscal cost, in initiating and sustaining the restructuring of these sectors.

Despite some similarities in basic frameworks, actual approaches to restructuring have varied across countries, reflecting differences in initial conditions, the structure of the corporate system and the institutional capacities of central banks and other authorities. Korea and Malaysia adopted decisive policies to recapitalise banks and to guide corporate restructuring, while Thailand and Indonesia initially pursued a market-based approach. After experiencing inadequate results, the latter two countries shifted to more aggressive policies to facilitate corporate restructuring. Malaysia's framework has been one of the most coherent for addressing financial and corporate restructuring.

An advantage for a government-led approach is that it can deliver quick results in reducing non-performing loans in the banking sector, recapitalising

Table 5.2 Institutional frameworks for financial and corporate sector restructuring

	<i>Major support institution</i>	<i>Agency for bank recapitalisation</i>	<i>Official asset-management corporation (AMC)</i>	<i>Agency for voluntary corporate restructuring</i>
Indonesia	Indonesian Bank Restructuring Agency (IBRA)	Direct from Bank Indonesia (BI) or via IBRA	IBRA	Jakarta Initiative Task Force (JITF) ^a
Korea	Financial Supervisory Service (FSS)	Korea Deposit Insurance Corporation (KDIC)	Korea Asset Management Corporation (KAMCO)	Corporate Restructuring Coordination Committee (CRCC)

Malaysia	Bank Negara Malaysia (BNM)	Danamodal	Danaharta	Corporate Debt Restructuring Committee (CDRC)
Thailand ^b	Bank of Thailand (BOT)	Financial Restruct uring Advisory Committee (funded by FIDF, BOT)	FRA to take assets of closed finance companies unsold assets to AMC and good assets to RAB	Corporate Debt Restructuring Advisory Committee (CDRAC)

Sources: Asian Development Bank, Asia Recovery Report (March 2000); World Bank (1999:85).

Notes

a Based on the Frankfurt Agreement for debts to foreign commercial banks, the Indonesian Debt Restructuring Authority (INDRA) was created to guarantee access to foreign exchange, but was closed owing to its ineffectiveness.

b FIDF refers to the Financial Institutions Development Fund; FRA refers to the Financial Sector Restructuring Authority, and RAB refers to Radanasin Bank.

viable institutions and effectively inducing restructuring through financial support, framework setting, and tax and regulatory changes. The greater the coordination failure in the markets and the larger the scale of the problem, the more a government-led approach makes sense. At the same time, however, the approach entails risks. It places a substantial burden on taxpayers and may effectively bail out negligent creditors and debtors, thereby inviting a recurrence of reckless behaviour.

In contrast, a market-based approach has several advantages. First, by relying on private rather than public resources to facilitate restructuring, it helps contain fiscal costs and mitigate problems of moral hazard. Second, it generally works better in recovering non-performing loans than a bureaucratically administered system under a public asset-management corporation (AMC). Finally, it provides better incentives for restructuring, leading to efficiency in the banking and corporate systems, and greater safety.

Facing a severe crisis with systemic proportions, it is perhaps less costly, in terms of fiscal resources and lost output, and more effective to have a government-led approach with safeguards against future moral hazard. As long as structural reform in the financial and corporate sectors takes place in the medium term, government intervention can help the private sector take a lead in developing these sectors.

By early 1998 large segments of the financial and corporate sectors in Indonesia, Korea, Malaysia and Thailand were severely distressed or insolvent. Equity and currency markets had collapsed, private credit lines had been cut and output had declined sharply. The political dimensions of the subsequent restructuring—involving conflicts over the

recognition and allocation of losses among shareholders, creditors, managers, workers and taxpayers—added to the complexity of the resolution effort.

Table 5.3 shows that significant progress has been made to address the systemic crisis in the financial sector. Governments initially injected liquidity into the banking sector to avert runs on individual banks, and subsequently guaranteed all deposits and often other financial liabilities as well. Having guaranteed bank deposits early in the crisis, governments took responsibility for bank losses. Many non-viable and insolvent financial institutions were closed, merged with healthier ones or temporarily nationalised; the bad loans of closed or weak (but viable) financial institutions have been transferred to public (and, more recently in Thailand, private) asset-management corporations; and many weak but viable institutions received capital injections from public funds.⁷

Governments have followed two main approaches to recapitalising banks and resolving non-performing loans. In Korea, Malaysia and Indonesia, the strategy has been to inject public funds into undercapitalised banks and transfer some non-performing loans to centralised, publicly owned asset-management corporations, which were charged with asset recovery and restructuring the financial liabilities of highly indebted corporations. These corporations have acquired substantial amounts of non-performing loans from troubled institutions: 75 per cent of Indonesia's non-performing loans, 55 per cent of Korean loans and 43 per cent of Malaysia's loans.

Thailand by contrast tied the provision of public funds to more stringent conditions on bank owners and initially did not create one centralised institution to dispose of the non-performing loans of private banks, leaving the banks to create majority-owned asset-management corporations

Table 5.3 Financial sector restructuring in crisis-affected countries

	<i>Indonesia</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Thailand</i>	
<i>Initial government response</i>					
Liquidity support	US\$21.7 bn (18% of GDP)		US\$23.3 bn (5% of GDP)	US\$9.2 bn (13% of GDP)	US\$24.1 bn (20% of GDP)
<i>Non-performing loans</i>					
NPL/total loans	23.9% (11/00)		12.3% (9/00)	15.3% (6/00)	17.7% (12/00)
NPL/total loans including transfers to AMCs	58.8% (11/00)		17.9% (9/00)	23.2% (6/00)	26.5% (12/00)
<i>Financial distress resolutions</i>					

Bank closures	70 of 237 banks.	None.	None.	1 of 15 banks.
Closures of other financial institutions	None.	More than 200.	None.	59 of 91 finance companies.
Mergers	9 nationalised banks and 4 state-owned banks have been merged.	9 of 26 banks absorbed by other banks	50 of 54 financial institutions merged into 10 groups by end-2000.	3 banks and 12 finance companies,
Banks temporarily nationalised	4 banks.	4 banks.	1 bank.	4 banks.

Bank recapitalisation strategies

Scheme for public fund recapitalisation	Recapitalisation to 4% CAR (80% with public funds, 20% with existing owners).	KDIC's capital injection in the form of government-guaranteed bonds.	Danamodal's purchase of equity with capital.	Public fund recapitalisation to 2.5% tier-1 capital.
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Amount of public funds used for recapitalisation	A total of US\$71.4 bn recapitalisation bonds were issued to 4 nationalised state-owned banks, 7 private banks and 27 regional banks.	Government injected US\$50 bn into 9 commercial banks now 90% controlled banks plus NBFIs; ^b 3 major by state. Additional US\$36 bn being made available for banks and NBIs.	Danamodal injected \$1.3 bn into 10 institutions.	Government injected about US\$1.7bn into US\$12 bn into public private banks and about US\$7.8 bn of private funds injected as Tier-1 capital.
Majority foreign ownership of banks	1 pending.	1 bank sold with majority stake; 6 other major banks now significantly owned by foreign stakeholders.	13 wholly owned foreign banks hold 30% of total commercial bank assets. Foreign banks' branch expansion is limited.	4 completed, 2 pending (including BMB). ^c

Weak financial institutions still in system	Many weak commercial banks	Many weak non-bank financial institutions.	Difficult to assess.	Some weak public and private commercial banks.
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Sources: World Bank staff. banks.

Notes

a Includes non-banks,

b NBFIs refers to non-bank financial institutions,

c BMB refers to Bangkok Metropolitan Bank.

themselves. However, it did establish centralised agencies to resolve the bad assets of finance companies—the Financial Sector Restructuring Authority (FRA) as an asset disposal agency and the Asset Management Corporation (AMC) as the bidder of last resort. The FRA acquired assets totalling 920 billion baht (US\$25 billion) from fifty-six closed finance companies. Of these, it sold 600 billion baht (US\$16 billion) worth of core assets to the markets at an average of 25 per cent of face value, and 197 billion baht (US\$5 billion) of assets to the AMC at an average of 17 per cent of face value. The Chuan government decided not to set up a public corporation for the assets of private banks because it wanted these banks to recapitalise themselves and devise their own strategies for asset disposal. But it created a public asset-management corporation, owned by the Financial Institutions Development Fund (FIDF), to take the non-performing loans off the balance sheet of the state bank, Krung Thai Bank. More recently the new Taksin government decided to set up a public asset-management corporation to clean up the balance sheets of private banks.

In all countries non-performing loans have declined over the past two years, except in the Philippines where there has been a rise since early 2000

Table 5.4 Non-performing loans of crisis-affected countries (per cent of total loans)

	1997		1998			1999			2000		
	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	
Indonesia ^a	7.2	48.6	58.7	39.0	38.9	32.9	32.1	30.0	26.9	18.8	
incl. IBRA	n.a.	n. a.	n.a.	n.a.	n.a.	64.0	62.4	63.5	61.7	57.1	
Korea ^b	5.9	10.4	11.4	11.3	10.1	10.9	10.9	13.6	12.3	n.a.	
incl. KAMCO	8.0	16.1	17.0	16.4	15.9	15.8	17.9	18.9	17.9	n.a.	
Malaysia ^c	5.9	18.9	18.2	18.1	17.8	16.8	16.7	16.2	16.1	15.3	
incl. Danaharta	5.9	22.6	22.7	23.4	23.6	23.6	23.3	23.2	n.a	n.a.	
Philippines ^d	4.7	10.4	13.2	13.1	13.4	12.5	14.4	14.6	15.3	15.1	
Thailand ^e	22.6	45.0	47.0	47.4	44.7	38.9	37.2	32.0	22.6	17.7	
incl. AMCs	n.a.	45.0	47.0	47.4	44.7	41.5	39.8	34.8	30.6	26.5	

Source: World Bank staff.

Notes

a Figures are for commercial banks and use the 'stringent' definition of an NPL (i.e., including 'special mention'). The second line includes NPLs transferred to the IBRA.

b Figures are for all financial institutions and the second line includes NPLs transferred to KAMCO.

c Figures are for commercial banks, finance companies and merchant banks. The second line includes NPLs transferred to Danaharta. Malaysian authorities calculate NPLs on the basis of NPLs minus interest in suspense and specific provisions and report NPL ratios of 10.4 per cent, rather than 16.1 per cent, excluding Danaharta in September 2000.

d Figures are for commercial banks.

e Figures are for commercial banks and finance companies. The second line includes the estimated amount of NPLs transferred to wholly owned private AMCs.

(Table 5.4). Non-performing loans in the banking sector have declined the most, but are still far bigger than the current loan-loss provisions. In all countries except Indonesia, the resolution of non-performing loans and injection of capital, both public and private, have restored capital adequacy to levels that are on average above the minimum standard of the Bank for International Settlements (BIS). However, some individual banks have yet to achieve the 8 per cent threshold, and profitability is low or even negative, thus eroding their capital base over time. In many others, portfolios remain vulnerable and need to be covered by loan-loss provisions or a strengthened capital base. How much capital will be needed depends on the underlying weaknesses in loan portfolios, the pace and sustainability of economic recovery, and the profitability of banks.

Another round of financial sector consolidation is underway. In Korea and Thailand, temporarily nationalised banks have begun to be reprivatised. In addition, the banking sectors in these countries have been opened to foreign institutions to attract strategic investors and technical expertise, and to promote competition in domestic banking. The Korean government announced that additional resources (an estimated 40 trillion won) would be needed to complete the second round of financial sector restructuring. Further consolidation of financial institutions, including mergers of nationalised banks, is expected. In Malaysia fifty-eight financial institutions were merged into ten groups by the end of 2000. In Indonesia, where the banking system is not yet functioning properly and there are still too many commercial banks in operation, continued restructuring and consolidation of commercial banks is needed.

Country progress

Korea

The Korean banking system was rescued from defaulting to foreign creditors in late 1997 with the government (partially) guaranteeing the foreign debts of the banks on the condition that the banks' foreign liabilities would be restructured in early 1998. Having guaranteed the banks' foreign liabilities and deposits, the government assumed a central

role in the subsequent recapitalisation. The election of a new president un beholden to the corporate and banking establishment permitted the newly created Financial Supervisory Commission to force the pace of change and strengthened the credibility of the government's initial responses to the crisis. In the first round of financial sector restructuring, the government committed 64 trillion won (US\$53 billion) in April 1998 to recapitalise financial institutions, pay deposit and credit claims of bankrupt institutions, and reduce the level of non-performing loans including by transferring them to the asset-management corporation (KAMCO). When most of this fund had been exhausted by the end of 1999, the government's commitments for financial sector restructuring had reached 74 trillion won. In early December 2000, an additional 40 trillion won (US\$33 billion) of public resources was approved to complete the second round of financial sector restructuring. In total, including recycled assets, the government will have spent about 150 trillion won (US\$124 billion) by the end of the second round of financial restructuring.

Significant progress has been made to restructure the financial system. First, the number of financial institutions has been reduced drastically: the number of commercial banks fell from twenty-six at the end of 1997 to seventeen at the end of 2000, and the number of merchant banks from thirty to four during the same period. Second, the level of non-performing loans in the system has remained stable during 2000 despite the introduction of more stringent loan classifications (the forward-looking criteria) in December 1999. Third, banks and other financial institutions are better capitalised: the average BIS capital adequacy ratio for the eight major commercial banks was 10.3 per cent at the end of 2000. Banks needed to raise additional capital because of the shift to forward-looking criteria, the losses incurred from the de facto bankruptcy of the Daewoo group and decline in the bond market (see below), and the pressures from ongoing corporate restructuring. Fourth, foreign investment in the financial sector has increased significantly. As a result commercial banks are now evolving into two distinctive groups—one with a fair degree of foreign ownership, better financial results and higher capital adequacy ratios; and a group of weaker, mainly government-owned banks that are more reliant on government resources.

Responding to the management difficulties of Daewoo and Hyundai, Korea's largest *chaebols*, has proved difficult for maintaining the health of the financial system, partly owing to their ready access to finance from their affiliated investment trust companies (ITCs). The ITC industry almost tripled in size between the end of 1997 and mid-1999, almost equalling the size of total commercial bank deposits. The de facto collapse of Daewoo—the second largest *chaebol* with liabilities of about US\$75 billion—in August 1999, prompted investors to withdraw funds from the ITCs, which in turn sold their bond holdings to finance the withdrawals, depressing bond prices. At the behest of the government, the banks contributed some 20 trillion won to support bond prices, but this support remained susceptible to rising interest rates and ITC prospects. The Financial Supervisory Service, the regulatory watchdog, has asked Korea Development Bank, a state-owned bank, to purchase commercial paper and corporate bonds of financially distressed companies such as Hyundai Electronics, Hyundai Engineering and Construction Company, and Ssangyong Cement Company, in order to provide liquidity support and help these companies avoid a credit crunch.

The second round of financial sector restructuring and consolidation is now underway in Korea, with an estimated 40 trillion won dedicated for further consolidation of private financial institutions and to assist with sales or mergers of nationalised banks.

Malaysia

Of the four most affected countries, Malaysia was best positioned to confront the crisis owing to its relatively low foreign debt and corporate leverage at the outset, the latter reflecting the deeper development of the domestic capital market.

The government advocated mergers rather than the closure of any financial institution or sale to foreign institutions, and tightly orchestrated Malaysia's financial sector restructuring program. Initially, 16 billion ringgit (US\$42 billion) was allocated for bank recapitalisation and by mid-1999 Danamodal, the institution created by the central bank to recapitalise banks, had completed its injection of 6.4 billion ringgit into ten financial institutions. By that time several of these institutions had begun to repay the capital, and as a result estimates of required capital outlays by Danamodal were revised down. By the second half of 1999, the national asset-management corporation, Danaharta, had completed two asset carve-outs, acquiring 47 billion ringgit worth of non-performing loans from financial institutions as of mid-2000 (37 billion ringgit removed from the banking system and 10 billion ringgit from non-banking and offshore institutions). Danaharta had succeeded in resolving loans worth 32 billion ringgit as of June 2000. The Corporate Debt Restructuring Committee (CDRC) had received indications of interest in corporate restructuring from seventy-five companies with a total debt of 46 billion ringgit as of the end of July 2000.

In view of the need to help establish a core group of competitive local institutions ahead of Malaysia's accession to the WTO's General Agreement on Trade in Services (GATS) in 2003, the government in July 1998 announced a plan to consolidate fifty-eight institutions in the financial sector (twenty-one banks, twenty-five finance companies and twelve merchant banks) and issued a directive in mid-1999 to force these institutions to merge into six financial groups by April 2000. This raised a number of concerns within the forcibly merged institutions and ultimately about the impact on resource allocation. As a result the government withdrew the directive and granted approval in February 2000 for the formation by December 2000 of ten banking groups to be led by anchor banks. Although the consolidation of the banking sector has been virtually completed, operational and management restructuring of banks has to be achieved to enhance banking sector competitiveness and efficiency.

In March 2001 Bank Negara Malaysia announced its Financial Master Plan to improve the competitiveness of domestic banks over the next ten years. The first phase of the plan (2001–03) focuses on improving the competitiveness of domestic banks, including allowing mergers of investment banks and securities firms, and encouraging electronic financial services. The second phase (2004–06) promotes further competition through removing the restrictions on the number of branches that the fourteen foreign banks already in Malaysia can operate. In the third phase (2007–10), new licences will be issued to allow further entry of foreign banks.

Indonesia

Indonesia's situation is the most daunting because of the depth of its structural problems, the weaker pre-crisis condition of the banking system, the heavy foreign debt of Indonesian corporations, the substantial currency depreciation in the aftermath of the crisis, the serious constraints posed by the fiscal cost of bank recapitalisation and a lack of political consensus on the direction of reform. The reforms also stalled because of the political controversy over the mid-1999 Bank Bali scandal involving the then ruling Golkar party.

The crisis had a profound impact on the Indonesian banking system. In an effort to stabilise the system, 70 out of 237 banks have been closed and another 12 banks nationalised, leaving 159 banks in operation. Government-owned institutions now control 70 per cent of the banking system's deposits (through four state banks, twelve nationalised banks, twenty-six regional development banks and the majority stake in the seven 'private' recapitalised banks). The government has issued 650 trillion rupiah (about US\$80 billion) of sovereign bonds to recapitalise the banks to a capital adequacy standard of 4 per cent and to honour its guarantee of the deposits and liabilities of closed banks. Approximately 276 trillion rupiah was required just to recapitalise the four state banks. On average Indonesian banks have achieved the 8 per cent capital adequacy standard, but some banks seem unable to achieve the profitability needed to enlarge their capital to meet the requirement of 8 per cent capital adequacy by 2001.

While there has been some progress on restructuring the largest state bank, Bank Mandiri, restructuring of the operations of three other state banks (BNI, BRI and BTN) has been slow. The government has been finalising business plans and performance contracts with the management of each of these banks. Some of the issues include concerns about the quality of the restructured part of the loan portfolio and that of the remaining non-performing loans, the slow pace of operational restructuring, and the viability of future business plans and performance.

In light of the level of stress and existing political and economic trends, the number of banks is expected to continue to shrink, particularly through mergers. Some of the stronger banks are likely to make strategic alliances with foreign partners, and the banks under the control of the Indonesian Bank Restructuring Agency (IBRA) are expected to be sold to strategic investors. As public resources for further recapitalisation are limited, additional forbearance on capital adequacy regulations may continue to be needed.

The slow and inadequate progress is despite the number of new institutions created in the wake of the crisis. They are abundant: the IBRA to lead the restructuring efforts in the most insolvent banks; the Asset Management Unit (AMU) under the IBRA to acquire non-performing loans from frozen or merged banks; the Jakarta Initiative to facilitate voluntary corporate restructuring; a new bankruptcy law and a newly established commercial court; and the Indonesian Debt Restructuring Agency (INDRA) under the Frankfurt Agreement to protect debtors and creditors against exchange risk.⁸

Thailand

The Thai authorities closed two-thirds of Thailand's finance companies in 1997 and created the Financial Sector Restructuring Authority to 'manage and liquidate' the assets of the closed finance companies; but decided to sell the claims quickly. This was largely completed through a series of auctions (realising about US\$4 billion and an average price of about 25 per cent of face value) and the buyers have been left to deal with the debtors without the government's involvement.

The banks were treated differently, both because the bad loans were on a larger scale and because (having earlier confronted political dissension on which finance companies to close) the government did not want to become the creditor even temporarily. The strategy has been to encourage banks to raise capital on their own by imposing stringent requirements on the provision of tier-one capital from the government (see Box 5.1). Banks raised capital amounting to 902 billion baht between January 1998 and June 2000, including private tier-1 capital (314 billion baht) and injections of public funds into state-owned banks. Nonetheless, most institutions remain undercapitalised, partly due to the high number of non-performing loans and partly to regulatory forbearance. Since their peak in mid-1999, non-performing loans have declined, aided by faster repayment and restructuring and by the transfer of bad loans to the bank-owned asset-management corporations. The removal of tax disincentives and a regulation allowing private banks to transfer loans at book value less the provisioning required under the existing forbearance program encouraged banks to establish majority-owned asset-management corporations (World Bank 2000). On the other hand, despite the phasing out of explicit forbearance at the end of 2000, implicit forbearance continues after 2000, obfuscating balance sheets.⁹

Significant progress has been made on financial sector consolidation. The number of financial institutions has declined substantially due to closure, liquidation or mergers of non-viable institutions. The number of finance companies has been reduced from ninety-one in the pre-crisis period to twenty. Several local banks have been sold to foreign banks, which for the first time have full branch networks and the ability to raise funds nationally. Foreign bank participation in the financial system, including both single-branch foreign banks and hybrid banks, increased from the pre-crisis level of 10 per cent of assets to 16 per cent by the end of 2000. Their market share is expected to rise further.

Excluding asset sales from the FRA, the cumulative total of restructured debt reached 1.07 trillion baht by the end of 1999. But initial debt negotiations

Box 5.1 Thailand's 14 August 1998 bank recapitalisation program

The two recapitalisation schemes announced on 14 August 1998 were to give bankers an incentive to collect on their non-performing loans and operate their bank efficiently. Neither elicited much interest, however.

Under the tier-one scheme, the government takes a (preferred) equity stake in the bank if it immediately adopts the accounting, provisioning and capital adequacy rules that were phased in by the end of 2000. The government then

eliminates any negative net worth (*without taking equity*) and brings the equity up to 2.5 per cent of risk-adjusted assets by injecting tradable government bonds of 10-year maturity. The government matches every dollar of new private equity up to the requisite 4.5 per cent (lowered from 6 per cent as part of regulatory forbearance). Thus the government would have a majority stake in any bank with capital under 2.5 per cent, but its stake would be a minor one in banks closer to the requisite 4.5 per cent capital. The new private investors have a call option to buy out the government's stake, but until these options are exercised, the government has the right to replace the bank's managers. Although only intended for use against egregious conduct, as no contract could spell out all the contingencies, the threat hangs like a Damocles sword and only two quasi-private banks (Thai Military Bank and Siam Commercial Bank) have 'volunteered' for the scheme.

The tier-two scheme also injects government funds, except that instead of (preferred, tier-one) equity, the government would hold the bank's subordinated debt (ten-year maturity with an interest rate of 1 per cent over the government bond rate) up to 2 per cent of the bank's risk-weighted assets. The amount declines over time to make its early use more attractive. Furthermore, this injection is tied to the amount of corporate debt that the bank (as creditor) restructures in agreements with the indebted firms (with terms consistent with central bank guidelines). This facility also has not been utilised because banks lack tier-one capital, not tier-two capital.

Instead of using the schemes, many banks have issued new equity to private investors; but it would be incorrect to infer (through revealed preference) that their net worth is therefore positive. The new equity is inseparably tied to subordinated debt (SLIPS or Stapled Limited Interest Preferred Securities and CAPS or Capital Augmented Preferred Securities) with a yield high enough to attract bank depositors. So although there may now be sufficient 'private equity' at risk in these banks, the danger is that the government may not be able to resist the political pressures to protect unwary private investors from any subsequent losses.

The Thai recapitalisation scheme has a number of attractive features, but having the government retain any right to change management control in the bank has limited its appeal. This right is important only because the government takes an equity stake after eliminating the negative net worth. An alternative would be for the link to corporate debt restructuring to be with tier-one capital and to rely on banking supervisors to detect any fraud.

appear to have produced inadequate restructuring to allow for debt service to be sustained by operational cash flows, requiring further rounds of restructuring.

The new government, under Prime Minister Taksin, has decided to set up an official asset-management corporation and to work actively on resolving the non-performing loans of Thai private banks. The initial proposal is for the AMC to exchange FIDF guarantee bonds for about 1 trillion baht of non-performing loans in state-owned banks

and 250 billion baht of non-performing loans in private banks at net book value (outstanding principal balance net of provision). This is about one-half of the current non-performing loans in private banks excluding transfers to private AMC's and written-off loans. Non-performing loans to be transferred will be limited to multi-creditor accounts with viable borrowers who are candidates for corporate restructuring. Banks would share gains and losses with the government on their transferred non-performing loans if recovery rates differ from initial transfer prices. One of the key issues is whether the proposed AMC will effectively implement extraordinary executive powers or an expedited legal regime to speed resolution of these difficult cases.

Box 5.2 The role of bankruptcy laws

Early during the crisis, the existing bankruptcy laws were thought inadequate to ensure corporate restructuring, and these were urgently redrafted. Some observers, lacking the confidence that creditors would rollover loans, wanted the law to *protect the debtors* from needless liquidation and thereby avert widespread unemployment. Others wanted to *strengthen creditors'* rights to seize control of the firms and oust owners who were considered ineffective. Protecting creditor rights requires perfecting titles, registries and court administration rather than the bankruptcy law *per se*; but as it was easier to redraft laws (revisions may have been needed anyway in the long run), this proceeded quickly.

Korea (1998), Indonesia (1998) and Thailand (1999) introduced new or amended bankruptcy laws, but the filings have been a mere trickle. Those who feared excessive liquidations were relieved, but those who expected rapid restructuring of debts were disappointed. Early decisions betrayed judges' confusion (or their susceptibility to favours) and training for judges has been deemed important. Thus while better bankruptcy laws may have been desirable, their passage did not necessarily spur debt negotiations. For this, strong support by government commitment and institutional capacity is needed.

Source: World Bank (2000:77).

CORPORATE SECTOR RESTRUCTURING

Institutional frameworks for corporate restructuring

Corporate sector restructuring is the other side of the process of financial sector restructuring—the substantial overhang of bank non-performing loans was largely a consequence of distressed corporate performance. To restructure corporate debt, operational and organisational restructuring of the corporations themselves is often required.

Governments have introduced three frameworks to resolve corporate debt overhang.

First, court-based insolvency procedures have been strengthened, including bankruptcy, reorganisation and foreclosure laws, legal protection of the rights of creditors and the establishment of functioning judiciary systems. Second, formal frameworks for voluntary, out-of-court debt negotiations have been developed under the London Rules.¹⁰ Third, official asset-management companies have been empowered to restructure distressed debts and corporations, in addition to disposing of acquired assets. To facilitate the restructuring of corporate debt and company operations, governments have promoted greater asset mobility through regulatory and tax incentives, including eliminating constraints on corporate mergers and acquisitions and on debt-to-equity conversions and swaps, and opening sectors to foreign investors.

Some progress has been made in corporate debt and operational restructuring through each of these three channels.

Formal insolvency procedures

Korea and Malaysia have relatively strong formal insolvency frameworks, while Indonesia and Thailand have weak ones. In Korea the insolvency procedure was strengthened in 1999 with the introduction of prepackaged bankruptcies. Under this system companies under a 'workout' program will go into receivership if at least half of the creditors agree. In Thailand the bankruptcy law was revised in 1999 to introduce a reorganisation mechanism, but the bankruptcy regime is still biased against creditors. Indonesia also revised its bankruptcy law, which became effective in August 1998. A special commercial court was also established, but the court proceedings have been very slow in dealing with bankruptcies.

In Malaysia more than 190 companies have filed for court protection under section 176 of the Companies Act in the first quarter of 2000 and more than 1,000 winding-up petitions have been received. However, the ability of debtor firms to ask for extensions of stay orders against their creditors is said to be hindering restructuring. At the end of 1999, 187 companies in Korea with combined assets of 50 trillion won were under court receivership. In late 1999 the FSS concluded, however, that about half of the *chaebol* affiliates under court supervision had made insufficient progress on restructuring.

In general the use of formal insolvency procedures has been limited in corporate restructuring.¹¹ Few bankruptcy cases have been filed in the crisis-affected countries and the number completed is even smaller. Gaps in bankruptcy legislation (e.g., biases against creditors) and weak institutional capacity (e.g., ineffective judiciary processes) in Indonesia and Thailand suggest that the formal resolution of debts may continue to be slow. There is a continuing need for the legal system in these two countries to provide more reliable protection for creditors.

Formal voluntary frameworks

The efficient resolution of a systemic corporate crisis depends on out-of-court processes that are preferably formal, well organised and purposeful. In a systemic crisis involving many hundreds of large corporations, frequent recourse to court-supervised procedures would overwhelm the capacity of courts and insolvency professionals. Thus the efficient

resolution of the crisis must rely on out-of-court processes. An informal unstructured process, however, is not enough. Notably, Thailand initially adopted a soft approach of relying on a set of principles (the Bangkok Rules, modelled after the London Rules), which turned out to be ineffective. Korea experimented with government-sanctioned 'bankruptcy avoidance' loans, which did not give creditors sufficient access to perform due diligence and develop restructuring plans, and merely postponed the problem. These initial efforts were abandoned in both countries in favour of more structured processes—through the Corporate Restructuring Agreement (CRA) and Corporate Restructuring Coordination Committee (CRCC) in Korea and the Corporate Debt Restructuring Advisory Committee (CDRAC) office in Thailand.¹²

By July 2000 Malaysia's CDRC had received seventy-five applications, with total debts of 46 billion ringgit. Of these, thirty-six cases had been resolved by that date, amounting to 25 billion ringgit (55 per cent of the total value of applications), seventeen cases involving 4 billion ringgit had been withdrawn or rejected (8 per cent), and twenty-two cases involving 17 billion ringgit still needed resolution (36 per cent).

Thailand's CDRAC had a total of 12,027 cases in January 2001, both large corporations and small and medium-sized enterprises (SMEs), with outstanding debts of 2.61 trillion baht. The CDRAC focused on 2,821 large corporate 'target debtors' with debts of 2.31 trillion baht, of which 1.04 trillion baht (45 per cent) has been restructured, while 1.21 trillion baht (52 per cent) has not yet been settled and is before the courts.

In Indonesia, as of August 2000, the Jakarta Initiative Task Force (JITF) had sixty-seven active corporate cases involving 13.93 trillion rupiah (US\$13.3 billion) in debts. Twenty-four cases had been completed, involving US\$5.2 billion (39 per cent), which is significant progress in comparison to the less than US\$1 billion of debt restructuring up to the early part of 2000.

In Korea the demonstrated ability of creditors to force a dozen *chaebols* into receivership and take control of Daewoo has had a positive effect on the incentive to restructure. The CRA program of 'lead-bank-led workouts' has provided some financial stability to distressed corporations. The restructuring of the largest *chaebols* is moving ahead. Hyundai, Samsung, LG and SK met the CRA's Capital Structure Improvement Plans (CSIPs) for 1999. However, consolidated financial statements under the new reporting system showed debt-to-equity ratios higher than the required 200 per cent for the largest *chaebols*: LG reported 260 per cent, Hyundai 230 per cent and SK 220 per cent. There has also been some progress in the restructuring of smaller *chaebols*. At the end of March 2000, a total of seventy-six firms were under the CRA workout program, covering 43 trillion won of troubled debt.

Asset disposal and restructuring through official AMCs

While public asset-management corporations are able to reduce non-performing loans of distressed financial institutions or take over assets from closed institutions, they are not a panacea for resolving corporate distress (Kawai et al. 2000). Korea's asset-management corporation (KAMCO) and Thailand's FRA may not be good test cases, as the former is oriented toward providing liquidity while the latter is focused on bundling and selling assets taken over from failed finance companies. The wholesale closing of fifty-seven

finance companies in Thailand and the transfer of their assets to the FRA for eventual disposal may have hurt the development of a credit culture in Thailand, as debtors came to believe that they could escape repayment by driving their creditors out of business. Experience elsewhere with asset-management corporations is also mixed. They are not always adept at restructuring company operations.

Asset-management corporations in Indonesia, Korea and Malaysia have made some progress in asset disposal (Table 5.5). By July 2000 KAMCO had disposed of about 40 per cent of the non-performing loans acquired. Malaysia's Danaharta, as of June 2000, had resolved 69 per cent of the assets under its control. In Indonesia the disposal of the IBRA's assets has hardly begun, reflecting poor asset values, politically powerful debtors and an inadequate legislative and regulatory environment. In Thailand the FRA has disposed of some 70 per cent of the assets of the finance companies that were closed, while disposal data are scarce for the asset-management corporations set up by private banks. Danaharta's recovery rate has been high, at 65 per cent of the face value of assets (in June 2000), and recovery rates on recent sales by the IBRA and KAMCO have started to rise. Notwithstanding the progress on asset disposal, the influence the asset-management corporations have had on fostering genuine corporate restructuring is less clear. These corporations have an opportunity not only to improve the quality of restructuring, but also to influence the pattern of prospective ownership.

While Malaysia's Danaharta has achieved some success on this front, it is still too early to draw definite conclusions. It is also quite uncertain how effective the IBRA will be as an agent for corporate restructuring. The IBRA's effectiveness at corporate restructuring depends on its ability to enforce creditor

Table 5.5 Asset resolution strategies and progress through official AMC's (US\$)

<i>Strategy</i>	<i>Indonesia</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Thailand</i>
<i>Establishment of centralised asset-management corporation</i>				
Set up centralised AMC's to acquire the financial system's NPLs	IBRA has acquired over US\$60 bn in assets (NPLs, value investment in recapitalised banks, pledged assets from shareholder settlements).	KAMCO has acquired assets: US\$84 bn (face value) or US\$32 bn (purchase price). Recently, KDIC has received NPLs from weak and bankrupt institutions US\$4.2 bn (face value).	Danaharta has acquired US\$10.3 bn in assets.	FRA has acquired US\$25 bn in assets of failed finance companies, NPL resolution by private institutions decentralised. Establishment of 8 private AMC's by 7 banks and 1 finance company approved, and applications to set up 4 more reviewed. The FIDF-owned AMC (SAM) has acquired NPLs from Krung Thai

Bank (KTB).

Nature of asset-management corporations

Objectives of the AMC	Maximise recovery values. Four-year target.	Maximise recovery values and dispose as fast as possible.	Maximise recovery values. No time frame.	FRA has tried to liquidate acquired assets quickly,
Terms and prices of asset acquisition	Assets acquired at subsidised prices,	Assets acquired initially above market prices with recourse. Since Feb. 1998 acquisition has been at market prices.	Assets are valued by independent outside auditors and acquired at close to market values.	Not applicable for private institutions. KTB's AMC (SAM) has acquired NPLs at subsidised prices so that KTB would be adequately capitalised.
Asset disposition or restructuring	IBRA to resolve problem banks and to manage, dispose of and restructure assets.	Not clearly defined. KAMCO mostly engaged in disposing of assets. CRVs set up.	Disposition and restructuring.	Not applicable for private institutions, For KTB, third-party managers to be selected by Jan. 01 to manage SAM.

Amount of assets acquired and disposed

Instruments of asset acquisition.	Bond loan swaps.	Bond loan swaps.	Bond loan swaps.	Bond loan swaps.
Type of assets acquired	Assets of frozen banks and worst assets.	Limited to assets of ailing financial institutions.	NPLs larger than 5 million ringgit and mostly loans secured by property or shares.	All assets of failed finance companies acquired by FRA. In case of KTB, transfers to SAM include NPLs exceeding 5 million baht with more than 12 months overdue.
Amount of assets acquired	IBRA's total assets amount to 57% of GDP; acquired NPLs amount to 30% of GDP.	49% of NPLs; equal to 11% of GDP.	36.2% of NPLs; equal to 12.3% of GDP.	Only assets from failed finance companies sold by the FRA (665 billion baht; 15% of GDP), NPLs of KTB were acquired by SAM (520 billion baht; 11% of GDP).
Assets disposed of as a share of total	7%	48%	61%	70% of closed finance company assets.

assets acquired

Source: World Bank staff.

rights (either through the courts or through its extraordinary ‘PP17’ powers),¹³ on insulation from political pressure (notably, to protect well-connected debtors), and on its ability to restructure corporate debts on purely commercial considerations. The IBRA must be able to give debt discounts or write-offs without worrying about legal liability or allegations of collusion, corruption or nepotism. If the Indonesian government can muster the institutional capacity, the IBRA’s efforts would benefit from the orchestrated use of existing government powers against recalcitrant corporate debtors. For the IBRA to function effectively in its role as the principal agent for restructuring Indonesia’s corporate sector, it needs to resolve its caseload quickly and to the greatest commercial advantage by bulk sales of loans, by cleaning up loans and conveying them to local and foreign financial institutions as quickly as possible through competitive auctions, and perhaps by outsourcing debt restructuring negotiations to outside advisers working on an incentive basis.

Despite some progress, the pace of corporate debt restructuring has been slower than that of financial sector restructuring and has been uneven—again Korea leads and Indonesia lags—but no country is near completion, which may well take close to a decade. Temptation to slow the restructuring process exists because of the presence of vested interests and the likelihood of a nationalistic backlash against fire sales of assets to foreigners. Interest groups are trying to slow the restructuring process in order to maintain their equity stake in, and control over, indebted corporations, which would otherwise have been lost during debt and operational restructuring. Some bank creditors may be unwilling to pursue aggressive corporate restructuring because doing so would force them to realise losses and reduce capital, and thereby dilute bank ownership and control. Slow restructuring will mean that corporate debt will continue to choke credit to the corporate sector.

If a voluntary corporate debt restructuring is to work, there needs to be a credible threat from the judicial/legal system: the legal alternatives to an out-of-court agreement must be made clear and credible. The restructuring of Daewoo illustrates how crucial it is to end the ‘too big to fail’ policy and establish an effective insolvency procedure. Improvements to court processes, not just bankruptcy and reorganisation procedures but also procedures for foreclosing on collateral and registering security interest, would help protect creditor rights and provide debtors with a credible threat to negotiate in good faith.¹⁴ This would also contribute to resolving non-performing loans.

CONSEQUENCES OF FINANCIAL AND CORPORATE RESTRUCTURING

Government programs for financial and corporate sector restructuring have had three important consequences: namely that market confidence has been restored, that governments have become large holders of corporate assets and that large public sector

debt has built up. Essentially, substantial portions of corporate assets have been brought under government control and this has been financed by government borrowing.

Restoration of market confidence

There is no question that assertive efforts toward financial and corporate restructuring and reform in each affected country have helped boost consumer and investor confidence in the future course of the economy. That governments have created various frameworks to resolve systemic crisis in financial and corporate sectors and have achieved certain progress in carrying out the restructuring process, as explained above, has supported the economic recovery in 1999 and 2000.

The financial system has been stabilised by stopping large-scale bank runs, resolving insolvent institutions, transferring non-performing loans from closed or weak institutions to public asset management corporations, recapitalising weak but viable institutions through incentives such as forbearance, public resources and the opening of the system to foreign strategic investors. Certain progress in corporate debt restructuring through court-based bankruptcy or reorganisation procedures, voluntary negotiations of corporate restructuring between debtors and creditors outside of courts (the London Rules approach), and AMC-led restructuring, has not only stabilised the finances of corporations but also firmly established the view that countries are serious about resolving non-performing loans.

Together with these restructuring efforts, governments have committed themselves to improving the regulation and supervision of banks and non-bank financial institutions, raising competition in the financial sector, strengthening corporate governance, and developing capital markets. These measures have attempted to rectify the fundamental weaknesses of the financial and corporate sectors that were behind the 1997–98 crisis and thus have helped restore market confidence in the future direction of each economy.

Government acquisition of banks and bank assets

The state has become an important holder of corporate assets through the acquisition of banks and bank assets (Table 5.6). In Indonesia the government holds 70 per cent of banking assets, while the governments of Korea, Thailand and Malaysia own 60 per cent, 30 per cent and 20 per cent of banking assets, respectively. The process of disposing of the acquired assets and restructuring the debts and debtor corporations has only recently begun.

The manner in which governments and public asset-management corporations denationalise acquired banks and bank assets has important implications for the future structure of the economy, and therefore should be aimed at improving corporate structure.

The presence of cross-ownership in much of East Asia—where banks and other financial institutions are part of the conglomerate (and subservient to it)—offers little or no meaningful opportunity for banks to provide effective corporate governance. Moreover, this structure has distorted credit allocation in favour of firms affiliated to conglomerates (notwithstanding formal limits on connected lending, which are more difficult to enforce on conglomerates)

Table 5.6 Government ownership of financial system assets in East Asia (per cent)

	Indonesia		Korea	Malaysia	Thailand	
	mid-99	mid-00	mid-99	mid-99	mid-99	mid-00
Share of assets carved out	23	21	3	4	10 ^a	22 ^a
Share of assets held by state-owned and nationalised financial institutions	55	70	55	14	22	19
Total share of banking assets held by state	78 ^b	72 ^b	58	18	32 ^c	30 ^c
Assets held by the state as a share of GDP	79	63	124	62	48	36
Share of assets held by foreign banks	17 ^d	12 ^d	8	23	13	16 ^e

Sources: World Bank (2000:86); World Bank staff.

Notes

a Includes assets acquired by the FRA from failed finance companies and assets transferred to government (FIDF) AMCs.

b Includes 26 regional development banks.

c Assets held by state banks. Excludes assets already liquidated by the FRA (11 per cent of total loans) because they have been sold back to the private sector.

d Includes joint banks.

e Includes BMB, which is about to be privatised.

both before and after the crisis. The continued financing of firms affiliated to the conglomerates has slowed the restructuring of these firms, whereas non-affiliated firms and SMEs have found it difficult to obtain finance, particularly since the crisis. Finally, if firms within the conglomerate have ready access to credit from their affiliated financial institutions, their incentive to seek alternative means of financing (such as bonds and equity) is diminished, reinforcing the domination of bank lending.

The crisis-resolution process provides a good opportunity to further dilute cross-ownership structures. Foreign banks and strategic investors are obvious sources of new capital and improved governance and management practices. Foreign ownership is low in East Asian banking systems in comparison with those in other developing countries. And in a number of countries—for example, Chile, Hungary and Poland—the increased entry of foreign banks following a financial crisis has benefited financial development. Raising the share of foreign ownership and management in the financial system therefore offers the most direct means of improving credit evaluation practices and establishing a sound banking sector (World Bank 2001).

The sale of state-owned banks to foreigners appears likely to be a slow process. Even if foreign sales pick up, foreign ownership on its own is unlikely to alter fundamentally the ownership structure of financial institutions: foreign institutions have traditionally been interested in multinational and blue-chip firms and in trade financing, and may not be inclined to inherit extensive branch networks. Opposition to foreign participation and

concerns over foreign dominance would likely increase if foreign ownership grows too rapidly. Hence reprivatization that attempts to break up cross-ownership structures will have to involve more than just sales to foreigners.

Widening the ownership of banks may not provide effective governance until prudential regulations are better enforced—hence selling off intervened bank shares fully to the public may also not be the best option.¹⁵ Another option is to sell shares widely to the public but at the same time encourage the new owners to oversee banks and provide effective governance for a fee. The public's best representatives would be firms with banking expertise. If some banks are resold to the conglomerates, an effort should also be made (or legislation could be passed) to limit the ownership stake by a single influential group, opting instead for resale in smaller packages to a larger number of conglomerates. A combination of these schemes has the potential to significantly dilute cross-ownership.¹⁶

Rising public sector debt

The resolution of the systemic crisis in the financial and corporate sectors has left a heavy burden of debt with the government.¹⁷ Many governments have intervened to protect depositors and some investors by injecting liquidity to support ailing financial institutions, taking over non-performing loans, recapitalising weak but viable banks and nationalising and then privatising non-viable banks. This intervention, financed through the government budget, with bond issues or by increasing debt, has come at a substantial cost. Implicit guarantees to the financial system may increase the burden on governments if more banks need to be recapitalised.¹⁸

Government debt has already risen to 30–50 per cent of GDP in Korea, Malaysia and Thailand, and to 90–100 per cent of GDP in Indonesia and the Philippines (Table 5.7). These figures may not reflect the governments' underlying debt obligations because they do not include contingent liabilities, such as further recapitalisation costs and the debts of public infrastructure corporations and other state-owned enterprises. Large government debts and debt-servicing obligations may pre-empt spending on development and social welfare.

The net costs that accrue to the public sector will depend on the success governments have in recovering assets from debtors during restructuring and bankruptcy processes. Future costs will also depend on the value of government holdings in recapitalised banks if and when they are resold to the private sector. Governments need to maximise asset recoveries in order to minimise the costs to the public of crisis resolution.

MEDIUM-TERM REFORM CHALLENGES

The crisis-affected countries in East Asia face three medium-term challenges in financial and corporate sector reform: strengthening regulatory and

Table 5.7 Public sector debt, 1996–2000a (per cent of GDP)

	1996	1997	1998	1999	2000	to	Recapitalisation
					estimated	date	cost
							additional exp.
<i>Indonesia</i>	22.9	61.9	67.3	83.3	90.7	37.3	12.7
Domestic debt	0.0	0.0	16.3	44.4	52.8		
Foreign debt	22.9	61.0	51.0	38.9	37.9		
Interest/GDP ^b	1.8	2.4	3.1	3.7	6.0		
<i>Korea</i>	8.8	14.2	24.7	33.2	36.2	15.8	10.7
Domestic debt	7.6	9.5	13.0	25.8	29.6		
Foreign debt	1.2	4.6	11.7	7.4	6.6		
Interest/GDP	0.4	0.5	1.1	2.0	2.7		
<i>Malaysia</i>	35.4	31.9	36.30	37.4	n.a.	10.9	5.5
Domestic debt	31.2	27.3	31.0		31.2		n.a.
Foreign debt	4.1	4.6	5.2	6.1	n.a.		
Interest/GDP	2.7	2.3	2.4	2.6	n.a.		
<i>Philippine^c</i>	105.1	114.5	108.9	105.0	n.a. (67.5)	0.0	n.a.
	(62.8)	(53.1)	(53.1)	(56.6)			
Domestic debt	72.5	70.7	62.7	59.6	n.a. (29.8)		
	(36.0)	(31.0)	(31.7)	(32.7)			
Foreign debt	32.6	43.9	46.2	45.4	n.a. (37.7)		
	(26.8)	(22.0)	(21.3)	(23.8)			
Interest/GDP	4.7	5.5	6.2	6.8	n.a.		
<i>Thailand</i>	15.7	29.2	38.2	57.0	55.0	17.4	15.4
Domestic debt	7.0	15.9	27.7	29.0	25.0		
Foreign debt	8.7	23.3	10.5	26.0	30.0		
Interest/GDP	0.9	2.7	1.9	2.3	2.0		

Sources: World Bank (2000:98); World Bank staff.

Notes

a The years indicated are fiscal years for Indonesia (1 April 1–30 March) and Thailand (1 October—30 September) and calendar years for Korea, Malaysia and the Philippines,

b The figure for 1999 does not include the 2.1 per cent GDP interest payment associated with the bank recapitalisation bond,

c The numbers in parentheses refer to national government debt only.

supervisory frameworks for banking systems, improving corporate governance and developing capital markets.

Improving regulatory and supervisory frameworks¹⁹

The need to address shortcomings in prudential regulations and supervision and to

improve accounting, auditing and legal standards in the banking sector has been widely emphasised in the aftermath of the crisis. Each of the crisisaffected countries has adopted measures to improve prudential control (Table 5.8), while tolerating some degree of forbearance in the transition to recovery.²⁰

Korea has perhaps gone the furthest in terms of strengthening bank supervision. The newly created Financial Supervisory Commission (FSC) has consolidated regulatory functions that were previously shared between the finance ministry and central bank, enhancing its regulatory credibility. However, weaker regulation of the *chaebol*-affiliated investment trust companies allowed the ITCs to grow explosively since the crisis and to continue to finance their loss-making *chaebol* affiliates. Adding to the problem, the banks were obliged to support the ITCs following the Daewoo crisis, undermining the objective of improving credit evaluation and risk management.

Most of the prudential measures will take time to implement, not least because of a lack of human resources. Moreover, if implemented in isolation, their effectiveness may be limited. Even in OECD countries, banking supervisors are seldom at the cutting edge of market developments. And

Table 5.8 Changes in prudential standards in East Asia

	<i>Indonesia</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Thailand</i>
Loan classification (days elapsed before considered past due)	No change—180 days	Lowered from 180 days to 90 days	No change—180 days	Lowered from 360 days to 90 days
Loan-loss provisioning: substandard/doubtful/loss	From 0/50/100 to 10–15/50/100	From 20/75/100 (backward looking) to 20/50/100 (forward looking)	No change—0/50/100	From 0/50/100 to 20/75/100
Interest accrual	Reduced from up to 6 months to up to 3 months; no clawback	Reduced from up to 6 months to up to 3 months with clawback	No change, up to 6 months; with clawback	Reduced from up to 6 months to up to 3 months; no clawback

Source: World Bank (2000:82).

Box 5.3 Corporate governance in Western theory and East Asian practice

Corporate governance can be defined as addressing the ways in which principals (investors) oversee their agents (managers of the firm). Corporate governance and corporate finance are hence two sides of the same coin—how

firms are governed is inextricably linked to how they are financed.

Much of the economic literature in the West (until recently) has focused on the problems arising from the separation of ownership and control, or *how the firms' financiers prevent expropriation or waste by the firms' managers*. This literature in turn stems from the image of a typical firm that has widely dispersed ownership with control delegated to professional managers. In practice, however, the proportion of firms that conform to this image is low and is concentrated within a few advanced markets, especially in the US and UK.

The reality in most countries—certainly in East Asia outside of Japan—is for most firms to be closely owned or privately held. The major shareholders of closely held firms typically also play an active role in management and have the decisive vote in major decisions. Among publicly held firms, highly concentrated share holdings and a predominance of controlling ownership are the norm. Under these circumstances, the agency problem between ownership and control becomes irrelevant. Moreover, concentrated ownership also brings potential advantages such as the ability of a controlling owner to provide more focused strategic direction and to facilitate restructuring and long-term commitment.

Where ownership is concentrated and the principal shareholders also manage the firm, the major concern is that the firm's operations could be structured to serve the insiders' interest to the detriment of overall profitability. For example, if business transactions are not at arm's length, profits can more easily be diverted to insiders through side deals in sales to and purchases from related parties conducted for the profit of the insiders at the expense of the non-controlling shareholders. The central issue of corporate governance under these conditions is therefore one of *how to prevent insiders from expropriating the assets of non-controlling shareholders*.

Source: World Bank (2000:84).

even though prudential, accounting and regulatory frameworks are more sophisticated than what East Asia can realistically strive for in the medium term, banks can fail before their problems are detected. Furthermore, as the discussion below suggests, the effectiveness of prudential standards (as well as efforts to improve the protection of outside investors) is closely intertwined with corporate ownership structures, which in turn reflect the preferences of the dominant forces within government and the private sector—and may be slower to change. The relationships between corporations, banks and governments have been shaken by the crisis, and the manner in which these are rebuilt will have significant implications for the effectiveness of prudential standards. While prudential standards are essential ingredients of enhanced financial governance, governments need to recognise that their effectiveness will not be determined in isolation.

Countries have continued to make progress on creating a policy and institutional framework for prudential regulation and supervision. Two challenges remain: to

strengthen the implementation of the rules that have been put in place and to ensure that the supervision is complemented with adequate incentives for both owners/managers and depositors to reduce the risks of moral hazard that led to overlending before the crisis. In particular, the design of deposit insurance schemes that protect the vulnerable but do not undermine incentives will be an important challenge.

Improving corporate governance

The need to improve corporate governance is another important agenda item that East Asian economies face. Disclosure, accounting and auditing standards are weak, the role of the board of directors should be redefined and minority shareholders need more protection. Since corporations mirror the underlying corporate culture, improvements in corporate governance require changes in business organisation.²¹ Technological developments and increased exposure to competition will aid such fundamental changes. For instance, rapid developments in information technology are expected to require the streamlining of business activities, and greater competition in product, factor and capital markets is likely to impose greater discipline on the way corporations are run.

Recent studies of corporate governance have documented large differences across countries in ownership concentration in publicly traded firms, in the breadth and depth of capital markets, and in the access of firms to external finance. One explanation for these differences is the level of legal protection of outside investors, both shareholders and creditors, from expropriation by the managers and controlling shareholders of firms (La Porta et al. 1999); although political factors may be more important to financial development than legal systems.

The East Asian economies do not rank appreciably below other emerging markets in terms of equity protection or creditor rights, although deficiencies in the enforcement of investor rights reflecting judicial shortcomings were identified (La Porta et al. 1998). Moreover, the valuations of firms controlled by inside shareholders were far below those of comparable firms, suggesting the expropriation of outside investors may be significant (Claessens et al. 1998).

Most assessments have pointed to the need to strengthen the rights of outside investors, and there has been some progress on this front (Table 5.9), although the effectiveness of enforcement remains an issue. In most countries effective enforcement of recent and prospective changes will require sustained effort to improve the quality of the judiciary. Enhancing transparency through

Table 5.9 Equity rights, creditor rights and judicial efficiency, mid-1999

	<i>Indonesia</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Thailand</i>
<i>Equity rights</i>				
One-share, one-vote	0	1	1	0
Proxy by mail	0	0	0	0
Shares not blocked	0	+1	0	+1
Cumulative voting	0	0	0	1

Equity rights score (sum)	0	2	1	2
Improvement over 1996	None	+1	None	+1
<i>Creditor rights</i>				
Restrictions on reorganisations	1	1	1	1
No automatic stay on assets	+1	0	0	1
Secured creditors first paid	0	1	1	0
Management does not stay on in reorganisations	+1	1	1	1
Creditor rights score (sum)	3	3	3	3
Improvement over 1996	+2	None	None	None
<i>Judicial efficiency</i>				
Timetable to render judgement	+1	+1	0	+1
Existence of a specialised bankruptcy code	+1	1	0	0
Judicial efficiency score (sum)	2	1	0	0
Improvement over 1996	+2	+1	None	+1

Source: World Bank (2000:84).

Note: A 1 denotes that equity and creditor rights are in the law, that there are time limits to render judgement and that specialised bankruptcy courts exist. A+ indicates an improvement over the law in place before the crisis; that is, in 1996.

more stringent (and enforced) disclosure requirements using international accounting and auditing standards will be an essential complement to the effort to strengthen investor protection. Credit-rating agencies, securities analysts, professional watchdogs and the financial media can play key roles in enhancing transparency. While there may be powerful vested interests protecting the status quo, the pressure from foreign investors for a convergence of regulatory standards should not be underestimated as capital markets continue to integrate. The crisis has certainly increased consciousness about the importance of corporate governance. Countries and corporations unable or unwilling to address investor demands risk becoming increasingly ostracised, which itself can be an important motivator for reform.

If countries are successful in improving the protection of outside investors, the rationale for interlocking ownership structures and financing arrangements will diminish, as the benefits of greater choice in trade and finance begin to outweigh the comfort of traditional relationships. Continued integration of trade and capital flows will loosen these relationships further.

A growing body of recent work has characterised the East Asian conglomerate as one in which a large number of firms, typically including one or more bank and non-bank financial institution, are controlled by a single family. Family control can reach very high levels, even for publicly traded firms. Control is often enhanced and further concentrated through pyramid structures and a deviation from one-share-one-vote rules (Claessens et al. 1999), and members of company boards tend to have allegiance to the controlling family. Such conglomerates account for large shares of overall market capitalisation and

have preferential access to credit because of their relationship with and ownership of financial institutions. The top ten families in Indonesia and the Philippines were found to control more than half of the listed corporate sector, and nearly half in Thailand, with the concentration of ownership lower in more developed East Asian economies. Legal and regulatory systems have been influenced by the concentration of corporate resources and the links large firms have to the government, suggesting that prospective reforms in these areas will also be influenced by changes in ownership structures.

At the same time, it is important to recognise that the structure of corporate ownership in East Asia—both the dominance of conglomerates and the close relationships among firms—has evolved in response to the business environment, the concentration of wealth, the quality of the legal framework and the judiciary, the *modus operandi* of dealing with government officials, and even ethnic factors. The crisis may have had a significant effect on corporate ownership, but it is difficult to know how much of an effect.

Capital market development

The dominance of banks in financial intermediation has been another characteristic of East Asian financial markets, and may have contributed to the build-up of systemic risk, given the cross-ownership patterns. The combination of banks in distress and the lack of alternative financing sources for most firms may have deepened the recessions that followed the crisis.

Since the crisis, capital markets have increasingly been called upon to play a larger role in corporate finance, as banks struggle to regain their footing. The sustained development of these markets can help to institutionalise arm's length financial relationships (buttressed by independent credit-rating agencies), lessen the role of relationship-based deals and provide a 'spare tyre' in case of future banking crises (Greenspan 1999).

A number of factors could help strengthen the role of bond and equity markets in the aftermath of the crisis, but these will depend on policy implementation. If efforts to dilute conglomerate ownership of financial institutions are successful, the demand for alternative sources of financing can be expected to increase among conglomerate-affiliated firms. Improved protection of minority shareholders and enhanced transparency would strengthen the supply of equity and bond finance. Since public deficits and debt have increased in the wake of fiscal stimulation and bank recapitalisation, government bond markets can be expected to provide more reliable benchmarks for corporate bond issues—which, in fiscally conservative East Asia before the crisis, were often missing.

To avoid distorting bond and equity markets, it will be important to ensure that tax policies do not bias the financing choices of suppliers and firms. Ensuring that policy interventions do not bias risk perceptions will be equally important. In the short run, the blanket guarantee of bank deposits has tilted this balance in favour of banks. How governments unwind the explicit and implicit guarantees on bank deposits to a more limited but credible system of deposit guarantees will also influence the development of non-bank capital markets. Finally, strengthening regulatory capacity in parallel with the development of capital markets will be essential to avoid further costs from poor bank regulation.

CONCLUSION

The pervasive weakness in East Asian financial and corporate sectors was one of the most important factors behind the crisis. Financial institutions were insufficiently regulated and governed, and insufficiently capitalised with appropriate loan classifications and adequate loan-loss provisions. A moral hazard was created because of the explicit or implicit government guarantees to individual financial institutions.

The highly leveraged corporate sector in East Asia was extremely vulnerable when the crisis hit. Abrupt currency depreciation sharply increased the domestic-currency value of external debt, and high interest rates suddenly increased the debt-service obligations of domestic corporations. The unexpectedly severe economic contraction damaged corporate activity and profits, and reduced debtors' ability to pay. The resulting increase in non-performing loans deepened the crisis in the banking sector.

Resilient financial and corporate sectors are central in avoiding financial crises. To establish such a system, commercial banks and non-bank financial institutions must have the capabilities and expertise to efficiently manage assets, liabilities and risks; and the authorities must have the capacity to maintain a solid framework of adequate supervision as well as strong accounting and disclosure standards. On the corporate side, there must be prudent financial management and transparent governance. Transparency in information through credible accounting, auditing and disclosure practices, and a clear corporate governance structure would allow banks and other creditors to make informed decisions about financing. Given the riskiness of institutions in emerging markets, it may be desirable to impose capital adequacy requirements that are more demanding than those of the BIS, and to require tighter loan classification and provisioning rules. A strong financial system is likely to enable banks and non-bank financial institutions to weather adverse macroeconomic and asset-price fluctuations. It has to be recognised, however, that strengthening financial systems and putting in place good corporate governance require a change in business culture and will take time.

It is important to encourage the development of local capital markets and equity financing. An active market for corporate bonds and other debt can serve as both a warning and an exit or redeployment mechanism, while equity financing is needed to cushion against currency and interest rate shocks. It is also important to create and stimulate markets for distressed assets, especially by inducing debt and real estate sales.

Upon the development of a systemic crisis in the financial and corporate sectors, a government needs to ensure that a coherent framework for resolving banking and corporate distress is put in place. This framework needs to stop bank runs, restore confidence in the financial system and stabilise the finances of corporations. It should involve the following procedures: (a) diagnostic reviews of bank portfolios based on internationally accepted classification rules and accounting principles; (b) identification of viable and non-viable banks; (c) resolution of non-viable banks (liquidation, closure, nationalisation, merger and acquisition, etc.) to protect depositors, short-term creditors and viable borrowers; and (d) recapitalisation of viable banks after full provisioning and revaluation of non-performing loans at fair market prices and realistic recovery rates.

Governments will also need to segment the crisis and prioritise their responses. They

should first concentrate on the worst financial institutions, the most-distressed large corporations, and small and medium-sized enterprises (Kawai et al. 2000). Restoring confidence in the financial system requires the protection of bank deposits at problem financial institutions and measures to allow closures, mergers or temporary nationalisation of non-viable banks and the recapitalisation of weak but viable institutions. If public asset-management corporations are needed to take over non-performing loans, they should be insulated from political interference and designed to operate according to best commercial and market practices.

Efficient resolution of a systemic corporate crisis depends on strengthening both court-based and out-of-court resolution processes. East Asia's experience has shown that effective domestic insolvency procedures are required for private creditors wishing to take action to recover loans. The crisis-affected countries eliminated legal and tax impediments to corporate restructuring, put in place or strengthened bankruptcy regimes and introduced market-based frameworks for corporate restructuring based on the London Rules. This last approach was particularly important as it provided creditors and debtors with incentives (carrots and sticks) to implement voluntary workouts, through substantial changes in legal, tax and regulatory environments and the development of deep capital markets. In a systemic crisis involving a large number of distressed corporations, frequent recourse to court-supervised processes would overwhelm the capacity of courts and insolvency professionals. Thus efficient resolution of the crisis must also rely on these out-of-court processes.

The two approaches must, however, be undertaken in a concerted effort. Out-of-court processes will not be effective unless enforceable court-based procedures are in place for corporate bankruptcy, reorganisation and foreclosure. The reason corporate restructuring has made some progress in Korea and Malaysia, but has been slow in Indonesia and Thailand, is that the court-based procedures are credible alternatives to out-of-court procedures in the former countries but not in the latter. Without the threat of court-imposed loss, there is not enough incentive for corporate debtors to cooperate with voluntary efforts and agree to the asset or business sales, equity dilution and diminution of management control that may be part of a fair deal.

Ideally, corporate debtors should face a continuum of threat—beginning with the possibility of prompt seizure of assets. Debtors should feel encouraged to seek protection through court-supervised reorganisation as an alternative to liquidation or foreclosure. Without strong creditor protection, an emphasis on restructuring through court-supervised reorganisation will produce only limited results. In Thailand, for instance, efforts by recalcitrant debtors to avoid court-supervised reorganisation indicated that the legal regime for collecting debts was too weak. Court-supervised reorganisation needs to be a serious option for restructuring distressed but viable corporations, and not just a forum for cracking down on dissenting creditors in cases where the debtor happens to be cooperative.

As it can be extremely difficult to reform legal regimes to provide protection and enforcement of creditor rights during a crisis—when the political risk to policymakers is high—these reforms should be implemented in good times; that is, before a crisis occurs.

NOTES

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- 1 See for example, World Bank (1998, 1999, 2000) and Lane et al. (1999).
- 2 An additional factor in Thailand's case was the establishment of the offshore Bangkok International Banking Facilities (BIBF). The BIBF induced large inflows of foreign bank loans because local corporations and finance companies received regulatory and tax advantages for borrowing through the BIBF rather than through domestic banks. Foreign banks without domestic banking licences also poured a large amount of liquidity into Thailand in the hope of obtaining licences. See Kawai and Iwatsubo (1998).
- 3 The debt-to-equity ratio of Korean corporations, for example, was over 317 per cent by the end of 1996, twice that of the United States and four times that of Taiwan. The top thirty Korean *chaebols* had even higher leverage, exceeding 400 per cent in 1996. See Claessens et al. (1998).
- 4 A high interest rate policy can defend the value of the currency at a small cost to the economy when the domestic-currency debt of the corporate sector and consumers is small, but the cost can be large when this debt is large.
- 5 In Indonesia the corporate sector's large external debt was the most important factor in the collapse of the corporate and banking sectors and the severe contraction of aggregate demand. A steep currency depreciation tripled or quadrupled the size of corporate debt and debt-servicing obligations. It is estimated that 70–80 per cent of the firms in Indonesia suffered losses that exceeded their equity. Many corporations experienced cash shortfalls, as their debt-to-equity ratio suddenly rose and as new financing, either from domestic or external sources, was suddenly curtailed. As a result of massive corporate insolvency, Indonesian banks could not collect interest on their loans to corporate borrowers. In addition, some quality banks in Indonesia suffered from the steep depreciation of the rupiah because of large foreign-currency deposit liabilities to local residents.
- 6 Because of real exchange rate depreciation, there has not yet been a full recovery in East Asia's per capita GDP measured in US dollars, which is still lower than the pre-crisis level in the affected countries.
- 7 Recapitalisation removes one disincentive for banks to renegotiate claims on highly indebted firms. An inadequately capitalised bank risks being closed by its regulator by admitting that its loans are worth less than their book value—which is the implication of reducing the face value of its claim. An adequately capitalised bank does not face this problem. See Lindgren et al. (1999) on the issues facing the East Asian crisis-affected countries in restructuring their financial sectors.
- 8 The INDRA, however, had little success and was eventually abolished.

- 9 There are three types of implicit forbearance. First, financial institutions can be allowed to provision for loan losses net of collateral value, mostly property, thus allowing provisions to be understated. Second, quality control in the reclassification of restructured loans does not have to be stringent, such as over the repayment history. Third, the phasing in of net present valuation of restructured loans, instead of the previous practice of relying on collateral value, can be postponed.
- 10 These frameworks include the Corporate Restructuring Agreement (CRA) in Korea, the CDRC in Malaysia, the Corporate Debt Restructuring Advisory Committee (CDRAC) in Thailand and the Jakarta Initiative Task Force (JITF) in Indonesia. The initial expectation was that once financial obligations and property rights are clarified and tax and regulatory changes are made, market-driven mechanisms should promote debt restructuring and the reallocation of productive assets.
- 11 The passage of bankruptcy laws in Poland (1993) and Hungary (1989) generated a flood of filings in each country, but this was because Poland gave creditor banks a deadline and Hungary made the failure to file a criminal offence.
- 12 The pace of corporate restructuring in Thailand has been accelerated since the Bank of Thailand introduced formal out-of-court restructuring contracts; that is, debtor-creditor agreements. These contracts provide for: (1) a time-bound standstill (for example, three months); (2) complete creditor access to all records for due diligence; (3) joint management-creditors teams to monitor performance, develop cash flow projections and control asset disposals; (4) priority for fresh working capital; (5) interim milestones for completions of due diligence, the development of a restructuring plan and creditor votes; (6) voting thresholds for creditor approval of a reorganisation plan; (7) mediation or arbitration of differences among creditors; (8) conversion of the case into court-supervised insolvency for failure to meet interim milestones; and (9) penalties for non-compliance by financial institution signatories—including failure to petition the court for debt collection, foreclosure or insolvency if interim milestones are not met.
- 13 The IBRA has the power under decree No. 17 of 1999 to seize the assets of failed companies.
- 14 An indebted firm struggling to survive and continue operations would prefer to use cash flows to pay workers and suppliers rather than creditors. This does not hurt creditors if the value of the firm as a going concern is greater than the liquidation value, because they retain the option to liquidate the firm later if they choose. Nor would creditors seek to oust the firm's managers if they have no ready and better replacement (as is generally the case when the problem is systemic). So although their claims are not being serviced, it may be rational for creditors to rollover even non-performing loans if they expect that the firm's performance will improve. Giving creditors the right to liquidate the firm or oust the managers (as under a bankruptcy law) would not necessarily induce them to do so—even if the laws and courts were perfect. So, while better bankruptcy laws may be necessary in the long run, they are no panacea for resolving all crises and their disuse should not come as a surprise.
- 15 The scope for widespread public ownership in East Asia is also more limited than in OECD countries because the middle class makes up a smaller percentage of the

population.

- 16 As governments dispose of banks back to the private sector or to the foreign sector, legislation should be considered to limit the proportion of financial institutions that can be owned by conglomerates and to disallow controlling ownership. The sequencing of these measures and their political feasibility will vary across countries. Tackling the complexities of ownership reform when governments are preoccupied by financial and corporate restructuring may seem ill advised. Yet some of the issues are integral to the restructuring process and cannot be put off. The manner in which reprivatisation of banks is conducted will affect ownership patterns, and if cross-ownership is not reduced, the restructuring of corporations will be slower. If, for example, an undercapitalised bank is a major creditor to an overindebted firm from the same conglomerate, restructuring negotiations involving third parties will be compromised.
- 17 The crisis increased budget deficits through other channels also. First, the currency devaluations precipitated balance sheet losses on government books, and the interest burden (in local currency) on foreign debt rose by roughly 30 per cent (the amount of nominal devaluation). Second, as the recession deepened, tax revenues declined and spending rose. Third, as the depth of the recession became apparent, most governments further increased spending to stimulate the economy. As a result, the fiscal balance of the crisis-affected countries deteriorated sharply into deficit.
- 18 Government-guaranteed contracts in the power and roads sectors include further potential liabilities for the public sector. It is difficult to estimate the magnitude of these liabilities, but the governments of Thailand and Indonesia are expected to face large obligations once public infrastructure corporations have completed their negotiations over the distribution of losses.
- 19 This subsection and the following two draw heavily on the last section of Chapter 4 of World Bank (2000).
- 20 Reaching BIS capital adequacy standards and loan classification and provisioning standards instantaneously is hardly a credible option if the banking system cannot comply.
- 21 The prevalence of business transactions based on relationships between firms or on trust has been a feature of all the East Asian economies. While lowering the transaction and agency costs that come about from asymmetric information, trust is not enough to sustain complex operations in an increasingly global market, and arm's length relationships need to be developed.

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6

The boom, bust and restructuring of Indonesian banks

Mari Pangestu and Manggi Habir

INTRODUCTION

The recovery from the East Asian crisis has seemed remarkably quick. With the exception of Indonesia, economies have now bottomed out and East Asia is on the road to recovery. The restructuring of bank and corporate debt is not yet complete, however. The experience of banking crises elsewhere has shown that emerging markets take an average of three years to return to normal growth. Given the magnitude of the crisis, the level of corporate distress and the continued lack of good governance in these countries, the recovery of banking and corporate sectors, and therefore of the East Asian economies, will take even longer (Claessens et al. 1999). Indonesia's banking crisis was the worst, and therefore its recovery can be expected to take the longest.

Bank restructuring needs to be the cornerstone of Indonesia's economic recovery. International experience shows that only with the successful resolution of the banking sector and the construction of a sound financial sector have economies been able to emerge from crisis and reduce their vulnerability to future crises. To understand why the currency and monetary shock hit Indonesia's banking sector and economy so hard, it is important to understand the vulnerable state of the banking sector before the crisis. Initial interventions to stabilise and rehabilitate the banking system actually deepened the financial crisis and, in combination with the exchange rate and interest rate shocks, led to the systemic banking crisis. This chapter explains why Indonesia's economy and banking sector were hit so hard and looks at the measures to deal with the banking crisis, the lessons learnt, and the huge challenges Indonesia faces to restructure and strengthen its banking system.

THE ECONOMIC BOOM AND BUILD-UP OF VULNERABILITIES

Three main factors contributed to the vulnerability of the banking sector before the crisis. First, after comprehensive reforms in 1988, a rapid expansion of the banking sector took place without the necessary strengthening of prudential regulations and central bank supervision. Second, the high concentration of ownership in the banking sector had led to weak corporate governance of banks. Third, the economic boom and increased international financial integration in the 1980s amplified the structural vulnerability of Indonesia's financial system.

Rapid expansion of the banking sector and improper sequencing

As an oil exporter, Indonesia responded to declining oil prices in the early 1980s by deregulating its financial sector to direct domestic savings into developing new industries and to increase the efficiency and competitiveness of the sector. Reforms in 1983 removed credit ceilings, reduced the number of credit categories financed by liquidity credit (which previously had come from oil revenues), removed controls on state bank deposit and lending rates and ended subsidies on state bank deposit rates. As a result real interest rates became positive and time deposits increased dramatically, the ratio of M2 to GDP rose from 18 per cent in 1982 to 30 per cent by 1988, and the share of private domestic banks in total bank assets increased from 12 per cent to 26 per cent over the same period.

The dramatic decline in oil prices in 1986 brought macroeconomic adjustments and further structural and financial sector reforms. In October 1988 most of the entry barriers and various restrictions that favoured certain types of banks were removed. The main reforms were:

- Open entry for joint ventures (since 1969 the sector had been closed to foreign banks), with a minimum capital requirement of 50 billion rupiah (US\$28 million) and maximum foreign ownership of 85 per cent. Open entry for domestic banks (since 1977 new entry had been prevented), with a minimum capital requirement of 10 billion rupiah (US\$6 million). Sound domestic banks were permitted to trade in foreign exchange.
- Rules on branching were substantially relaxed. Foreign banks were allowed to open one branch in six other major cities (since 1967 foreign banks had only been allowed two branches in Jakarta).
- The government stipulated that 50 per cent of foreign bank lending should be to export-oriented businesses (although this requirement was neither monitored nor policed) and 20 per cent of domestic lending should be to small and medium-sized companies.
- State-owned enterprises were no longer required to deposit all their funds in state banks and could place up to 50 per cent of their funds in private banks.
- The reserve requirement was reduced from 15 per cent of demand deposits and 10 per cent of savings and time deposits, to 2 per cent of all deposit liabilities.
- Legal lending limits were established for loans to a single borrower and to groups of borrowers. In March 1989 bank capital was defined and it was stipulated that banks could not invest in stocks. The ceiling on foreign borrowing was replaced by a net open position of 25 per cent of equity.
- Banks were allowed to issue shares, and the tax exemption allowed for interest on time deposits was removed to equalise the treatment of interest payments and dividends.

Within a few years of the reforms, there was a dramatic increase in the number of banks and branches, money supply and credit. Between 1988 and 1991, the number of new banks entering the system doubled from 61 to 119 and the number of foreign banks tripled from 11 to 29. The range of new products and services also increased. Various types of saving schemes tied to lottery prices and gifts were introduced, and savings

deposits (not including government programs) increased from 605 billion rupiah in 1988 to 9,064 billion rupiah by June 1992.

Poor-quality assets and low capital hindered the growth of state banks, but private banks expanded rapidly and by 1994 had begun to overtake the state banks in terms of loans, deposits (private banks were already ahead in 1992) and total assets (Table 6.1). Private bank branches quadrupled in number between 1988 and 1991 from 559 to 2,639. The government attempted to strengthen the state banks by announcing plans for mergers and privatisation, but only BNI, the largest of the state banks, went public (in late 1996) and no meaningful progress on mergers took place before the crisis.

The dramatic increase in banks and bank branches was not matched by improvements to prudential regulations or to the supervisory capacity of Bank Indonesia, Indonesia's central bank. The rapid increase in liquidity owing to the reduction in reserve requirements and the growth in money supply led to rising inflation in the early 1990s. The monetary authorities

Table 6.1 State and private bank assets and liabilities (trillion rupiah)

	1992	1993	1994	1995	1996
<i>State banks</i>					
Loans	77.1	82.3	88.7	101.1	115.6
Deposits	47.3	54.4	55.9	67.4	80.0
Capital	3.6	6.5	6.8	10.8	13.5
Total assets	93.3	100.6	104.5	122.6	141.3
<i>Private banks</i>					
Loans	51.0	71.2	97.7	125.9	163.6
Deposits	50.6	64.4	84.8	115.2	162.9
Capital	6.2	8.9	12.0	14.7	18.0
Total assets	66.3	88.2	113.8	147.5	200.9

Source: Bank Indonesia.

Note: State banks include BNI, BBD, BDN, BRI, BEII, BTN and Bappindo; there are some 164 private banks.

tightened monetary policy and responded to growing concern about the rapid expansion of the banking sector by improving prudential regulations.

The regulations announced in February 1991 included a comprehensive capital, asset, management, equity and liquidity (CAMEL) quantitative-rating system. The system stipulated necessary qualifications of bank owners and managers, a schedule to meet the Bank for International Settlement (BIS) capital adequacy requirement (CAR) of 8 per cent on risk-weighted assets by 1993, stricter information and reporting requirements, and tougher limits on lending within a corporate group or to one individual group. A new banking law was passed in 1992, allowing sanctions to be imposed on bank owners, managers and commissioners for violations of laws and regulations related to bank management. Foreigners were allowed to purchase bank shares, and state banks became

limited liability companies to allow them more autonomy as private corporations. In October 1992, as part of the government's desire to limit the number of banks, the capital required to set up a domestic bank was increased fivefold and was doubled for setting up a joint-venture bank.

Despite these new regulations and further improvements in prudential supervision, weaknesses still existed in the legal and regulatory framework especially with regard to loan classification and loan provisions. The number of new banks continued to increase after 1991. An even more serious problem was the lack of ability to enforce prudential regulations because of the weak capacity and capability of central bank supervisors, widespread corruption, and political interference from bank owners who were close to the centre of power. Violations of prudential regulations were not properly penalised and non-compliance was widespread, as revealed by the audits of banks undertaken after the crisis.

Weak corporate governance

Although prudential requirements and regulations such as legal lending limits were introduced to improve corporate governance in the banking sector, governance was weak and there was little incentive for banks to be cautious in corporate lending. There were three main reasons for this problem.

The first is that despite the rise in the number of banks and the increase in the issuance of bank shares in the capital market, the banking sector remained highly concentrated, as did the ownership of banks. Following the 1988 reforms, the number of private banks doubled to reach 164 in 1996, but just ten banks owned 68 per cent of total bank assets. Bank Central Asia was the largest private bank and largest bank in Indonesia before the crisis, even surpassing the largest state bank, Bank Negara Indonesia 1946 (BNI). Bank Danamon was the seventh largest bank and Bank International Indonesia was the ninth largest bank. The other large banks were owned by the state. The top ten private banks and the six state banks together accounted for 75 per cent of total bank assets. The majority of bank shares were still in the hands of the original owners, and this concentrated shareholding had created information asymmetries between the majority shareholders and the minority shareholders, investors and creditors. Despite legal limits on lending to affiliated firms within the same group or to just one group, there was gross violation of these limits. The top ten private banks were linked to politically powerful business conglomerates (Table 6.2). Both Bank Central Asia (BCA) and Bank Umum Nasional (BUN) had shareholders who were linked to former President Suharto. Bank Duta was controlled by the Suharto foundations and held the funds of Badan Urusan Logistik Negara (Bulog), the state logistics agency.

A number of the large banks, including BNI, did issue shares to the public. However, the state or the main owner retained most of the shares and therefore a great deal of control over the bank. Other mechanisms to impose good governance on owners and managers, such as central bank supervision and credit-rating agencies, were not effective because of a lack of enforcement and the existence of information asymmetries.

Second, state-owned banks and some private banks were under political pressure to direct lending to particular sectors or groups without proper evaluation of the loans. This

was most prevalent during the oil boom, but remained the case to a lesser extent in the post-1988 reform period.

A third reason is the implicit guarantees given to certain groups and state-related banks or corporations. Poor corporate governance, combined with a

Table 6.2 The affiliation and focus of the top ten private banks (in December 1996)

<i>Bank</i>	<i>Total assets</i>	<i>Part of a group</i>	<i>Strategic focus</i>	<i>Status</i>
1. Bank Central Asia (BCA)	Rp 36.1 tn	Salim diversified group	All market segments	Taken over
2. Bank Danamon	Rp 22.0 tn	Danamon div. group	Retail-commercial	Taken over and merged
3. BII	Rp 17.7 tn	Sinar Mas div. group	Retail-commercial	Recapitalised
4. BDNI	Rp 16.7 tn	Gajah Tunggal div. group	Retail-commercial	Closed
5. Lippo	Rp 10.2 tn	Lippo div. group	Retail-commercial	Recapitalised
6. Bank Bali	Rp 8.0 tn	Bali financial group	Retail-commercial	Taken over
7. Bank Niaga	Rp 7.9 tn	Hasjim div. group	Corporate-consumer	Taken over
8. Bank Umum Nasional	Rp 7.1 tn	Bob Hasan-Ongko div. group	Retail-commercial	Closed
9. Panin	Rp 5.4 tn	Panin financial group	Retail-commercial	
10. Bank Duta	Rp 5.3 tn	Berdikari div. group	Retail-commercial	Taken over

Sources: Infobank; author interviews.

Note: If recapitalised, the government holds around 80 per cent of shares.

concentration of ownership by those close to the centre of power, led to imprudent lending because it was believed banks were 'too big to fail' or were connected to powerful groups, and would therefore be bailed out by the government. There was no effective exit mechanism for failed banks, and well-connected insolvent banks were allowed to remain open. Only one bank was closed between 1988 and 1997, with the other problem banks being bailed out directly by the government or by corporations that the government or President Suharto persuaded to step in. This created a situation of

moral hazard that contributed to the risky behaviour of banks and excess capacity in the sector, which in turn were central to the structural vulnerability of the banking sector before the crisis. The argument that a bank was too big or too important (because of political connections) to fail was very common (see Box 6.1 for examples).

Macro-financial linkages¹

The build-up in vulnerability before the crisis was created by the reinforcing dynamics between capital inflows, macroeconomic policies and weak financial and corporate sector institutions.

Capital inflows and policy responses

Indonesia's reform program since the mid-1980s has aimed to move the economy away from a dependence on oil exports toward higher-growth sectors. In response private capital has surged into Indonesia and there has been a progressive integration with world financial markets. Capital inflows validated and exacerbated domestic macroeconomic cycles, leading to overheating of the domestic economy in 1990–91.

Aiming to counteract the inflationary pressures, the Indonesian government chose a macroeconomic policy mix that actually encouraged further capital to flow into the country. A dramatic tightening in monetary policy² led to high interest rates and substantially raised the cost of domestic borrowing. The rupiah depreciated by 4–5 per cent a year after 1988, which encouraged unhedged borrowing. Because fiscal policy was not countercyclical, most of the burden for responding to excess demand pressures fell on monetary policy. Rising interest rates made monetary policy ineffective, however, as the amount of liquidity taken out of the system by sales of Bank Indonesia certificates or Sertifikat Bank Indonesia (SBIs) began to match the amount of interest paid out. Furthermore, Indonesia's open capital account meant that banks and non-banks were able to borrow offshore, thus increasing liquidity and offsetting the government's attempts to tighten monetary policy.

In the early 1990s, the monetary authorities attempted to curb these leakages of liquidity by imposing offshore borrowing limits on banks, state-related lenders and, eventually, non-bank financial institutions. The tight monetary stance and the stricter prudential regulations and offshore borrowing ceilings resulted in a credit squeeze. Even when monetary policy eased, interest rates

Box 6.1 Too big or too important to fail

- 1) The state-owned development bank Bappindo had been having problems for many years. In the late 1980s, Bappindo was found to be holding a large number of non-performing loans and to have been involved in serious corruption to obtain credit for large projects. Instead of closing down or dramatically restructuring the bank, the government allowed it to continue

- to operate. Bank officers but not managers were punished for the corruption, and one businessman who escaped from prison was never prosecuted.
- 2) Bank Duta, a private domestic bank, had experienced large foreign exchange losses from currency speculation. Despite these losses the bank went public, using fraudulent financial statements. Because the bank held the deposits of Bulog and the Suharto family foundations, it was rescued by a contribution to a bail-out package from an Indonesian conglomerate. The manager of the treasury division was jailed and the management of the bank was changed.
 - 3) Indocement and a CRMI, a cold rolling mill for processing steel, were both part of the Salim group and were rescued by the government coming in as a shareholder.
 - 4) The government gave implicit guarantees to firms by providing captive markets or favouring firms through special policies and directed lending (often involving state banks and/or central bank liquidity credits). The most blatant examples were Indonesia's national car, the Timor, and a domestic clove trading monopoly, which were both linked to the former president's youngest son, Tommy. The Timor company was allowed to import parts and components duty free, and later to fully import cars duty free from Kia in Korea. The argument was that local content requirements would be met within three years. Not only was Timor given duty-free status, it had a captive market because it stocked the police fleet and because civil servants received incentives to purchase the vehicle. Banks, including the state banks, were also asked to lend money to the venture. The clove trading monopoly had control over the purchasing of cloves from farmers for resale to cigarette manufacturers, and was given low-interest credit directly from the central bank. It ran into many difficulties and had to be dissolved.

on lending did not fall immediately because of the lag effect and because banks had increased provisioning for problem loans. By 1991 at least two banks were known to be carrying problem loans. The government responded very differently in each case. Bank Duta, which held the funds of Bulog and the Suharto foundations, was saved by an injection of capital from a Korean conglomerate. Bank Summa, on the other hand, was liquidated. The increase in problem loans was an early warning sign of the vulnerabilities that existed in the banking sector.

In the mid-1990s, inflation rose, especially in the non-tradable sector, and the current account deficit widened. Another bout of overheating occurred in 1994–96, after a second surge of private capital inflows. Strong economic growth and large private capital inflows further added to the vulnerability of the banking system.

The monetary authorities continued to try to curb overheating by maintaining a relatively tight monetary stance so that interest rates remained high, increasing reserve requirements, using moral suasion and, in 1996–97, finally imposing limits on property lending. In late 1995 the Central Bank banned the issuance of commercial paper by

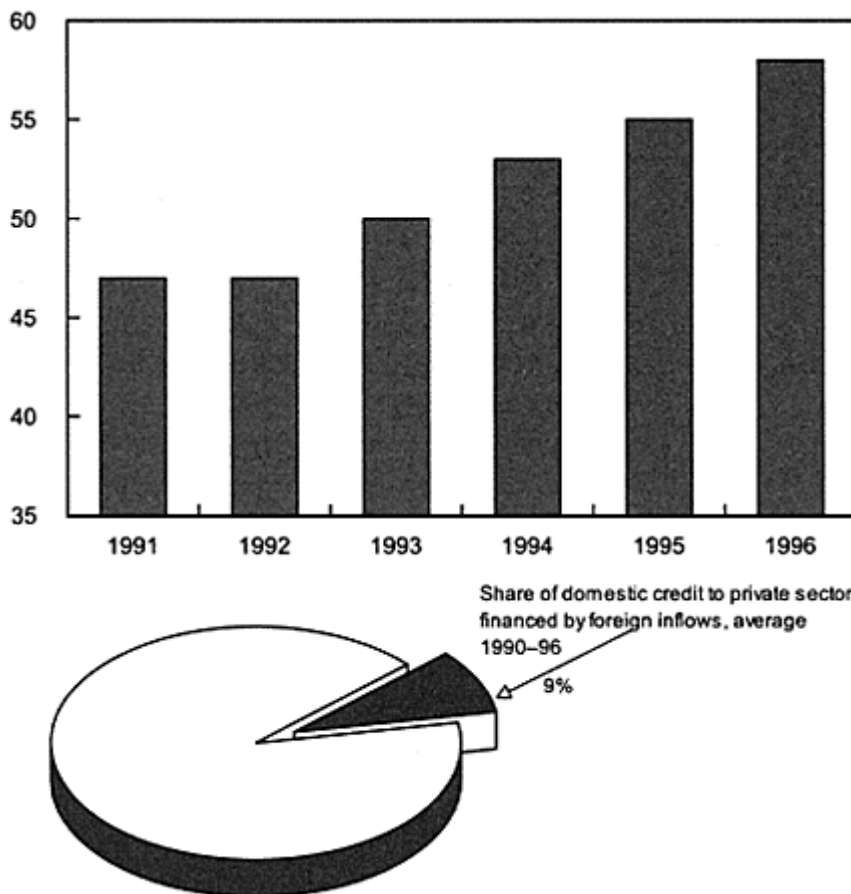
finance companies, which triggered a massive switch to offshore borrowing. Finance companies alone borrowed US\$5.1 billion in 1996, more than one-quarter of total corporate debt issuance in the year, and up from only about US\$819 million in 1995. In 1996 the central bank stipulated that commercial paper traded by banks must be rated, effectively requiring all companies issuing commercial paper to be rated.

The policy mix adopted encouraged capital inflows. High domestic interest rates led to an increase in deposits from non-residents or from Indonesians based overseas. In the early 1990s, banks had taken out sizeable external loans, but limits on offshore borrowing had curbed their activities. However, private corporations were not restricted from borrowing abroad, and with high domestic interest rates and the predictable downward movement in the exchange rate, companies borrowed abroad without hedging and deposited the funds in the domestic banking system for activities that were predominantly rupiah based. Figure 6.1 shows the decline in the banks' net foreign assets and the increase in bank deposits by non-residents as a proportion of domestic credit extended to the private sector. In other words, it shows the extent to which private capital flows to the banking sector—through borrowing by banks and through the growth of the deposit base—have supported the growth in domestic credit to the private sector.

The dependence of the private sector on the domestic banking system for finance suggests that bank lending is likely to be an important transmission mechanism in Indonesia. Although difficult to obtain, empirical evidence does suggest that economic activity in Indonesia is more sensitive to changes in domestic credit than to changes in the money supply.³

Although Indonesian firms have had greater access to overseas funds, either through syndicated loans or through the issuance of international equity, bonds and commercial paper, such access remains limited to the larger firms. Most firms, particularly small and medium-sized enterprises, continue to rely primarily on the domestic financial system. Furthermore, despite greater development of the financial sector, most firms turn to domestic banks for external finance. Between 1990 and 1996, banks intermediated around 40 per cent of private non-bank investment on average. Direct finance from abroad funded 7 per cent of investment, the government financed 10 per cent and the remaining 43 per cent was funded by the domestic non-bank sector. Net new lending from banks totalled 58.3 trillion rupiah in 1996, compared with the new issuance of IPOs (initial public offerings) and rights of 14.6 trillion rupiah, and new bond issuance of 8.6 trillion rupiah (Ghosh et al. 1999). Ghosh et al. (1999) estimated that the stock market contributed only about 15 per cent of total business finance, with the rest provided by the banking sector.

Figure 6.1 The growth of credit to the private sector and the contribution of foreign capital (per cent)



Sources: Bank Indonesia and World Bank estimates.

Financial integration and overheating

Flush with liquidity, domestic banks rapidly expanded credit, particularly to risky sectors such as property. Banks were also keen to lend to consumers to capture shares of the domestic retail market. Consumer borrowing went into consumption and speculation in property and stocks, especially up until 1995, while interest rates were still low. This added to the inflation in the real estate and stock markets. Attracted by high prices, banks increased lending to the property sector. Property lending increased from 6.6 per cent of GDP in 1993 to 11.1 per cent of GDP in 1996 (Table 6.3).

Table 6.3 Bank loans to the property sector, 1993–96 (trillion rupiah; per cent)

	1993	1994	1995	1996
GDP	329.8	379.2	452.4	529.0
Total bank loans	150.3	188.9	234.6	292.9
Total property loans	21.7	33.2	42.8	58.9
Mortgage loans	6.2	10.1	13.7	16.4
Bank loans/GDP	45.6	49.6	51.9	55.4
Property loans/GDP	6.6	8.8	9.5	11.1
Property loans/total loans	14.5	17.6	18.3	20.1
Mortgage loans/GDP	1.9	2.7	3.0	3.1

Sources: Bank Indonesia; Info Bank.

The rapid expansion of credit to the property sector fed through into the demand for and supply of commercial and residential property. Between 1991 and 1997, office occupancy rates in Jakarta were around 90 per cent, and property expansion was based on the continuation of this demand. Capacity in the residential property market can be gauged by the number of property development licenses issued by the National Land Registry Agency (BPN). By August 1997, 57,600 hectares of the 121,629 hectares licensed for residential use in the Greater Jakarta area had been acquired and cleared, but less than 13,600 hectares (about 11 per cent of the total licensed land) had been developed. The remaining 44,000 hectares had been acquired but not yet developed, making property developers susceptible to an economic downturn, and potentially leaving banks with between 8 trillion rupiah and 16 trillion rupiah worth of non-performing loans. The amount of mortgage loans almost tripled between 1993 and 1996 from 6 trillion rupiah to 16 trillion rupiah. Similar excess capacity and overinvestment was seen in infrastructure projects such as power generation, and some manufacturing sectors, such as automobiles.

The liberalisation of the banking sector after 1988 had increased the presence of foreign banks. It was hoped foreign competition would transfer technology through technical assistance or the movement of foreign personnel to local banks, but it is unclear whether this occurred. Two indicators of competitiveness—bank net interest and operating margins—showed no real decline, partly because foreign competition took away prime borrowers from local banks and increased the risk and costs of competing domestically.

Foreign banks have mainly focused on the corporate sector, particularly on the business of multinational companies operating in Indonesia and the top domestic corporations, which had more conservative and stricter credit-risk profiles. There was intense competition for business in this market. The top Indonesian corporations, with the help of foreign investment banks and

Table 6.4 Non-performing property loans as a percentage of total property loans, 1992—April 1997 (per cent)

	1993	1994	1995	1996	April 1997
Construction	13.49	13.25	11.62	9.58	9.62
Real estate	8.05	5.77	4.48	3.71	4.37
Mortgage	3.20	2.67	2.72	2.99	3.67
Total property	9.24	7.86	6.53	5.69	6.04
Total credit	n.a.	11.63	n.a.	8.79	9.23

Sources: Bank Indonesia; Infobank.

commercial banks, were able to tap capital markets (both foreign and domestic) through the issuance of equity or debt instruments (short-term commercial paper and long-term bonds). Stocks issued through the capital markets grew from 27.6 trillion rupiah at the end of 1991 to 152.2 trillion rupiah by the end of 1995. Bonds issued grew from 2.2 trillion rupiah to 5.3 trillion rupiah over the same period. With high interest rates at home, the top firms enjoyed the benefits of offshore funding, where the risk premium charged was lower and was declining as the reputation of these firms increased. The spread on Eurobonds for large companies such as Astra narrowed from an average of 2.5–3.0 per cent in the late 1980s to around 1.5–2.0 per cent in the 1990s.

Domestic banks tried to avoid competing directly with the foreign banks and gradually shifted their focus to what they often called ‘the middle market’—of second-tier corporations, small and medium-sized businesses, and consumers. Most of the main private banks began to focus on the retail market in the mid-1990s. These loans entailed greater risk, reflecting the lack of information and transparency in these sectors and the higher levels of non-performing loans. Interest spreads on a retail loan are normally 2–3 percentage points higher than on a corporate loan. Before the crisis average corporate lending rates were 19–20 per cent, collateralised consumer loan rates were 22–23 per cent, and unsecured consumer loans, such as credit card debts, carried interest rates of approximately 30 per cent.

Because loans involved a greater risk and because the quality and quantity of individual or sectoral credit information was limited, a great deal of effort was put into establishing effective credit assessments. Lending was based mainly on the value of specific collateral, such as a business property, house or car, which could be quickly repossessed and sold. When lending opportunities reached a saturation point, banks looked to expand their market geographically or to launch new financial products. Although most banks continued to focus on the larger cities, many ventured into smaller towns, where there was little or no previous experience of bank borrowing.

Net interest margins were kept high and operating margins low by the risk profile of domestic banks, as they shifted into new markets and locations and made efforts to go public, which demanded investment in technology, human resources, branch networks and improvements to bank management.

Despite their higher risk profile, most domestic banks continued to have inadequate

provision for bad debts. It was not uncommon for non-performing loans to be higher than provisioning for these loans and this practice was reinforced by Bank Indonesia, which allowed banks to deduct the value of loan collateral from provisioning needs. Most domestic banks were still in the early phase of entering the retail sector and expanding their networks when the crisis hit.

Financial integration and corporate debt

Because there were no limits on private sector borrowing, but domestic interest rates were high and exchange rate movements seemed predictable, large Indonesian companies increased their short-term unhedged external liabilities in the years before the crisis.

Table 6.5 shows the nature and extent of private sector debt in Indonesia. The data only became available after the crisis, as a result of mandatory reporting to Indonesia's External Debt Committee. Private sector debt was very large, with the main debtors being corporations rather than banks. Commercial lending rather than securities was the main debt instrument, and most lending was short term. Industrial corporations, including state-owned enterprises, had an outstanding foreign debt of US\$65.3 billion in 1998. Of the banking and corporate sectors' total US\$82.0 billion debt, US\$72 billion or 88 per cent was borrowed from banks and the remaining was in the form of marketable securities (commercial paper, medium-term notes and floating rate notes).

Detailed data from Indonesia's credit-rating agency Pefindo, which tracked the cross-border debt of about 400 Indonesian companies, including banks, show several interesting trends. First, it appears foreign borrowing increased rapidly between 1994 and 1997, before ending abruptly when the crisis started. The increased lending was driven by the lower cost of offshore borrowing and the issuance of the central bank's Yankee bonds in 1996, which provided a benchmark for Indonesian entities. Interest rates at home were high because of the tight monetary policy and because of the inefficiency of domestic financial markets and the high transaction costs of domestic borrowing.

Table 6.6 compares the issuance costs of domestic debts (bonds, commercial paper and bank loans) with that of overseas loans in 1995. The most attractive instrument, in terms of the issuance cost, had been commercial paper (CP), before the central bank tightened regulation of this instrument in early 1996. The CP issuance process was relatively simple and cheap and there was flexibility to roll over the debt. The estimated issuance cost for CP was estimated

Table 6.5 Indonesia's total foreign debts, 23 February 1998

<i>Sector</i>	<i>Bank loans</i>	<i>Securities (CP/MTN/FRN)^a</i>	<i>Total</i>
<i>Banks</i>			
State-owned	5,910	1,370	7,280
Private-domestic	4,124	955	5,079
Foreign/joint venture	4,330	–	4,330
Total	14,364	2,325	16,689

Corporations

State-owned	3,995	2,388	6,383
Foreign investment	23,473	–	23,473
Domestic investment	30,120	5,313	35,433
Total	57,588	7,701	65,289
Bank+corporate	71,952	10,026	81,978
Indonesian government	–	–	54,110
Total debt	–	–	136,088

Source: Bank Indonesia, reclassified.

Note

a Commercial paper, medium-term notes, floating rate notes.

at about 50–100 basis points (bps) compared with 259 bps for domestic bonds, 179 bps for medium-term notes, 200 bps for bank loans and 75 bps for offshore borrowing. In addition, before 1996 banks were able to use investment in CPs to circumvent the legal lending limit. The CP market has boomed, with capitalisation almost doubling every year between 1989 and 1996. A substantial proportion of CPs are held by foreign investors.

Table 6.6 Comparison of issuance costs of debt instruments

	<i>Rupiah bonds</i>	<i>Commercial paper</i>	<i>MTN</i>	<i>Domestic loans</i>	<i>Offshore loans</i>
Benchmark rate	ATD		SBPU	SBPU	SBPU
Risk premium	100–200 bps	100–200 bps	200–300 bps	300–400 bps	150–200 bps
SWAP (p.a.)	n.a.		n.a.	n.a.	n.a.
Processing time (months)	6–8		1–2	1–2	1–3
Annualised issuance cost ^a	259 bps	50–100 bps	179 bps	200 bps	75 bps

Source: *The World Bank, The Emerging Asian Bond Market—Indonesia*, June 1995.

Notes: SBPUs are the central bank's money market notes; ATD refers to average 12-month time deposits;

a Assuming average maturity of five years for bonds, three years for MTNs and one year for the other instruments.

A large proportion (80 per cent) of corporate debt was short term and was issued to companies oriented to domestic markets rather than to export markets that would have provided the natural hedge of dollar earnings. The five most active cross-border borrowers during the period were banking and finance companies, followed by infrastructure, property, and pulp and paper companies. All but the last group of companies were in the non-tradable sector. The bias toward non-traded goods was caused

by the commissioning of large-scale private infrastructure projects (e.g., power, telecommunications, toll roads and water utilities) and large investments in cement, chemicals, auto assembly, and auto parts and components. Rising real wages combined with other cyclical factors such as the downturn in the Japanese economy and the depreciation of the yen, caused a slowdown in export growth. In the absence of a natural dollar hedge, the majority of cross-border borrowing (approximately 80 per cent) was unhedged; that is, not covered by future currency swap contracts.

THE BUST: EVOLUTION OF THE CRISIS AND THE COLLAPSE OF THE BANKING SECTOR⁴

The exchange rate and interest rate shock that triggered the crisis had a dramatic effect on the balance sheets of banks and highly leveraged corporations. The liabilities of banks increased sharply owing to their own unhedged borrowing and their exposure to interest rates, while corporate distress affected the value of bank assets. In the following months, a combination of a crisis of confidence, which was related to initial policy miscalculations, further rounds of exchange rate and interest rate rises, hyperinflation (inflation reached close to 80 per cent in 1998) and the contraction of the real economy (–14 per cent GDP in 1998), worsened the distress in the banking and corporate sectors. A limited banking crisis quickly became a systemic banking crisis.

Conventional wisdom on bank restructuring

There are various options for undertaking bank restructuring, all of which entail trade-offs between speed of restructuring, fiscal costs, incentives for bank performance and confidence in the banking system (Claessens 1998). A bail-out is the fastest option, but entails the highest cost, the greatest disincentive for bank performance and financial discipline, and does not increase confidence in the banking system. It is not surprising that this option was not adopted in East Asia. In Indonesia, particularly, the severity of the crisis meant bail-outs did not make sense. The other extreme of closing down non-viable banks and paying off creditors and depositors would also have been speedy, would have sent a strong signal about financial discipline and would have involved a relatively low fiscal cost (depending on the extent of non-viable institutions). However, it would have had a dire effect on the confidence of the banking system. Most East Asian governments, including the Indonesian government, have selectively closed non-viable banks, facilitated mergers of banks and recapitalised distressed banks with the plan to sell these at a later date. The experience of other bank crises, including elsewhere in East Asia,⁵ suggests there are some key principles that should be followed in bank restructuring:

- only viable institutions should remain in operation;
- the costs of restructuring should be transparent and the burden on taxpayers should be minimised;
- restructuring should work toward establishing good governance by allocating losses to existing shareholders, creditors and perhaps large depositors;

- the measures introduced and implemented should preserve the incentives for new private capital and impose discipline on bank borrowers; and
- restructuring needs to take place at a sufficient pace to restore channels of credit while maintaining confidence in the banking system.

These principles should be kept in mind when analysing the initial responses to the East Asian crisis by the International Monetary Fund (IMF) and the Indonesian government, and the subsequent steps taken to stabilise and restructure the financial system.

Failed stabilisation efforts: from a limited banking crisis to a systemic banking crisis (August 1997—December 1997)

Indonesia's initial response to the flotation of the Thai baht on 2 July 1997 was to widen its exchange rate band from 8 per cent to 12 per cent. This led to an immediate 7 per cent depreciation of the rupiah to 2,600 per US dollar and the first wave of capital flows out of the country, probably from international mutual funds and hedge funds. As pressure built up and it became obvious that intervention to defend the band would be too costly, the rupiah was floated on 14 August and monetary policy was tightened considerably. Overnight call rates increased to a very high 81 per cent and SBI rates rose from 12 per cent to 30 per cent. However, the rupiah depreciated even further through the remainder of August and the first week of October, when it was around 3,000 to the US dollar, as corporate borrowers with large and unhedged external debt tried to cover their positions.

The rupiah depreciation, rise in interest rates and the problems beginning to be experienced by overleveraged borrowers, led to the first round of support for the banking system. Bank Indonesia channelled liquidity to selected banks. In September the government announced a stance of fiscal austerity, including postponing projects planned by the president's children, and released a plan to restructure the banking sector, including closures of unsound banks. The plan lacked clarity and credibility, and the rupiah continued to weaken. The direction of policy was further confused with the decision to loosen monetary policy, and SBI rates fell to about 20 per cent. The conflicting signals about monetary policy encouraged further capital outflows.

On 8 October the Indonesian government announced that it would ask the IMF for assistance. Uncertainty about the president's commitment to this move caused the rupiah to further weaken to around Rp 3,500. The first IMF letter of intent (LOI) was announced on 1 November 1997. The initial response to what was then perceived to be a limited banking crisis affecting only a small number of the weakest banks, including the state banks, was in accordance with conventional wisdom. That is, in order to stabilise the financial system and prevent capital flight and a breakdown of the payments system, non-viable or unsound banks should be closed without causing a loss of confidence. In order to protect depositors and to maintain the confidence of creditors, a scheme for guaranteeing deposits was introduced.

The first LOI involved a bank restructuring program that was quite comprehensive, although at the time of the announcement this was not made clear to the public. The plan was to immediately close sixteen small and deeply insolvent banks (with a market share of 2.5 per cent). Protection was limited to small depositors—those with deposits of up to 20 million rupiah (around US\$6,000)—who accounted for 90 per cent of the depositors in

the banking system. It was thought that decisive government action would improve confidence in the banking system. The scheme was modelled on Thailand's provision of blanket guarantees during closures of non-bank financial institutions (Enoch 2000). The banking reforms also included steps to intensify the supervision of a number of the largest private banks, rehabilitation and surveillance plans for a number of smaller private banks, and mergers of state-owned banks.

In the following two weeks there was initially a positive response to the first LOI and the rupiah strengthened to around Rp 3,000 to the US dollar. Confidence then began to falter. The bank closures were not well planned or executed. The details of the first IMF LOI were never made public; the only information provided was a summary of the main reforms announced by the minister of finance and the governor of the Central Bank. Before the announcement of the first LOI, it was widely expected that banks would be closed, including those known to be weak such as Bank Pacific, Bappindo and a number of others. However, the arbitrary choice of banks to be closed and the unclear criteria used led to speculation that more banks would close, especially since the names of the other thirty-four banks to be rehabilitated were not announced. The deposit guarantee of 20 million rupiah was seen as insufficient, and domestic investors transferred deposits from private banks to state banks in a flight from quality to safety. Many also transferred funds to foreign banks or exchanged rupiah for dollars and repatriated their funds. This was the beginning of the flight of domestic capital, which worsened rapidly in December as the crisis of confidence deepened.

Toward the end of November and into December several events worsened the crisis of confidence, including another round of external contagion in response to Korea's deepening crisis. In addition, one of the closed banks was owned by a son of the president, who challenged the minister of finance about the closure. The bank was allowed to be resurrected under a different name. This was the first indication that the president was not going to adhere to the IMF's reforms. The deposit runs accelerated further with rumours of further bank closures, the illness of the president and rumours of the death of Sudono Salim, the head of the largest business conglomerate and owner of the largest bank, Bank Central Asia. The flight to safety intensified. By mid-December 1997, 154 banks (approximately 50 per cent of the banking system) had experienced a run on their deposits. During December 1997 Bank Indonesia's liquidity support to banks increased from 13 trillion rupiah to 31 trillion rupiah or 5 per cent of GDP. Most of this liquidity was being funnelled abroad (Lindgren et al. 1999).

Second round of stabilisation and second shock (January 1998—May 1998)

The crisis of confidence worsened in January, with the rupiah plummeting to 15,000 to the US dollar at the end of January. The president's lack of commitment to the reforms was evident, with the announcement of an unrealistic budget in early January and indications that he did not intend to fulfil the second LOI signed in mid-January. Credibility in the management of the country and economic policy was dealt a further blow when as the president made it clear that his choice of vice-president would be the controversial B.J.Habibie. When four of the central bank's directors were fired, it became clear that the technocrats were no longer in charge of economic policymaking. The

worsening crisis of confidence tipped the banking sector into a full fledged systemic crisis. By the end of January, liquidity support from Bank Indonesia exceeded 60 trillion rupiah. The increase in liquidity support to the banking system immediately entered into circulation, further adding to the growth of the money supply as people withdrew their deposits from banks. Fears of hyperinflation began to emerge as a result of the increase in money supply and the exchange rate depreciation.

To restore confidence, the government (with IMF approval) announced another bank restructuring package on 26 January 1998. The package had three components. First, all bank liabilities were guaranteed by the government. The guarantee covered both on- and off-balance-sheet obligations, with subsequent automatic extensions every six months unless a change was announced. Derivative transactions (other than currency swaps) and bank liabilities to affiliated parties and those who held 10 per cent or more of the bank's shares were excluded from this guarantee. Second, the Indonesian Bank Restructuring Agency (IBRA) was set up to supervise and restructure the banking sector. The IBRA's mandate was to close, merge or take over and recapitalise troubled banks. Recapitalised banks would eventually be sold. The IBRA was also given the tasks of recovering the bad loans belonging to banks that had been taken over or closed, and of monitoring and selling corporate assets pledged or transferred from former bank owners as collateral for emergency central bank liquidity credits. The IBRA was expected to

Box 6.2 Policy response to the crisis: failed stabilisation efforts

Time Event	Exchange rate (Rp/US\$)	SBI (%)	Bank capital (trillion Rp.)
8/97 Rupiah floated.	2,599	20.7	46.7
11/97 16 banks closed.	3,648	20.0	44.8
1/98 Blanket guarantees given, IBRA established.	10,375	20.0	43.2
2/98 54 banks transferred to IBRA control.	8,750	22.0	50.8
4/98 10 banks frozen, 3 taken over.	7,970	46.4	50.3
5/98 Suharto resigns. Massive deposit run, liquidity support increases.	10,525	58.0	54.9

Source: Bank Indonesia, *Indonesian Financial Statistics*.

complete these tasks in five years, after which time the institution would no longer exist. Third, the government finally realised that recovery and bank restructuring could not be achieved without corporate restructuring.

The immediate effect on confidence was relatively positive, and the rupiah strengthened to below Rp 10,000. By February 1998, fifty-four banks (36.4 per cent of banking sector) that had borrowed heavily from Bank Indonesia (more than 200 per cent of their capital) and had a CAR of less than 5 per cent were placed under IBRA

supervision. This included the four state-owned banks (BAPINDO, Bank Bumi Daya, BDNI and Bank Exim), which together accounted for one-quarter of the liabilities of the banking sector, and fifty private and regional banks. However, continued uncertainties regarding the implementation of the IMF reforms, including the president's statements in February about introducing a currency board system, the replacement of the head of the IBRA and political upheaval leading up to the presidential selection in March further undermined confidence. Deposit runs continued and credit lines to domestic banks were withdrawn. Further liquidity was needed.

In early March Bank Indonesia's liquidity support was unified into a single facility, with interest rates only slightly above market rates as the focus shifted from using high interest rates to deter irresponsible usage of liquidity credits, to non-market sanctions. If a bank's borrowings were outstanding for more than one week, the central bank would inspect the bank and report whether its activities should be restricted or whether it should be put under IBRA control. Meanwhile, the monetary authorities had hiked up interest rates, with SBI rates doubling to 45 per cent, and therefore the interest rates on liquidity support remained high.

In early April the IBRA announced its first major action—the takeover of seven large banks. These banks had borrowings of more than 2 trillion rupiah (15.6 per cent of banking liabilities) and had received over 72 per cent of the liquidity support provided by Bank Indonesia. One of the seven was a state bank (Bank EXIM) and the other six were the major private banks. The IBRA suspended the owners and removed the managers of the private banks, twinning them with state banks. Seven smaller banks (0.4 per cent of the banking system) that had borrowed more than 500 per cent of their capital were also closed. Because of the previous experience of bank closures, great effort was made to create a smooth transition by ensuring that the deposits of these banks were directly transferred to a designated state bank, Bank Negara Indonesia, on the weekend of the closure. Public announcements were made about the criteria for closure and takeover. The actions were well received by the market and there were only sporadic bank runs.

However, the banking system was hit by another big shock in the weeks before the May riots that led to the resignation of President Suharto. The rupiah, which had stabilised at around Rp 10,000 between February and April, depreciated again to above Rp 10,000. There was a serious loss of confidence by both domestic and foreign investors. In the week of the riots and following the riots, there were massive deposit runs on Indonesia's largest bank, BCA, which accounted for 12 per cent of the banking system. The BCA was majority owned by the Salim group, which was close to President Suharto (30 per cent of BCA's shares were held by two of the president's children). The central bank and two state banks injected liquidity of around 30 trillion rupiah into BCA over the week following 16 May. On 29 May the BCA was taken over by the IBRA, shareholders' rights were suspended and the management was changed. This stemmed the runs on the BCA.

Interest rates once again climbed, with SBIs fetching an interest rate of 70 per cent and deposit rates reaching 60–70 per cent as banks sought to maximise their liquidity to protect against potential deposit runs. Inflation reached 50 per cent. The negative spread experienced by the banking sector increased substantially during this period, further damaging its capital base. In October 1998 the private national banks and the seven state

banks had negative equity, leaving a major portion of the banking sector technically insolvent. GDP contracted by nearly 14 per cent in 1998 and bank non-performing loans reached 75 per cent of total loans.

REHABILITATION AND RECAPITALISATION OF THE BANKING SECTOR (JUNE 1998—DECEMBER 1999)

After the resignation of President Suharto in May 1998, President Habibie took the reins and a few months of uncertainty followed. The exchange rate remained weak and interest rates stayed high. There was little progress in

Box 6.3 Chronology of bank closures

	1/11/97	14/2/98	4/4/98	29/5/98	21/8/98	30/9/98	13/5/99
Private domestic banks							
Liquidated	16 (2.5)						
Surveillance (IBRA)		50 (11)	37				
Taken over (IBRA)			6 ^a	7 ^d	4		11
Frozen			7 ^b		10		
Closed							38
Merged			4				
Recapitalised							9
State banks							
Surveillance		4 (25)	3				
Taken over			1 ^c				
Merged						4	
Regional banks							
Joint ventures and foreign banks							

Notes

a BUN, BDNI, Modern, Danamon, Tiara Asia, PDFCI.

b EXIM.

c Surya, Pelita, Subentra, Hokindo, Istismarat, Deka and Centris.

d Including BCA.

bank restructuring as efforts were focused on auditing the banks and preparing for recapitalisation.

Rehabilitation

The new government faced the tasks of completing the selection of viable and non-viable banks, dealing with non-viable banks and recapitalising the remaining viable banks. To achieve these tasks, clear criteria of viability were needed, which should have been linked to the terms of the restructuring of operations by imposing costs on existing owners (e.g., diluting shareholding, forcing consolidation, changing ownership/management). Proper prudential oversight was also needed. Unfortunately the blanket guarantee meant that the cost of recapitalisation was the government's responsibility. The cost was determined by the government's ability to resolve value-impaired assets by restructuring non-performing loans (restructuring, rescheduling, sale and swap), and selling off assets and banks. Although the government had handed over responsibility for restructuring and the sale of assets to the IBRA, it could not resist interfering with the process.

The audits undertaken on the banks taken over revealed the complexity and magnitude of the banking crisis. In June 1998 the audit of the six private banks taken over in April 1998 revealed that on average non-performing loans were 55 per cent of total loans (90 per cent in one large bank), that most loans were to affiliates and that banks were deeply insolvent. On 21 August the assets of three of these six banks were frozen (Bank Umum Nasional, BDN and Bank Modern) and their deposits were transferred to designated state banks. Bank Danamon would be recapitalised by the government and act as a bridge bank for further mergers with other banks. PDFCI and Bank Tiara were given a final opportunity to be recapitalised by their owners or they would either be closed or merged with Bank Danamon. In early August 1998, audits of the remaining banks revealed their weak situation and therefore the weakness of the whole banking system.

Under the government's guarantee program, many interbank loans were categorised as ineligible. Group-affiliated banks were affected most by this restriction. The IBRA took action against ten former owners of taken-over banks who were deemed to have violated their legal requirements. They were asked to pay back the liquidity support obtained from Bank Indonesia and the amount of affiliated lending. By late September several of these owners had pledged assets that they had valued at 200 trillion rupiah, as well as about 1 trillion rupiah in cash. The IBRA's advisors valued the assets at 92.8 trillion rupiah and tentative settlement was reached. A protracted debate

Box 6.4 Rehabilitation and recapitalisation of banks

Time Event	Exchange rate (Rp/US\$)	SBI (%)	Bank capital (trillion Rp.)
9/98 Audit and recapitalisation.	10,700	68.8	10.8
10/98 4 state banks merge into Mandiri.	7,550	59.7	(28.5)

3/99	38 banks closed, 9 recapitalised, 7 taken over.	8,685	37.8	(244.6)
5/99	11 private banks, 12 regional development banks recapitalised.	8,105	28.7	(199.6)
10/99	Mandiri recapitalised, Wahid becomes president.	6,900	13.1	(81.0)

Source: Bank Indonesia, Indonesian Financial Statistics.

took place as to how much up-front cash owners should provide. Suggestions of transferring the ownership of assets, including the possibility of giving some shares to cooperatives, sparked political controversy. In the end it was agreed that obligations should be settled within four years, with 27 per cent to be realised in the first year.

Recapitalisation and the cost of bank restructuring

Private banks

With bank equity becoming negative, the IBRA launched its recapitalisation program in September 1998. The objective was to recapitalise viable banks and share the burden of restructuring between the government and the private sector. The government's contribution would be in the form of bonds, while the owners would contribute cash. After three years the government would commission an independent valuation of the bank and the owners would be able to reacquire their share in the bank by repaying the government's contribution. The owners had the first option to buy back the government's share, but the government could sell it to other investors after a specified period. To encourage owners to inject new capital, the government allowed them to retain management control. Category-5 loans (bad loans) or those already written off were transferred at zero price to the IBRA's Asset Management Unit. The proceeds from the resale of these loans would be used to buy back the government's shares, giving the possibility of returns on the government's capital injection and reducing the amount owners would have to pay to reacquire the bank.

Banks were categorised into three groups based on an audit by international accounting firms. 'Category AZ' banks had a CAR of above 4 per cent and were exempt from the program and could resume operations. 'Category B' banks had a CAR of between 4 per cent and -25 per cent and were candidates for the program provided that their owners could inject 20 per cent of the new capital required to attain a CAR of 4 per cent. Banks with a CAR of less than -25 per cent were put in 'category C' and their owners were given time to inject sufficient equity to push them into a higher category that would make them eligible for recapitalisation. Category B and C banks whose owners could not add sufficient capital would be taken over by the IBRA or closed.

The recapitalisation program experienced various delays because of political uncertainties and the intense lobbying by bank owners. The deadline of 26 February 1999

for announcing the categorisation of banks was delayed and some banks that should have been closed ended up being taken over by the government. These glitches damaged confidence and the rupiah weakened again to Rp 10,000. Finally, in mid-March the government announced that 73 of the 140 category A banks did not need government support, nine category B banks (10 per cent of the banking system) were eligible for the recapitalisation program, thirty-eight banks (5 per cent of the banking sector) would be closed and seven banks (2 per cent of the banking system) would be taken over by the IBRA.

The owners and managers of the category A banks were reviewed to see whether they were fit and proper, and one-third did not pass this test. The managers and commissioners who did not pass were replaced and the owners who failed were given 90 days to divest their shares.

The nine category B banks were given five weeks to add additional capital, and seven met the 20 April deadline. The other two, Bank Bali and Bank Niaga, experienced problems. Bank Bali was in the middle of negotiations with Standard Chartered when a corruption scandal broke out. Bank Niaga's major shareholder failed to provide sufficient capital and the bank was taken over by the IBRA.

Of the thirteen banks taken over by the IBRA, nine were merged with Danamon, while BCA, Niaga and Bali were recapitalised. The larger recapitalised banks were BII (affiliated with the Sinar Mas Group), Lippo (Lippo Group) and Universal (Astra Group).

Four smaller banks were also recapitalised: Bukopin (Cooperative Bank), Prima Ekspres, Arta Media and Patriot.

The IBRA negotiated performance contracts and memorandums of understanding with the owners and managers of the eight banks to be recapitalised, obtaining ordinary stock and allowing owners to take management control. The estimation of the amount needed for recapitalisation had been done in September 1998 but the economy and political situation had not improved by May. Therefore, in the lead up to the elections, the rupiah was still weak. The updated audits indicated that the amount needed for recapitalisation would be almost double what was originally predicted.

State banks

The restructuring of the state banks has been much slower than planned. Even though all the state banks and some of the regional development banks fell under category C, they were all recapitalised after restructuring and mergers had taken place. The four state banks—Bank EXIM, BDN, BBD and Bapindo—merged to become Bank Mandiri in September 1998. The corporate business segment of BRI was also merged into Bank Mandiri, and BRI changed its focus to small business lending. The non-performing loans of the four banks were transferred to the IBRA's Asset Management Unit. The management of Bank Mandiri was entrusted to professionals, with technical assistance provided by Deutsche Bank. Half of the staff of the four banks were retrenched and branches were closed. Bank Mandiri has been recapitalised and is being prepared for privatisation.

The remaining three state banks (BNI, BTN and BRI) have been recapitalised after submitting restructuring plans and changing their management. The president's

nominated candidate for the position of president-director of BRI was rejected by Bank Indonesia in an ongoing tug of war between the president and the central bank. The president-director is now the minister of finance in the revamped cabinet of President Wahid. There are also plans to recapitalise the twenty-seven regional development banks.

As well as the costs of recapitalisation, the government also bore the costs of the guarantee program and shareholder settlement agreement. The bill for recapitalisation amounted to 439 trillion rupiah (Box 6.5). Government bonds issued to repay the interbank borrowings of the forty-eight banks closed totalled 53.8 trillion rupiah. BCA shareholder settlement, in connection with the IBRA's takeover of the Salim group's loans in excess of the BCA's legal lending limit, reached 60.9 trillion rupiah. About 114 trillion rupiah of liquidity credits are still outstanding from several banks. Total government bonds outstanding are therefore around 659.5 trillion rupiah.

LESSONS FROM THE RESTRUCTURING PROGRAM

The audits of the banks and the results of the bank restructuring program have revealed several important lessons.

The banks that survived the crisis were largely those that were not trading in foreign exchange or had only limited foreign currency transactions compared

Box 6.5 Summary of bank restructuring

No. of banks (before restructuring)	Bank category			Restructuring process	No. of banks (after restructuring)
	A >4%	B –	C <–		
		25%	25%		
		to			
		4%			
<i>State banks</i>					
7	–	–	7	4 merged to 1 new (BEI), all recapitalised: Mandiri BNI BRI BTN	5 est. Rp 290 tn (US\$36 bn) Rp 178 tn Rp 70 tn Rp 29 tn Rp 14 tn
<i>Regional development banks</i>					
27		13	10	4	12 recapitalised
					27 cost Rp 1.2 tn (US\$0.2 bn)
<i>Private national banks</i>					
142		72	40	30	48 closed 7 recapitalised
					92 cost Rp 17.8 tn (US\$2 bn)
				13 taken over (4 recapitalised, 9	cost Rp 130 tn (US\$16 bn)

merged into 1)

Sources: Kompas and other media announcements.

with their rupiah activity. This is despite the fact that some of the banks had weak management and credit practices. The large banks (both state and private) that provided foreign currency services and were exposed to considerable foreign exchange risk were badly hit by the crisis. This is not surprising given the volatility of exchange rates during the crisis. The extent of the damage caused by the crisis was often directly correlated with the level of foreign currency loans a bank had on its books. Panin Bank was an exception, given its higher CAR and its quick response to reduce its outstanding US dollar loans. Foreign banks were able to absorb these losses, given their worldwide and diversified earnings.

Foreign currency loans were the first to experience problems. Bank customers, attracted by lower interest rates and the steady 4–5 per cent annual depreciation of the rupiah against the US dollar, had borrowed heavily. Most of these borrowers earned in rupiah. When the rupiah dropped in value by 70–80 per cent, the cost of the loans rose fourfold.

Banks that had lent to their affiliates beyond the legal lending limit were also badly hit. Loans to affiliates were often not adequately scrutinised, collateralised, documented or appropriately priced and monitored. Practices to overcome the legal lending limit included loan swaps between banks and interbank placements to banks that would onlend to affiliates of the funding bank. As problem loans mounted, many banks were stuck with interbank borrowings that could not be repaid and were classed as ineligible for the government's guarantee program.

The international audits of the banks under IBRA control show evidence that concentration of ownership is correlated with unsoundness. The audits show gross violation of the legal lending limit. It is estimated that an average of 50 per cent of total lending of these banks was to their own group. The legal lending limit was 35 per cent of equity and, assuming a CAR of 8 per cent, it can be estimated that intragroup lending was nearly 20 times more than the legal lending limit.⁶

PRESENT CONDITIONS AND REMAINING CHALLENGES

In January 2000 Bank Putera was closed, in May the IBRA sold 22 per cent of its stake in BCA, and then Bank Danamon, which had been taken over by the IBRA, was merged with the other eight banks that had been taken over, in a move that amounted to the closure of these banks. Finally, the recapitalisation of the remaining private and state banks was completed in several tranches. Despite the progress in rehabilitating and recapitalising the banking system, many challenges and problems remain. The banking sector is still dominated by the state banks, which have been recapitalised but are weak. The banking system remains fragile because of the weaknesses of the banks, the lack of progress in corporate debt restructuring, the limited economic recovery and continued political uncertainties.

The state now dominates the banking sector, either through the state banks or because it has taken over or recapitalised private banks. Nearly 85 per cent of the banking sector's third-party liabilities are owned by the government, with thirteen banks taken over, the IBRA controlling 80 per cent of the seven recapitalised banks, and four state banks remaining in operation. Although the state banks have been recapitalised and their managements restructured, these institutions still have many problems because of the political pressures they face.

The banking system also includes the former large private banks that were taken over, merged and recapitalised: BCA, Bank Niaga, Bank Bali and the ten merged banks under Danamon. Only BCA has undergone divestment, with 22.5 per cent of its shares sold to the public for 0.9 trillion rupiah in May 2000. Plans are underway for divestment of the other banks, but the market is weak and there are many uncertainties surrounding the prospects for further divestment. There are also sixty-three smaller category A private banks that have not been under IBRA control, twenty-six regional development banks and fifty joint-venture banks. The top four foreign banks are Citibank, Standard Chartered, ABN Amro and the Hong Kong Shanghai Bank.

The banking sector faces three main problems. First, even after recapitalisation, with the exception of a few banks, capital adequacy standards are still low at close to or below the 4 per cent minimum. New loans would easily lower CARs, as risk-weighted assets would rise while capital would stay more or less the same. Recapitalisation pushed up the CAR by increasing the assets side of the balance sheet with government bonds, but there is no real cash to increase loans unless the bonds are sold. If the economy recovers and loan demand increases, banks will face the problem of having to liquidate government bonds in the secondary market to create funds for issuing loans. Government bonds still trade at a discount which, if too large, would reduce the CAR. The amount of recapitalisation needed was underestimated, as it was to cover losses up to March 1999, but the bonds were not issued until May and for the remainder for 1999 and 2000, when the losses had gone up.

Second, earnings are still low, as reflected by very low interest margins. The majority of banks' assets are government bonds, which have low yields (12–13 per cent), while deposit rates are slowly rising with the weakening of the rupiah. Interest margins are often too low to cover operational costs.

Third, non-performing loans are still high, even after the category-5 loans were transferred to the IBRA's Asset Management Unit. The slow economic recovery has meant that corporations have not significantly improved their debt service capabilities. Another round of losses is probable.

With the economic recovery likely to remain slow, given the current political situation, bank earnings are not expected to be sufficient even to maintain the already low CAR levels. Non-performing loans are still high and even category A banks are showing earnings fatigue. If CARs decline, a second round of recapitalisation may be needed. The question is where is this capital going to come from? The government budget is already spread thin and there are little public resources available.

This then raises the question of whether private investors (both foreign and local) would be prepared to buy into an Indonesian bank. Judging from the limited interest private investors had in the BCA, the failure of Bank Bali's negotiations with Standard

Chartered Bank, and the likely strong domestic reaction against foreign investment in the banking sector, divestment would have to be made very attractive to entice investors.

We predict that the likelihood of foreign investors entering the banking sector is small. Although foreign banks have discussed the possibility of buying into a local bank, their interest has been low. This has also been the case in other East Asian economies. Unlike in the Latin American banking crises, foreign investors will not be the source of new capital or better governance, management and expertise. Those foreign banks that do invest are more likely to look at less-risky medium-sized local banks, which have limited branch networks, or banks with a customer composition that closely resembles their own (i.e., the top end of the corporate and consumer market). Data on branches per bank in Table 6.7 compared by ownership type shows that even when foreign banks were allowed to extend their branch network to six other major commercial cities apart from Jakarta, they still opted for an average of two branches. These considerations narrow the targets for foreign takeover to less than a handful of banks.

Investment in Indonesian banks may attract financial investors who bring capital and a new management team in to restructure a bank with the hope of reselling at substantial capital gain. However, the major issue remains as to how to make banks more attractive for investors and also what other conditions are needed for investors to want to come in.

SOME POLICY RECOMMENDATIONS

The priorities for bank restructuring are to complete the much-needed separation of non-viable from viable banks, to recoup losses (through asset-management and sales strategies, and state divestiture of banks), to implement new rules and regulations, and to develop an incentive-based system for the consolidation of banks.

Completing restructuring: developing core banks

The commercial banking sector remains weak and undercapitalised, more than 100 banks still exist (with low franchise values) and the state accounts for 85 per cent of the liabilities of the banking sector. The state banks still hold a large amount of non-performing loans, which remain undercapitalised and could increase. The situation is not likely to improve given the uncertainties that continue to plague economic recovery and corporate debt restructuring. Another round of purging non-performing loans and recapitalising banks will probably be required, followed by a further consolidation of private and state banks to establish a smaller number of sound core banks.

Table 6.7 The banking industry, 1997–2000

<i>July 31– Sept. 31</i>	<i>State banks</i>				<i>Private banks^a</i>		<i>Regional development banks</i>		<i>Foreign and joint-venture banks</i>	
	1997	2000	1997	2000	1997	2000	1997	2000		
No. of banks	7	5	160	83	27	26	44	50		

No. branches	1,463	1,556	4,273	3,546	518	548	90	95
Branches/bank	209	311	27	43	19	21	2	2
Assets (Rp tn)	201.9	458.7	248.7	331.9	12.3	23.2	37.5	40.2
Loans (Rp tn)	120.0	103.9	179.8	79.9	8.2	9.4	32.1	68.8
Deposits (Rp tn)	97.9	307.4	187.5	264.4	8.6	18.6	22.0	75.1
Capital (Rp tn)	14.3	10.0	22.7	16.8	1.1	2.2	5.4	5.3

Source: Bank Indonesia, *Indonesian Financial Statistics*.

Note

a Includes banks taken over and recapitalised by the government.

There are a number of justifications for developing a smaller number of core banks. First, given the limited number of qualified and experienced employees in the banking sector, fewer banks would allow expertise to be consolidated. The IBRA has had to resort to placing foreign managers in the banks under its control and has used foreign advisers and consultants. There is a limit to the ability of foreign staff to meet the shortfall in domestic personnel, given the complexities of operating in Indonesia. Second, fewer banks would lessen the supervisory and monitoring tasks of the central bank (and the independent supervisory agency in the near future). Third, economies of scale could be achieved, given the high fixed cost of developing bank technology. Fourth, consolidation is likely to improve performance and profitability, add to the franchise value of the remaining banks and attract private investment in the banking system.

Consolidation should not be based on deciding the number of 'ideal banks' and picking winners with less than objective criteria. An incentive-based framework should be put in place to ensure risk-appropriate behaviour and good governance by the owners, managers and supervisors of banks. A possible path for consolidation could be as follows.

Further mergers of state banks could be undertaken. Bank Mandiri could be further merged with BNI, with the non-performing loans transferred to the IBRA's Asset Management Unit or to a separate subsidiary of the IBRA set up for the non-performing loans of state banks. The management of the newly merged state bank should be changed and top Indonesian personnel installed. Principles of transparency, disclosure, independence and proper credit evaluation for loans (with no political interference) should be followed, with an outside directorship or statutory body overseeing the bank. Public capital injections could be linked to a change in management, and since BNI is publicly listed, capital could also be raised in the capital market. The injection of public funds and other steps to increase the franchise value of banks will hopefully attract the interest of private investors.

Another round of mergers and consolidations should be encouraged in the private banking sector. The few core private banks that emerge would, along with the two or three remaining state banks, form the backbone of the banking system. The remaining sixty-three smaller private banks that are not under IBRA control should also be encouraged to merge and consolidate to perhaps twenty or thirty banks, which would be regarded as second-tier or community banks focused on a different market segment. The consolidation of the private banks should be based on the following incentive-based framework.

First, international experience has shown that incentives are required to ensure that core banks are financially strong and behave in a risk-appropriate way. For instance, permission to trade in foreign exchange could be dependent on a high CAR (e.g., 15 per cent). The higher capital requirement would encourage further consolidation in the sector, show that owners and managers are seriously committed to the banking business, and protect banks from unfair and imprudent competitors (Bossone and Promisel 1998). Additional incentives such as tax relief for bank mergers can also be provided. The decision to open the capital account and rapidly embark on financial integration made Indonesia's weak financial sector even more vulnerable and showed that any bank providing foreign currency services and transactions should be well equipped to face volatile exchange rate movements.

Second, to ensure there is pressure on bank managers to follow principles of good governance, foreign exchange banks should be publicly listed. Measures of soundness should be published by the Central Bank and made accessible to the public. To ensure appropriate behaviour of the banking supervisors, the banks should be rated by both international and domestic rating agencies. A similar approach was adopted in Chile, where in addition to central bank risk ratings and valuations, two independent private accountancy firms must audit the banks every year and publish their findings. The central bank publishes ratings based on capital requirements and the quality of the banks' assets.

Third, given the barriers to good governance from the concentration of ownership in the banking sector, excessive affiliate or group lending and the fact that banks finance their affiliated businesses, diversification of ownership will be important. As mentioned already, diversification of ownership through increased foreign ownership is likely to be limited. In addition, wider ownership may not provide effective oversight unless prudential regulations are adequately enforced (World Bank 2000). The divestment of government shares in the banks through the capital markets or to financial investors would be another avenue for achieving diversification. The funds raised can then be used for recapitalisation. Given the past problems of excessive violation of the legal lending limit by business groups, the share of financial institutions that can be owned by business groups and the percentage of single ownership could be limited (e.g., to less than 49 per cent).

Fourth, banks with foreign exchange licences must have the capacity to manage risk. This implies strong and proper criteria for evaluating whether bank owners and managers are 'fit and proper'. Bank Indonesia is currently implementing such criteria.

Fifth, while it is not expected that foreign banks will play a role in bank recapitalisation, they can bring in capacity, expertise and skilled staff. Foreign banks can also introduce better governance and a more efficient corporate culture.

Strengthening prudential regulation and supervision

The IMF reforms stipulated a comprehensive set of changes to prudential regulations. It is important to ensure that prudential regulations and bank supervision follow market-compatible principles (Bossone and Promisel 1998). Some possible recommendations for ensuring risk-appropriate behaviour would be as follows.

First, temporary limits are needed on asset growth and the growth of risky assets such

as real estate to ensure risk diversification and smooth and reasonable growth.

Second, capital requirements for banks in developing countries may need to be higher since they are operating in riskier environments. In the United States, for example, small community banks have higher capital requirements than major banks because their portfolios are not as diversified (Bossone and Promisel 1998). This requirement could lead, however, to perverse behaviour such as disintermediation, the booking of loans in offshore subsidiaries, and excessive investment in government bonds, which bear lower returns. These risks must be incorporated in any decision to strengthen capital requirements.

Third, prudential regulations could reward prudent and honest behaviour with positive incentives such as allowing lower CARs and less regulation or intervention for those institutions deemed to be well managed.

Fourth, sanctions for misconduct should be implemented and strictly enforced, whether concerning bank owners, managers or supervisors. In Chile, for instance, if the capital requirement is not met, a bank will be closed unless the uninsured creditors and supervisors agree to restructure the bank.

Fifth, the regulation and supervision of the sector needs to be deepened and expanded.

Finally, given the experience of the East Asian crisis, there must be exit mechanisms in place to allow orderly bank closures.

The problem faced by Indonesia and many other developing countries is that while incentive-based rules can be designed, poor enforcement of rules and underdeveloped legal and supervisory infrastructure can prevent their proper implementation. Governments and international institutions have been attempting to address this problem, but institution and capacity building will take time. In the meantime market participants can establish institutions that reduce risks, encourage risk-appropriate behaviour and avoid corruption. Such institutions could include private credit-rating agencies, independent corporate governance bodies and consumer or minority shareholder groups.

Incentive-based safety nets

Safety nets are necessary to reduce the risk of a systemic crisis, but in their design and implementation the need to protect consumers has to be balanced against the need to minimise moral hazard and link the cost of protection to the risk. A blanket guarantee of deposits was perhaps the appropriate response for Indonesia, given the crisis of confidence in January 1998, but the scheme needs to be replaced by one that is suitable for normal conditions and does not create moral hazard. To make the safety net for investors more credible, the deposit insurance scheme should not be a blanket guarantee and should only cover deposits (demand, time and savings) up to a certain maximum.

Experience in other countries has shown that financial institutions do take risks if they know they are protected by some kind of deposit insurance (Caprio 1996; Caprio and Klingebiel 1996). This was the experience in Argentina in 1990 and Chile in the mid-1980s. If the deposit insurance scheme is extensive and the government is expected to fully protect depositors, bank managers will be less concerned about how their actions affect depositors, and depositors will not be as prudent in their choice of banks.

It is not easy to introduce safety nets that retain incentives and minimise moral hazard.

In redesigning a deposit insurance scheme for Indonesia, incentives could be given to better performing banks by linking the annual premium payments to their risk profile. The risk profile could be measured by the level and quality of bank capital and the bank's credit rating. This way the deposit insurance scheme is self-funded by the banking sector and is less of a burden on the government. The Chilean deposit insurance scheme introduced after the crisis provides a good example of such a scheme—partial coverage gives private debt holders an incentive to monitor banks and punish inappropriate behaviour.

Political economy: state divestiture of assets and banks

The most difficult problem facing countries such as Indonesia is that there are political and social constraints on instituting rapid restructuring and reforms that will strengthen the financial sector. As indicated above, the ownership of banks and major corporations now largely rests in state hands. Restructuring has already involved large losses and the distribution of these losses between the state, taxpayers, creditors, bank owners, borrowers and depositors has not yet been completed. Restructuring involves the redistribution of wealth and control directly through the ownership of assets and liabilities, and indirectly through taxation, wage and employment adjustments (Claessens 1998:2). A clear consensus has not emerged in Indonesia with regard to the division of ownership and control in the banking sector between the state and the private sector, between domestic and foreign companies, and between large companies and small and medium-sized companies. This division is likely to be politicised, given the predominantly Chinese ownership of banks and businesses. Until these issues are resolved, the restructuring progress is likely to continue to be slow and be plagued by problems and government interventions.

CONCLUSION

The Indonesian banking crisis offers a number of policy lessons on avoiding or minimising the build-up of vulnerabilities during integration with international financial markets. Financial liberalisation needs to be preceded or accompanied by a strengthening of institutions and prudential regulations. These regulations must be enforced, with sanctions in place for non-compliance. If financial integration takes place when exchange rate regimes are not flexible, prudential supervision of foreign currency exposures and risks or, at the very minimum, monitoring of the exposures is needed so that there is awareness if vulnerabilities become crucial. Policymakers must be aware of and be able to manage financial linkages in the macroeconomy that can exacerbate economic cycles. Concentration of bank ownership in Indonesia made it difficult to monitor behaviour and led to gross violations of prudential regulations. This implies a need to reduce single ownership and substantially improve prudential regulations, the qualifications of owners and managers, and corporate governance norms and regulations to strengthen information disclosure. Finally, moral hazard is more likely when there are no clear exit mechanisms and when banks are bailed out because they are 'too big or too important' to fail.

Indonesia's responses to the financial and banking crisis show that liquidity support and lender-of-last-resort facilities need to be designed in a way that does not lead to misuse and is accountable. Furthermore, failure to sterilise liquidity fuelled inflation and capital outflows, further weakening the rupiah. Indonesia also had a shaky political situation, which added to the crisis of confidence in the banking sector. The usual relationship between capital flows and interest rates broke down, and high interest rates could not stem the outflow of capital from the country.

Indonesia's experience underlines the importance of ensuring that closures of non-viable institutions are accompanied by clearly explained criteria for closure, consistency in implementation and a well-defined deposit guarantee scheme. The deposit guarantee scheme must be prepared in advance so that it is clear to depositors that they will get their money back or be able to transfer to quality banks. If there is a massive crisis of confidence, a comprehensive deposit guarantee will be needed; however, it is debatable in Indonesia's case whether the guarantee should have been extended to all liabilities of banks.

What are the lessons so far from bank restructuring in Indonesia? Recapitalisation was necessary, but the selection of viability was questionable, including the lack of uniform treatment of state and private banks. The recapitalisation program did not seem to be linked to a serious restructuring program, and as such the need for a second round of recapitalisation has emerged. Thus, recapitalisation alone is not sufficient to attract private capital unless there is confidence in the restructuring program.

Political interference in the reforms has been and continues to be a major problem leading to delays and inconsistencies. It is clear that restructuring cannot proceed without the full commitment of the government to support the agencies involved. The IBRA needs to be given sufficient independence to operate, be protected from law suits and have the means to attract the necessary expertise.

The difficulty of valuing non-performing loans and other value-impaired bank assets during changing economic circumstances remains the most challenging task of the restructuring program. Yet accurate and realistic valuations are the key to reducing the fiscal burden of bank restructuring. Non-performing loans need to be properly valued to avoid bailing out existing shareholders and undermining private sector recapitalisation, and to encourage good governance of banks. The responsibility for asset disposal has been given to the IBRA, but there has been no consensus over the strategy of asset sales, especially with regard to the speed of disposal, or how to conduct the divestiture of state ownership in banks or assets.

With hindsight, the policy lessons that can be drawn from the build-up of vulnerabilities before the crisis and the management of the crisis are clear. It is important that the same mistakes are not repeated. The establishment of a sound banking sector that is part of a developed financial sector is going to take time, and will require substantial public resources and significant changes in institutions, regulations and the behaviour of the key participants.

Although the policy lessons and possible way forward may be evident, Indonesia faces serious fiscal constraints because of the magnitude of the distress in the banking and corporate sectors and the size of its external debt. Furthermore, Indonesia has the weakest institutional framework of the crisis-affected countries for resolving banking and

corporate sector problems (Claessens 1998:4).

The effective restructuring of Indonesia's banks can only take place if the economy recovers, and this will only occur if there is sufficient investment (both local and foreign). Political instability is the main barrier for investors. Among Indonesia's many ethnic, regional and religious groups, political differences that were suppressed for so long have risen to the surface at the same time. Given the inadequacies of Indonesia's political, social and legal institutions to address these divisive issues, structural changes are required, but these will only be achieved in the long term. Although economic recovery is therefore likely to continue to be slow, it is important that momentum of reform is maintained in the right direction.

NOTES

The views presented in this paper are those of the authors and do not in any way represent the views of the Centre for Strategic and International Studies or Pefindo.

1 See Ghosh et al. (1999) for more detailed discussions.

2 Including the famous Sumarlin shock that resulted in 8 trillion rupiah of state-bank deposits being converted into Bank Indonesia certificates (SBIs) and interest rates more than doubling.

3 The empirical evidence (Ghosh et al. 1999) on private consumption, for example, finds that the coefficient on domestic credit is statistically significant at the 12 per cent level, while that on money is not significant at all:

$$cons = 0.70 + 0.42 * \left(\frac{dc^p}{gdp} \right)_{t-1} + 0.80 * cons_{t-1}$$

(1.25) (1.58)* (5.99)***

adj R² = 0.73

$$cons = 0.12 + 0.68 * \left(\frac{m1}{gdp} \right)_{t-1} + 0.91 * cons_{t-1}$$

(0.14) (0.44) (7.77)***

adj R² = 0.68

Notes: *** significant at the 5 per cent level; * significant at the 12 per cent level.

4 Factual information taken from Lindgren et al. (1999), appendix 1; World Bank (1998, 2000); and press releases.

5 See among others, World Bank (1998), ch. 3; Claessens et al. (1999); and World Bank (2000), ch. 4.

6 Estimates from interviews with IBRA officials.

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Financial market liberalisation and economic stability in China

Fan Gang

INTRODUCTION

China's economy has rapidly opened up over the past twenty years. Since 1993 China has been the single largest recipient of foreign direct investment (FDI) to newly developing countries and its trade now stands at 40 per cent of its gross domestic product (GDP). China is still far from being a market economy and is under international pressure to open further, as the fourteen-year negotiations over its accession to the World Trade Organisation (WTO) show. A consensus has built up in China about the need to open further in order to reap the benefits of globalisation, and the need to play a constructive role in global society so as not to be marginalised. At the same time, China has to plan its path based on its own calculation of costs and benefits, and its own capability to deal with the risks of globalisation, rather than on the agendas of multinationals, foreign powers and other international interest groups.

THE UNEQUAL FOOTING

Globalisation provides many benefits to developing countries. Inflows of foreign capital and technology offer the chance to grow more rapidly in return for what industrialised countries lack—cheap labour. As the pace of industrialisation quickens, resource endowments will change, gradually improving living standards for most of China's people.

Why then have many economies benefited little from globalisation, seeming to be trapped in a cycle of poverty, social instability, financial turmoil and economic crisis?

Globalisation is highly praised by multinationals and the governments of industrialised countries, but the developing world has been more sceptical.

Many former colonial territories, which have had access to capital inflows and technology transfers from industrialised countries, have not prospered and remain very poor.

Developing countries have had an unequal footing in the global economy as they have been constrained by domestic problems and by their greater vulnerability to the risks of the international market. Foreign capital and technology, and cheap local labour have not been sufficient to ensure prosperity. Competitive economic structures, strong institutions, the experience to manage markets and basic education are all crucial for building

prosperity.

While developing countries do need to reform institutions, develop education and research, adjust economic structures and learn how to manage market risks, all these changes take time, perhaps ten to twenty years, or even fifty years: it took longer for the industrialised countries to develop market systems. The question for many countries is how to develop domestic capacity at the same time as the economy is being reformed.

Although capital and technology are highly mobile, institutional and market-management capabilities are not as easily transferred. Globalisation has promoted some institutional change, as developing countries have copied the laws and regulations of other countries and followed international business rules. Foreign investment and technology do introduce institutional models and management know-how, but the speed of change is much slower than in factors such as capital and technology.

This unequal footing explains why developing countries face higher risks and can become losers, especially in financial markets.

LESSONS FROM THE EAST ASIAN CRISIS

The East Asian crisis showed that if developing countries liberalise their financial markets without also changing other domestic economic structures, they are more likely to be vulnerable to shocks from the global market.

The East Asian crisis can be viewed as being caused by the ‘incompatible opening’ of some economies; that is, excessive market liberalisation that has been incompatible with the pace of change in the rest of the economy and a lack of market-management capability.

Although financial markets are riskier than commodity, factor and services markets, the problem is fundamentally the same: if market liberalisation is incompatible with the level of development in other parts of the economy, problems will arise. For instance, if domestic structural adjustment has not been achieved, rapid liberalisation of commodity markets may cause serious unemployment, income disparity, social unrest and a decline in overall growth.

The most important lesson that the East Asian crisis offers to other developing countries is that rather than slowing down the opening of external markets, these countries should speed up structural adjustment and institutional reform to increase the likelihood of ‘compatible opening’ and the benefits of globalisation.

The pace of external liberalisation should be balanced with progress in domestic reforms. Those economies that implemented ‘excessive opening’ may now need to impose controls, particularly on financial markets, before they can move forward again successfully.

China’s gradual liberalisation

While there have been cases elsewhere in East Asia of overshooting in market liberalisation, China seems to have remained in the category of compatible opening, if not overcautious opening. Market liberalisation has had its costs, but these have been

manageable, and most economic, social and political problems have been mainly caused by domestic structural adjustment, such as the reform of China's massive state-owned sector.

The East Asian financial crisis did not affect China as severely as other Asian economies, not because China did not have similar problems (some of its problems were worse), but because China had only partially liberalised its financial market. Foreign borrowing, particularly short-term borrowing, and foreign portfolio investment were low, and although some inflationary bubbles had appeared, they had been contained.

While the term 'compatible opening' is more or less a theoretical concept of an ideal situation, China's gradual market liberalisation can be described this way.

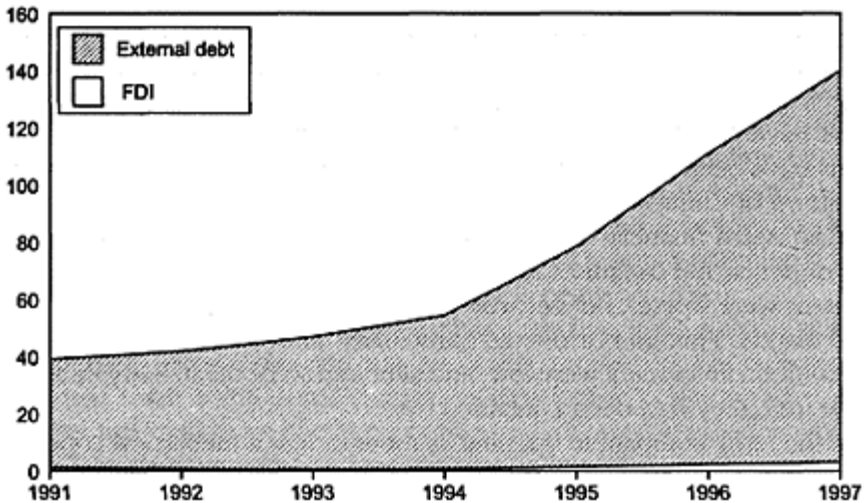
REFORMS OF CHINA'S FINANCIAL MARKET

Because of the inconvertibility of the renminbi and its relatively closed capital market,¹ China has a larger share of FDI as a proportion of capital inflows, and a smaller share of foreign debt or portfolio investment, than most other East Asian countries. (See Figure 7.1a for a comparison with Korea.) Because only about 30 per cent of China's foreign debt is short term, China has been less vulnerable to exchange rate movements.

Figure 7.1a Structure of China's capital inflows (US\$ billion)



Figure 7.1b Structure of Korea's capital inflows (US\$ billion)



China has benefited a great deal from foreign investment, especially foreign direct investment. Since 1993 China has been the largest single recipient of FDI to developing countries, attracting investment worth approximately US\$420 billion by the end of 1999 (Table 7.1). Foreign direct investment has been important to China's growth, exports, employment, technological upgrading and institutional transformation.

FDI accounted for 11.7 per cent of total fixed-asset investment in 1996 (see Table 7.2). Foreign-funded companies, including joint ventures, produce more than 14 per cent of industrial output, more than 40 per cent of exports (see Table 7.3) and have directly created about six million jobs.

Foreign direct investment is able to jump over trade barriers to enter local markets and has the benefit of increasing the competitiveness of the economy. The sectors that foreign-funded companies have entered have become internationally competitive more quickly and have higher business standards.

Although the spillover effects of foreign investment are hard to measure, they are easy to observe. Local firms and employees learn much more from locally based foreign firms than from overseas competitors.

The financial services sector has gradually opened up. By the end of 1999, 24.1 per cent of the 73,658 FDI projects and 40 per cent of contracted FDI inflows went to the services sector, including financial services such as banking and insurance.

By the end of 1999, a total of 132 foreign banks had opened branches in China, 17 of which were allowed to deal in renminbi in certain areas. Five

Table 7.1 Foreign capital inflows (US\$ billion)

	<i>Total foreign investment</i>	<i>Foreign borrowing</i>	<i>FDI</i>	<i>Other capital inflows</i>
1979–82	12.46	10.69	1.16	0.60
1983	1.98	1.07	0.64	0.28
1984	2.71	1.29	1.26	0.16
1985	4.65	2.69	1.66	0.30
1986	7.26	5.01	1.87	0.37
1987	8.45	5.81	2.31	0.33
1988	10.23	6.49	3.19	0.55
1989	10.06	6.29	3.39	0.38
1990	10.29	6.53	3.49	0.27
1991	11.55	6.89	4.37	0.30
1992	19.20	7.91	11.01	0.28
1993	39.86	11.19	27.52	0.26
1994	43.21	9.27	33.77	0.18
1995	48.13	10.33	37.52	0.28
1996	54.80	12.67	41.73	0.41
1997	64.41	12.02	45.26	7.13
1998	58.60	11.00	45.46	2.09
1999	52.66	10.21	40.32	2.13

Source: State Statistical Bureau, China Statistical Yearbook 1998.

Table 7.2 FDI as a proportion of fixed-asset investment (per cent)

	<i>FDI/fixed-asset investment</i>	<i>FDI/capital construction</i>	<i>FDI/technical upgrading</i>
1985	3.6	6.8	1.2
1990	6.3	13.1	4.1
1991	5.7	11.3	3.6
1992	5.8	11.1	3.6
1993	7.3	9.9	3.9
1994	9.9	14.2	7.3
1995	11.2	14.3	9.7
1996	11.7	14.3	9.8
1997	10.6	n.a.	n.a.
1998	9.1	n.a.	n.a.
1999	6.7	n.a.	n.a.

Source: State Statistical Bureau, China Statistical Yearbook 2000.

Table 7.3 Contribution of foreign-invested companies to imports and exports

	<i>As % of total trade</i>	<i>As % of total exports</i>	<i>As % of total imports</i>
1988	n.a.	5.2	n.a.
1989	n.a.	9.4	n.a.
1990	n.a.	12.6	n.a.
1991	n.a.	16.7	n.a.
1992	n.a.	20.4	n.a.
1993	34.3	27.5	40.2
1994	37.0	28.1	45.8
1995	39.1	31.3	47.7
1996	47.3	40.7	54.5
1997	47.0	41.0	54.6
1998	48.7	43.9	54.7
1999	48.3	45.5	51.8

Source: State Statistical Bureau, China Statistical Yearbook.

foreign-owned banks, seven foreign joint-venture banks, one joint-venture investment bank and five foreign financial and accounting firms had also been established.

Of the twenty-five insurance companies in China at the end of 1999, seven were foreign owned and five were joint ventures. These companies conducted less than 1 per cent of China's total insurance business in terms of payments.

The barriers to further liberalisation

Problems such as unemployment, corruption, and increasing income and regional disparities have been mainly related to the overhaul of China's centrally planned system, although the increase in imports and FDI have also had some effect. It is difficult to separate the influences of domestic reforms and market liberalisation because the two are connected in many ways, but given the current condition of China's institutions and economic structures, it is likely that further liberalisation will have some negative effects on the economy.

China's accession agreement with the WTO commits it to opening up the financial services sector to foreign competitors. The negative side effects that market liberalisation brings will be the price China has to pay for greater access to the global market and external leverage for domestic reforms. Fearing these effects, the government has been arguing hard for a longer transition period for liberalising the sector.

Chinese financial companies hire almost three million workers, mostly state employees. Foreign competition in the financial services sector has been opposed by this powerful interest group, which fears that the more efficient foreign banks would employ

the best workers and then take business from Chinese banks.

China's financial sector should be treated as an infant industry for the following reasons:

- 1 Chinese banks have only recently been involved in banking, in a transformation from their role as allocators of government resources (see Table 7.4 for a comparison of international banking efficiency);
- 2 most insurance firms have only been in business for three to four years;
- 3 there is little regulation of the financial sector and the regulators are inexperienced; and
- 4 perhaps most importantly, there are few private firms in the sector, and the lack of competition has meant the government has not been confident to open up the market.

The WTO agreement does not cover China's capital markets or the liberalisation of the capital account, even though this will be needed to facilitate greater trade.

China's capital markets are underdeveloped. China's securities market really only started operating in 1992. Although approximately 50 million Chinese are now registered as investors and the market has a value of about 30 per cent of GDP, there are still a number of problems in the sector:

- The securities market is still controlled by state companies, which continue to behave as state-owned enterprises (SOEs). Market fundamentals are poor and the market is unstable.
- Firms within the market are also mostly state owned and government controlled. Most have close connections with local governments and the monetary authorities. Insider trading and manipulation are common, making the market particularly risky.
- There are few market regulations, and regulators are inexperienced and politically influenced.

A quick liberalisation of China's financial markets, particularly the securities market, would therefore lead to significant market turmoil and huge capital flight.

The East Asian crisis has made the government and the financial sector more cautious about liberalisation. Currency convertibility and the liberalisation of capital markets have been removed from the agenda for the near future.

ACHIEVING FURTHER COMPATIBLE OPENING

Many suggest that further market opening will help to solve the problems in China's economy. In the long run that may be the case, but in the short run, compatible opening rather than excessive opening is what is needed.

Table 7.4 Rankings of financial sector competitiveness of major economies

	<i>Cost of capital</i>	<i>Efficiency of capital</i>	<i>Stock market dynamics</i>	<i>Banking sector efficiency</i>	<i>Performance of capital markets and the quality of financial services</i>	<i>Overall national competitiveness of financial system</i>
United States	5	5	1	6	1(1)	1
Japan	3	29	7	1	5(23)	9
Netherlands	4	1	9	7	2(2)	6
Denmark	7	2	6	8	4(4)	8
Switzerland	1	20	2	4	3(3)	7
Germany	2	18	14	3	9(7)	14
United Kingdom	6	6	3	17	8(6)	11
Singapore	10	8	4	5	6(10)	2
Hong Kong	19	4	8	22	12(9)	3
Taiwan	22	34	18	12	23(19)	23
Republic of Korea	30	44	33	41	43(45)	30
Russia	17	46	42	46	46(46)	46
Poland	40	45	44	44	45(43)	43
Czech Republic	33	38	38	36	35((36)	35
Venezuela	12	30	45	45	32(37)	45
Argentina	43	28	28	31	31(32)	28
Brazil	46	39	25	32	41(41)	33
Mexico	38	41	40	43	42(39)	40
Chile	25	19	23	27	24(24)	24
South Africa	44	35	30	33	36(31)	44
China	31	43	36	26	40(42)	27

Source: International Institute for Management Development, *The World Competitiveness Yearbook* (1997, 1998).

Note: 1998 rankings are in brackets.

Further opening up of the financial services sector to foreign banks has been advocated by foreign bankers, international organisations and some economists, but may not be helpful at this time. Banking sector liberalisation will increase foreign investment,

improve the productivity of Chinese banks and benefit Chinese firms, but there are a number of risks:

- Foreign banks will not work with heavily indebted SOEs and are unlikely to want to take over insolvent state-owned banks (SOBs). The problems of most SOEs and SOBs therefore need to be dealt with domestically.
- The large multinational banks investing in China are unlikely to want to develop the nascent private banking sector.
- The competition from foreign banks is likely to drive the state banks into even worse financial difficulties and create massive lay-offs of state employees. The likely result would be social unrest and lower economic

Table 7.5 State employee lay-offs in China

	1994	1995	1996	1997	1998	1999	2000
Registered lay-offs in urban areas (millions)	1.81	n.a.	8.9	12.74	16.24	19.74	23.24

Sources: Sun Zhigang (1998) 'Not re-employed, but creating new jobs', *China Industrial Economy* 5; NERI (National Economic Research Institute) (1998); *China Macroeconomic Analysis*, May; the last three columns have been estimated from a speech by Zhang Zuoji (head of the Ministry of Labour and Social Security), reported in *China Labor* (1998).

Note: All figures refer to 'total lay-offs to date', including those who were re-employed after being laid off for a while.

growth. Around 23 million state employees or 'urban collective employees' have already been laid off (see Table 7.5), and the Chinese government will wish to avoid further large increases in unemployment.

These problems do not mean further opening is not the right thing to do, but they do show that domestic reform should be the main priority and that liberalisation is helpful only when compatible with domestic development.

Reform and opening need to coincide. Without reform, opening is politically impossible and unacceptable; and without opening it is difficult to know what to reform in order to achieve competitiveness in world markets.

Whether or not China can speed up financial sector liberalisation will depend on the progress of reforms to state-owned enterprises and the state-owned and state-controlled banking sectors. In addition, without healthy domestic capital markets, capital account liberalisation will simply lead to capital flight, an imbalance in international payments or even a financial crisis, as the examples of some East Asian economies and Russia showed.

China needs to ensure that its program of gradual opening is compatible with the progress of reforms.

There is a difference between the sequencing of liberalisation and compatible opening. Sequencing is usually taken to mean that a country should finish A before doing B.

Compatible opening suggests reforms to 30 per cent of A, while reforming 30 per cent of B at the same time.

Reforms should enhance and promote each other: reform of A may speed up B, which may then speed up A. It may not be wise to move too far with A without progressing with B because incompatibility may occur. The issue is not whether China should open up, but how much it should open up.

Reform and market opening should go hand in hand, progressing neither too fast nor too slow, so that they can promote and facilitate each other. For example:

- China should not wait for SOE reforms to be completed before opening up its manufacturing industries. It should allow some foreign investment, and gradually reduce restrictive regulations as the reform and development of private enterprises progresses. China has been doing this with remarkable success, with foreign investment having an influence on SOE reforms.
- A limited number of foreign banks, insurance companies and other financial services firms should be allowed to set up in the initial stage of the development of the financial sector. As state and non-state banks become more competitive, and regulatory and legal capability improves, a greater number of banks and other financial firms could be allowed to enter the market.
- A selected number of investment funds should be permitted to invest in the financial market with some controls over the movement of capital, including stipulating a 'stay' requirement (such as in Chile). As reforms to the capital market, state-owned enterprises and the banking sector progress and risk management improves, China could allow greater portfolio investment and shorten the stay requirement in order to gradually move to full liberalisation of the capital account.

Another difference between compatible opening and sequencing is that the former may be more chaotic and path dependent than the latter. Compatible opening is not a well-planned process and there are no predesigned indicators to measure the readiness of the next step. It normally involves reformers doing what they can under the political constraints that exist. There might not be a timetable, although if there is, it should be compatible with the reform timetable.

Market liberalisation through sequencing has been the prevailing theory, despite the fact there has never been a real case of sequencing, except for some technical preparations for a certain step of market liberalisation. China's economic development has never taken place sequentially. The political reality is that well-planned sequencing is never possible: policymakers just do what the situation allows. In addition, supporters of sequential opening often end up forcing developing countries to open their markets as quickly as possible.

Another reason why sequencing is difficult to apply is because it is difficult to know when a step has been accomplished and the next one should be taken. Reform is complicated and has so many aspects that the achievement of one particular step may not mean much. And if a country has to wait until each stage is completed, the reform process may be too slow. Compatible opening also has this problem—it is difficult to know which policies are compatible. But compatible opening requires no check points, only that policymakers make small steps in all areas, allowing the achievements to

accumulate.

Is compatible opening a ‘half-way’ (or half-minded) solution? Yes, in some sense, but only because domestic reform is only half done. A half-way solution may be the best solution because without it there will be no ‘complete way’ and sometimes ‘no way out’. One of the lessons of the East Asian crisis is not that closed markets create instability, but that the crisis was caused by ‘complete opening’ before ‘complete reform’.

The gradual approach of compatible opening may generate unfair competition and rent-seeking activities because it is a government-managed process that allows only a few competitors to enter the market at first. However, there is no progress without cost. The question is if this approach is more costly than others.

Does the slower pace of opening reduce the benefits from globalisation? For example, does it restrict foreign investment (including short-term borrowing and portfolio investment) and the benefits this investment brings? Definitely. But at the same time it reduces the risks from excessive opening. In net, it is likely to be beneficial.

Compatible opening does not mean slow opening—indeed if excessive opening leads to crisis, the process would be slower. Reforming an economy does require encouragement, determination, political willingness and a clear mission. The rapidly changing world economy demands that developing countries move fast to catch up. The best policy recommendation is to undertake reforms as quickly as possible, while considering what is going on in other areas. Market liberalisation does not need to be slow but should not be sped up without considering the progress of domestic reform.

A timetable for opening

A timetable for market liberalisation can be a very useful way to drive domestic reforms. By citing national obligations, interest groups supporting liberalisation can use the timetable to get domestic reforms to move more rapidly. A timetable can also help break down bureaucratic barriers.

The key issue is that the timetable for opening needs to be compatible with the reform program. The difficulty is deciding the suitable speed of liberalisation. A slow timetable is likely to be useless, but too rapid a timetable will be not useful either because it will be difficult to implement and will damage the government’s credibility. It will also be difficult to agree on a timetable because different domestic groups will be affected differently. International interests also have their own priorities. China’s bid for accession to the WTO provides a good example. While all agree that China is likely to need some period of transition to implement its obligations, opinions differ about how long this period should be. The ‘right’ timetable is definitely important, but international interests are unlikely to suggest a timetable that most benefits China. A timetable that satisfies the interests of foreigners is unlikely to be acceptable to domestic interests groups such as workers, peasants and bank employees.

Therefore, while a timetable can be a good policy instrument, in reality it may not work very well, and may not even be able to be devised.

CONCLUSION

The liberalisation of China's economy over the past twenty years has increased market competition, trade and wealth. Although there have been costs such as bankruptcies and unemployment, these can be described as constructive pressures, not destructive attacks. China's reforms, however, may now be too slow to make further gains. While it is costly to let fears of risks and instability prevent further opening up to the global market, the risks of an economic crisis from too quick an opening may be greater. The resulting long-term social unrest and economic stagnation would be large. A careful assessment of the level of domestic development needs to be made before markets are opened up further.

NOTE

1 A small portion of 'B-shares' are exclusively traded in foreign exchange.

8

Securing consistency in macroeconomic policy

David Nellor

INTRODUCTION

Asia's emerging market economies are currently facing a menu of exchange rate and monetary regimes. The choice of a regime has an opportunity cost; some aspect of policy flexibility is lost by the decision. Recognising these costs, and so ensuring that macroeconomic policy is consistent, is fundamental to sustaining economic stability. This chapter contends that policy inconsistency was a central element of the East Asian crisis; that the move to sustainable macroeconomic policy regimes is still evolving; and that the regime menu raises tremendous policy and institutional challenges for East Asian economies.

Underlying the search for a new exchange rate regime is a tension deriving from a revealed preference for fixed exchange rates against a new awareness that, for many countries, this option is not feasible in the near term. Furthermore, the absence of an unambiguously superior option means that the menu facing policymakers is not very appetising. Flexible exchange rates can act as shock absorbers but are perceived to be less attractive to investors and, in some circumstances, can destabilise the economy through balance sheet effects. Fixed exchange rates increase certainty but only if investors are convinced that they are sustainable and the real economy is robust as well as flexible enough to adjust to shocks. In this invidious setting, Asian post-crisis exchange rate regimes are still evolving.

Regimes must produce policy consistency because this is a necessary first step toward macroeconomic stability. This is a minimal policy goal yet it is apparent in monetary and exchange rate developments, even in the brief period since the crisis, that none of the regimes offers an easy way to manage monetary conditions in emerging markets. Central to the policy choice must be a recognition that, whatever the chosen regime, it will constrain policymakers' choices. Moreover, the key is that these constraints must be 'hard'. Thus, for example, under a fixed exchange rate, the decision to give up monetary policy as a way to shape domestic economic activity must be seen as immutable. Policy actions that 'fudge' on these constraints have been the undoing of otherwise sustainable regimes. Consequently, even recognising the relevance of a country's economic circumstances, the political environment will be decisive in defining credibility. These political considerations mean that the appropriate exchange rate regime may vary across countries.

Most East Asian crisis countries have permitted increased flexibility of exchange rates and the challenge now is to develop monetary policy regimes that provide a nominal anchor on which market participants can base decisions. Significant institutional changes

in several countries have improved the prospects for adopting sustainable policies. These countries have legislated or will legislate for central bank independence and, in time, these central banks might establish their own credibility. Yet, it seems unlikely that this regime choice will mark the end of the debate. In the medium and longer term, there is likely to be serious consideration of new regimes such as the adoption of third currencies or an Asian currency unit. The challenge of establishing those regimes that is posed by the heterogeneity of prospective members is matched only by the challenge of the nascent stage of regional institutions.

This chapter reviews macroeconomic policy in the pre-crisis period and its role in the East Asian crisis. An understanding of earlier policy inconsistencies provides lessons that inform the search for a new regime. Macroeconomic policies and institutions have evolved in the post-crisis period but sustainable exchange rate and monetary policy regimes are yet to emerge. This does not mean another crisis is just around the corner, but it does show that further effort to set in train sustainable policy regimes is needed. The focus is on the East Asian crisis countries of Indonesia, Korea, Malaysia, the Philippines and Thailand, but an overview is also given of policy regime options for all Asian countries, for both the short and medium term.

THE ASIAN CRISIS—A MACROECONOMIC POLICY ACCOUNT

A dramatic increase and then reversal of capital flows was the hallmark of the Asian crisis and reflected a fundamental change in the global economy.¹ Private capital flows to emerging markets in the 1990s were of a size that is difficult to grasp. Private flows to developing countries averaged just US\$15 billion in the 1980s, but by 1995 had soared to over US\$200 billion (Table 8.1). The boom in private capital flows to Asian emerging markets reflected,

Table 8.1 Private net capital flows to emerging markets (US\$ billion)

	<i>1984–89 Annual average</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>
Total	15.2	126.5	140.4	210.7	224.5	121.4
Asia	13.0	43.3	69.6	92.4	120.3	6.9

Source: IMF, World Economic Outlook.

of course, their relative attractiveness as investment destinations. Moreover, at least in part, it showed an efficient use of global capital that contributed to the enormous gains in per capita income in the region. However, as is only too well known following the developments of mid-1997, private capital flows can move quickly and with devastating consequences.

As well as being driven by efficiency considerations, capital inflows, particularly short-term inflows, were encouraged by macroeconomic policy inconsistencies. At the core of the crisis lay a fundamental inconsistency in macroeconomic policy—a common (old-fashioned) cause of crises. Understanding these macroeconomic policy

inconsistencies is essential for two reasons. The first is simple: to avoid the mistakes of the past. The second is more subtle but equally important. The focus on the 'new' global causes of the crisis carries with it the danger that the fundamental importance of getting macroeconomic policy right will not get enough attention.

Quasi-pegged exchange rates and relatively high domestic interest rates played an important role in promoting pre-crisis capital flows to Asia. The policy inconsistency centred on fixing the exchange rate while setting monetary policy independently of the peg currency. Investors were encouraged to finance investments, whatever the currency of their returns, by the combination of relatively low foreign-currency interest rates along with an exchange rate guarantee (in the form of a quasi-peg to the dollar). Furthermore, a 'one-way' bet or carry trade was offered to those wanting to exploit the policy inconsistency. Investors (residents and non-residents) could borrow foreign currency at low rates, convert it into local currency and invest at higher yields. The investor received the spread between the local yield and the foreign borrowing cost. This net return was guaranteed in the sense that the investor was confident that the proceeds of the investment could be used to repay the foreign debt at the initial exchange rate. The exchange rate 'guarantee' reduced the risk for private investors willing to commit capital to these countries and the one-way bet, or carry trade, promoted short-term flows.

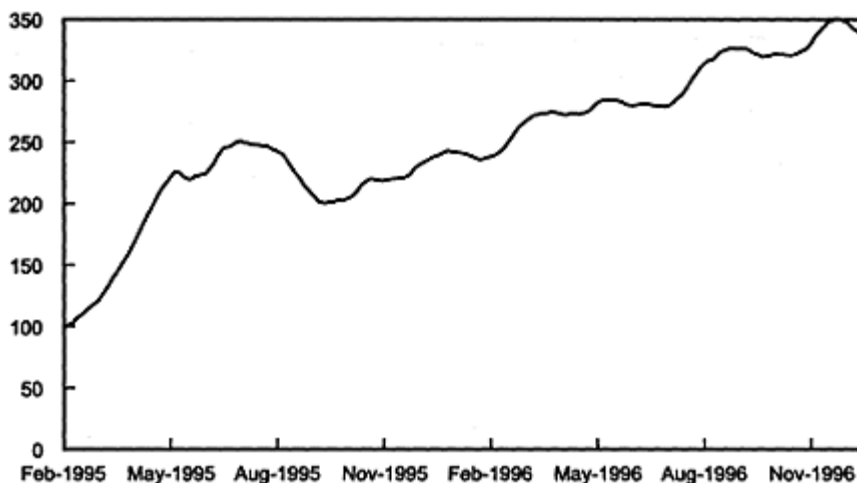
Figure 8.1 illustrates the returns on the Thai carry trade before the crisis. It is assumed that each trading day, commencing at the beginning of 1995, an investor takes a one-month Thai baht forward contract and closes out that position at the end of the contract. The swap points on the forward contract pick up the interest differentials while the settlement of the contract at the spot rate picks up any currency gains or losses. A new one-month contract is taken out each day from the beginning of 1995 to the end of 1996. The cumulative return from this sequence of one-month forward contracts is about 350 per cent, with only a small proportion of contracts recording a loss.

Responding to these policy-created incentives, private capital surged into East Asia in the mid-1990s (Table 8.2). Capital inflows peaked at about 6 per cent of GDP in Indonesia and Malaysia, 10 per cent of GDP in the Philippines and 13 per cent of GDP in Thailand before collapsing. However, while aggregate flows grew dramatically, particular categories of flows grew disproportionately. 'Net other flows', including lending by banks and residents, perhaps related most to exchange rate prospects and interest rate differentials, grew dramatically. In Thailand these flows increased almost fivefold from 1993 to 1995, when they accounted for more than three-quarters of private capital flows. In the Philippines net other flows accounted for almost 90 per cent of private capital flows in 1996.

Institutional developments reinforced the incentives offered by macroeconomic policy. One example is Thailand's 1993 introduction of an offshore banking facility, the Bangkok International Banking Facilities (BIBF). The value of out-in lending expanded from 195 billion baht at end of 1993 to 807 billion baht at the end of 1996, boosted by a preferential rate of corporate income tax and other tax exemptions (Table 8.3). The FCDU (Foreign Currency Deposit Unit) in the Philippines is a second example. These deposits grew from 136 billion peso at the end of 1993 to over 300 billion peso by 1996. The Philippines offered favourable corporate tax treatment to foreign-funded intermediation, and exempted these activities from the gross receipts and documentary

stamp taxes. FCDU accounts were exempted from reserve requirements whereas regular accounts were subject to unremunerated reserve requirements that stood at 14 per cent in mid-1997.²

Figure 8.1 Returns on the Thai carry trade (per cent)



Source: J.P.Morgan forward price data.

Managing monetary policy in the face of this surge in capital inflows was, to say the least, difficult. To avoid currency appreciation, central banks intervened in the foreign exchange market and purchased inflows of foreign currency. These purchases boosted domestic liquidity. The challenge of managing this liquidity further increased as the economies became overheated. One option for central banks was to sanction the increase in liquidity. This

Table 8.2 Net private capital inflows to East Asian countries (US\$ billion)

	1993	1994	1995	1996	1997
<i>Indonesia</i>					
Net FDI	1.9	2.4	4.7	5.7	3.0
Net portfolio	1.8	1.1	1.5	1.8	-6.2
Net other ^a	2.6	3.6	5.8	0.0	3.0
Total	6.3	7.1	12.0	7.5	-0.2
<i>Malaysia</i>					
Net FDI	4.2	5.8	2.0	2.1	4.4
Net portfolio	0.0	0.0	0.0	0.0	0.0
Net other ^a	5.8	-2.9	3.5	4.4	-0.2
Total	10.0	2.9	5.5	6.5	3.9

<i>Philippines</i>					
Net FDI	0.9	1.3	1.4	1.3	1.1
Net portfolio	-0.1	0.3	0.2	-0.2	-0.4
Net other ^a	1.9	1.9	2.0	7.3	6.2
Total	2.7	3.5	3.6	8.5	6.9
<i>Thailand</i>					
Net FDI	1.4	0.9	1.2	1.7	3.4
Net portfolio	5.5	2.5	4.1	3.5	5.2
Net other ^a	3.5	8.8	17.1	11.6	-15.5
Total	10.4	12.2	22.4	16.8	-6.9
<i>Private flows as per cent of GDP</i>					
Indonesia	4.0	4.0	5.9	3.3	-0.1
Malaysia	14.9	3.9	6.2	6.5	4.2
Philippines	4.9	5.5	4.8	10.2	8.5
Thailand	8.5	8.5	13.3	9.2	-4.6

Source: IMF, *World Economic Outlook*.

Note

a Includes short-term bank borrowing and other forms of loans by residents.

choice tends to increase consumer- and asset-price inflation and/or balance of payments pressures. Thailand, more than other economies in the region, followed this approach. A second option was to soak up the increase in liquidity by borrowing from domestic banks (i.e., sterilising the foreign exchange market intervention). Most central banks in the region undertook at least some sterilised intervention.³

Table 8.3 Indicators of foreign currency banking activity (billions of local currency)

	1993	1994	1995	1996	1997 ^a
<i>Thailand</i>					
BIBF lending (out-in)	195.7	456.6	680.8	807.4	1,411.4
DMB foreign liabilities	352.4	780.0	1,164.1	1,249.3	1,904.4
<i>Philippines</i>					
FCDU resident deposits	136.2	158.8	206.7	317.6	433.4
DMB ^b foreign liabilities	80.7	113.3	168.3	377.6	615.9

Sources: IMF, *International Financial Statistics*; and national sources.

Notes

a Exchange rate developments significantly influenced the local-currency values in 1997.

b Deposit money bank.

The surge of capital flows into Asian emerging markets was boosted by the dynamics

of this sterilisation process.⁴ The policy response reinforced the idea that policymakers were actively committed to their pegged exchange rates. In fact, in this phase of the cycle, the pressure on the exchange rate became one way, with the central banks trying to hold the line against appreciation. Whether depreciation would have been permitted remained

moot, the self-reinforcing cycle of capital inflows and policy response meant exchange rates were relatively stable and the carry trade was sustained.

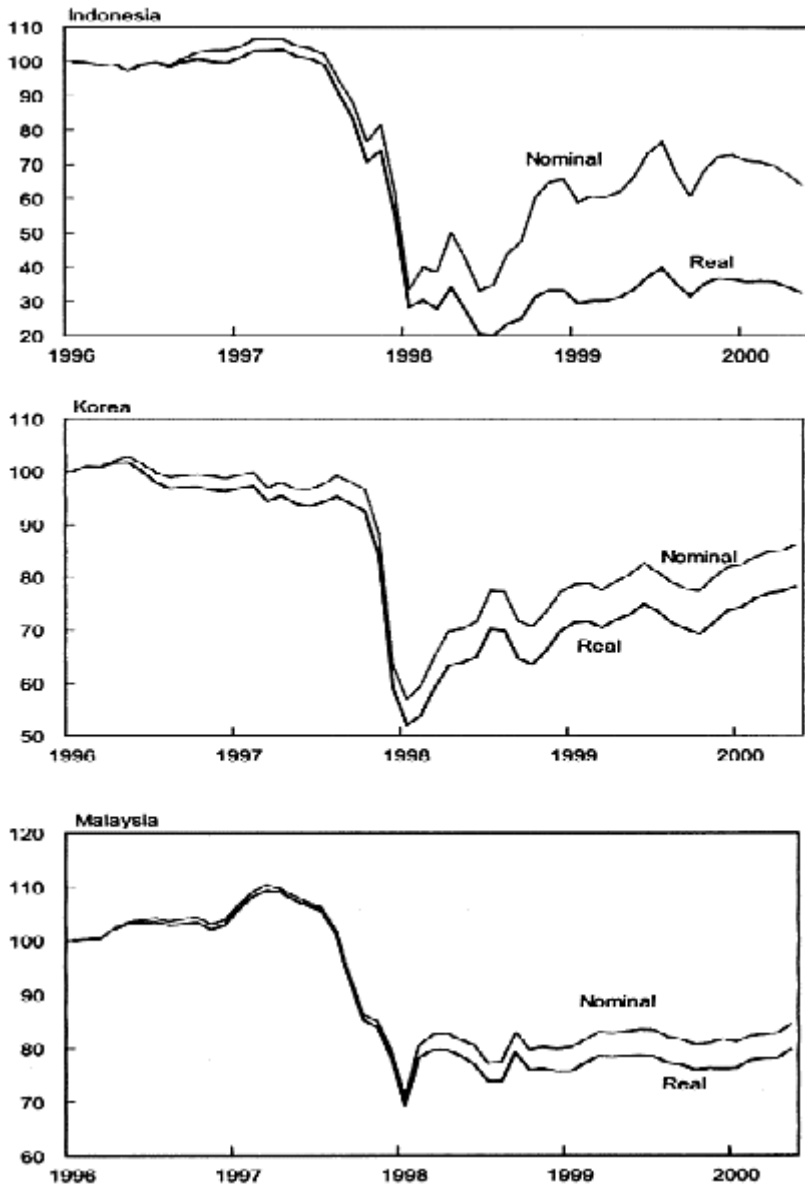
Policymakers found themselves in a perplexing predicament. Many saw these capital flows as 'hot money' unrelated to the fundamentals of the economy. If the fundamentals of the economy had not changed, they felt it inappropriate to permit exchange rate appreciation. While this assessment was plausible, the decision to 'hold the line' on the exchange rate and to sterilise the extra liquidity served to reinforce the incentives. In other words, by this time the nature of the capital flows had become irrelevant to the choice of an appropriate policy because these flows were threatening stability. The inconsistency between exchange rates and monetary policy played a role in first reinforcing and then encouraging even greater capital inflows that would ultimately play a role in the crisis.

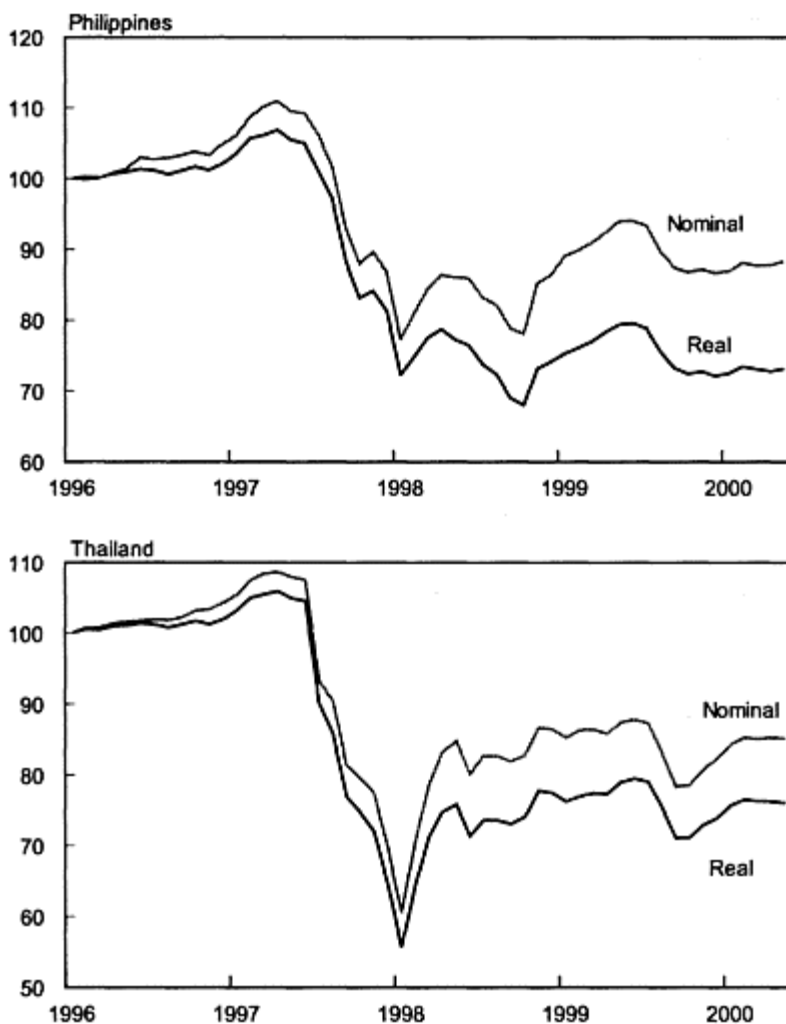
POST-CRISIS DEVELOPMENTS

Following a period of many years when exchange rates against the US dollar had changed little, Asian currencies fell dramatically in 1997–98 (Figure 8.2). Macroeconomic policy regimes have changed, often dramatically since the crisis, but sustainable regimes are yet to evolve. The absence of consistent policy regimes does not mean that a new crisis is imminent. It does suggest, however, that countries need to continue their efforts to develop their regimes.

Exchange rate regimes have changed since the crisis. Malaysia fixed the ringgit to the US dollar in September 1998 while the other crisis countries, perhaps by force of circumstance, announced more flexible exchange rate arrangements. These countries have, nevertheless, subsequently reaffirmed their decisions to choose floating rates.

Figure 8.2 Real and nominal effective exchange rates, 1996–2000 (January 1996=100)





Source: IMF.

The evolution of monetary policy has been more measured. Several of the crisis countries have followed base-money programs that are designed to achieve inflation goals. However, the well-known drawbacks of these programs, particularly in countries experiencing profound structural changes, offer sufficient reason for looking at how monetary policy regimes might be strengthened. In this context, inflation targeting, as a mechanism for providing a nominal anchor for a floating exchange rate, has taken greater prominence. Korea and Thailand have decided to move to such a system, the Philippines also is moving in that direction and Indonesia is considering such a regime.

Inflation targeting is gaining increasing support in Asia, although it is likely to be adopted in an evolutionary fashion. Two sets of considerations— institutional and

economic preconditions as well as political commitment—are necessary in assessing whether this regime offers a sustainable way forward. The development of institutions and economic preconditions will take time; although, as in other countries that have adopted inflation targeting, they can be built up as experience with the regime grows. The central bank must be independent and have instrument independence to pursue its inflation target. Fiscal policy needs to be both flexible and sound—suggesting that restructuring of the financial sector will need to be completed. Countries must have sound financial systems: a financial sector in distress will make monetary policy less effective.⁵

Political commitment to inflation targeting—yet to be tested—is critical to the success of this regime. The willingness to subordinate growth objectives and the exchange rate to the inflation goal is essential. The exchange rate is likely to be an important element in the inflation model but is not the instrument; rather it is the outcome of interest rate settings. While a more flexible regime, accommodative of other policy goals, would be easier to adopt, it will be less effective if the central bank lacks policy credibility. Moreover, the experience of inflation-targeting countries has been that greater flexibility was earned only by a period of strict policy adherence.

Institutional change has improved the prospects for implementing a consistent macroeconomic policy regime (Table 8.4). Of the East Asian crisis countries, only the Philippines had legislated to give its central bank independence before the crisis. Korea, Thailand and Indonesia are now at various stages of gaining central bank independence, although the task of making independence a reality may be some way off. Nevertheless, regimes such as inflation targeting that provide a well-defined objective and accountability are conducive to developing the credibility of a central bank.

Monetary developments since the crisis suggest that achieving a sustainable regime is a sizeable challenge. Swings in capital flows have been decisive in shaping monetary policy, set against a domestic backdrop of banks that are reluctant to lend and weak credit demand. Signs of economic recovery prompted a renewal of private capital flows to most crisis countries that persisted for much of 1999, whereas the global stock-market correction in the second quarter of 2000 prompted a reversal of portfolio flows.

Swings in net capital flows have prompted actions to neutralise their impact on exchange rates. These actions, however, may not be sustainable over the medium term. The intervention of central banks in foreign exchange markets has exceeded the ability of their economies to absorb the increase in liquidity.⁶ Consequently, central banks have ended up sterilising the liquidity resulting from their intervention. While this policy response may be appropriate in some circumstances, the build-up of the sterilisation debt places economic stability at risk.⁷

A significant build-up in sterilisation debt can create excessive credit growth particularly if the economy is overheating. The central bank's task in managing

Table 8.4 Central bank reform

<i>Present/prospective arrangements</i>	
<i>Indonesia</i>	Central bank independence was established by the Act of the Republic of Indonesia Number 23, Bank Indonesia Act, which was enacted in May

1999. Article 4 (2) says that Bank Indonesia is an independent state institution, which is free from any interferences of the Government and or other parties' and Article 7 says that 'the objective of Bank Indonesia is to achieve stability of the rupiah value', which is interpreted as price stability. Article 56 says that the central bank cannot issue credit to the government.

Korea The Central Bank of Korea was established under Law No. 138, promulgated on 5 May 1950. This law was wholly amended by Law No. 5491, promulgated on 31 December 1997. The law specifies that the purpose of the Bank of Korea is to contribute to the sound development of the national economy by pursuing price stability through the formulation and implementation of efficient monetary and credit policies. Article 3 says that the monetary and credit policies of the Bank of Korea shall be formulated neutrally and implemented autonomously and that the independence of the Bank of Korea shall be respected. It says, however, that the Bank of Korea should harmonise its policies with the economic policy of the government but only in so far as this does not detract from price stability.

Malaysia Bank Negara Malaysia is governed by the Central Bank of Malaysia Act 1958 (revised 1994). The objectives of the central bank are: to issue currency and keep reserves to safeguard the value of the currency; to act as banker and financial adviser to the government; to promote monetary stability and a sound financial structure; and to influence the credit situation to the advantage of the country. The central bank reports to the government through the Minister of Finance.

Philippines The new central bank was established under RA 7653 of 1993. The General Banking Act was revised as RA 8791 of 2000. Further legislative reforms are with the Congress. The new Central Bank Act defines the bank's primary objective 'to maintain price stability conducive to a balanced and sustainable growth of the economy' and the secondary objective to 'promote and maintain monetary stability and the convertibility of the peso'. The Act also establishes the central bank's independence. The state shall maintain a central monetary authority that shall function and operate as an independent and accountable body corporate in the discharge of its mandated responsibilities concerning money, banking and credit. In line with this policy, and considering its unique functions and responsibilities, the central monetary authority established under this Act, while being a government-owned corporation shall enjoy fiscal and administrative autonomy' (Section 1, Article 1, Chapter 1 of RA 7653).

Thailand The Bank of Thailand Act was promulgated in 1942. According to the Act, the Minister of Finance is empowered to oversee the overall affairs of the Bank of Thailand, with the general control and direction being entrusted to the Governor and Deputy Governors. In 2000 the Governor of the Bank of Thailand established a Monetary Policy Board to set monetary policy, in anticipation of a new Bank of Thailand Act. In line with the envisaged legislation, the order establishing the policy board specifies that price stability is the policy objective having consideration for such factors as the

foreign sector, growth, investment and employment. The envisaged new Act specifies that the central bank should consider the policy of the government rather than giving it outright support as in the past.

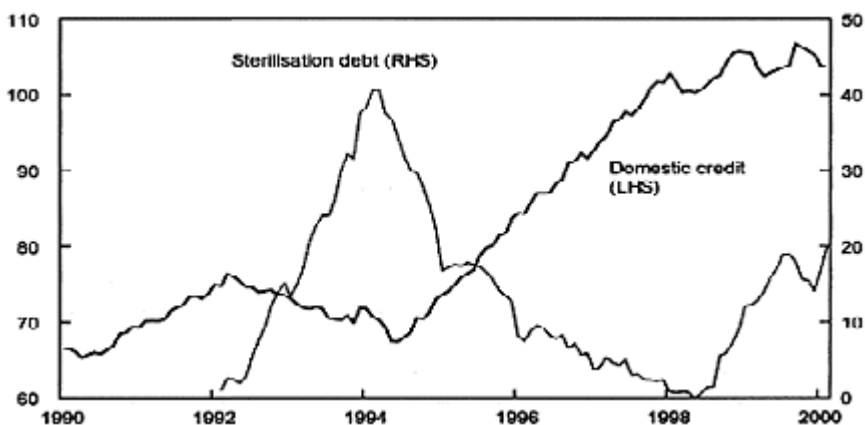
Sources: National sources.

the debt is difficult because it largely comprises short-maturity central bank obligations and needs to be rolled over frequently. Of course, it is not possible to predict what will trigger the unwinding of sterilisation debt. However, if history is any guide, central banks will not want to sustain the increasing fiscal costs of sterilisation that follow economic recovery and higher interest rates.⁸

Malaysia, for example, experienced a sharp build-up in sterilisation debt in the early 1990s (Figure 8.3). This occurred after a period of rapid capital inflows—net private capital inflows reached 15 per cent of GDP in 1993 (Table 8.2). The rapid increase in capital flows pushed sterilisation debt to about 40 per cent of GDP by early 1994. The winding down of this debt, which was imposing a considerable fiscal cost, coincided with a rapid rise in domestic credit. Sterilisation debt consequently fell to about zero by early 1998. Over the same period, domestic credit expanded by about the same amount reaching more than 100 per cent of GDP.

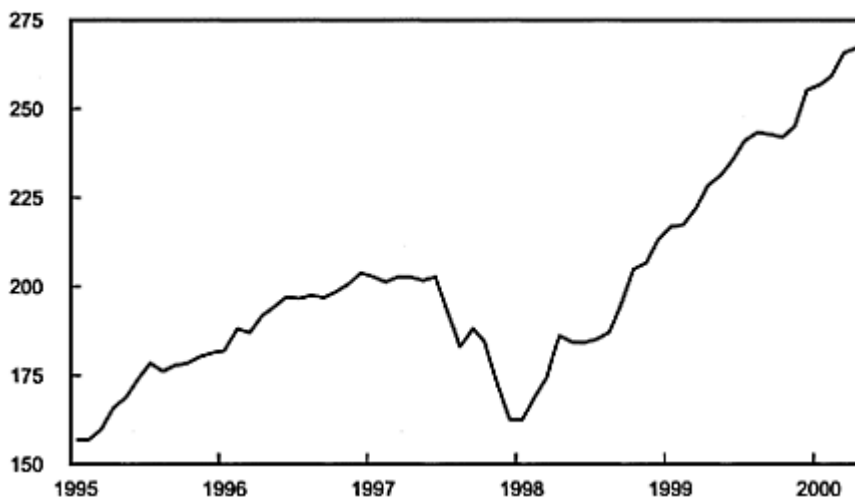
In the face of market pressure, the policy of trying to stabilise the exchange rate through sterilised intervention can promote hot-money flows even though the sterilisation debt represents a domestic liability of the central bank. The intervention can reflect efforts to avoid exchange rate appreciation and, at the same time, sterilisation raises interest rates. In turn, higher interest rates may encourage arbitrage flows such as those experienced before the crisis. Moreover, the anticipation of the unwinding of the sterilisation debt can lead investors, including foreign investors, to anticipate the asset-price inflation that will prompt portfolio flows.

Figure 8.3 Malaysia: sterilisation debt and domestic credit (per cent of GDP)



Sources: IMF; Bank Negara Malaysia.

Figure 8.4 ASEAN-4+Korea: total international reserves less gold, 1995–2000
(US\$ billion)



Source: IMF, *International Financial Statistics*.

The accumulation of foreign exchange reserves through intervention has been dramatic. Central banks are draining strong net trade receipts (compared with capital flows in the early 1990s) from the foreign exchange market and building up international reserves. The reserves of the East Asian crisis countries rose by US\$100 billion or 60 per cent between the end of 1997 and mid-2000 (Figure 8.4).⁹ An increase in reserves may be, of course, an appropriate response to help reduce vulnerability to a recurrence of the liquidity-related market pressures experienced in the crisis. What is important from a stabilisation perspective, however, is managing the pace of that accumulation so as not to create monetary risks for the economy.

When exchange rates are flexible and while economies have yet to cement economic recovery, a more prudent path is to keep monetary policy easy and fiscal policy stimulatory or neutral. If economic conditions call for a tightening of monetary conditions, this ought to come from an appreciation of the exchange rate. In this economic cycle, compared with the early 1990s, it is more difficult to make the case that foreign exchange market intervention is needed to avoid 'excessive' currency appreciation. In the last cycle, 'holding the line' on the exchange rate was justified by the wish to avoid hot-money flows. These flows did not, the argument went, reflect fundamentals. This cycle is different: it is real trade flows, not hot money, that are putting currencies under pressure. Capital accounts are, in fact, generally in deficit while large current account surpluses have built up in the crisis countries.

Exchange rate policies have followed an asymmetric pattern since the crisis. To promote export-led recovery, countries appear to be resisting rate appreciation while accepting downward pressure on their exchange rates. In the pre-crisis era of quasi-pegged exchange rates, the correlation of regional exchange rates with movements in the

US dollar was close to unity, while little or no correlation was shown with the yen or deutschmark. This has changed since the pegs were abandoned in the crisis. In their place, Asian economies appear to have sought to avoid appreciations against the dollar and, when the dollar strengthens generally (i.e., against the yen or the euro), they have tended to follow these other currencies down. This proved easier in periods when capital flows to emerging markets were low, as in the second and third quarters of 2000, because it did not require market intervention on the scale seen in 1999.

Table 8.5 looks at the relationship between the currencies of the East Asian crisis countries and the yen over the two years to mid-2000. The daily percentage changes in the yen/dollar exchange rate were computed and divided into two groups: one group where the yen was weakening against the dollar and a second group where the yen was strengthening. These movements were compared with the percentage changes in the Asian currencies against the dollar. Correlation coefficients between the movements in the yen/dollar exchange rate and the movements in the Asian currencies were computed. These coefficients show that the currencies of the crisis countries have tended to follow the movements of the major currency that is weakening. When the yen weakened, the currencies of the crisis countries were more highly correlated with it; whereas when the dollar weakened, the correlation with the dollar increased.

Sterilisation debt in mid-2000 was higher than it was during the peak of the hot-money flows of the 1990s. For the five countries as a group, sterilisation debt reached about 8 per cent of GDP in mid-2000 from approximately 2.5 per cent of GDP in late 1998, based on a GDP-weighted aggregate of

Table 8.5 Exchange rate changes: correlation coefficients with the yen, mid-1998—mid-2000

	<i>Rupiah</i>	<i>Won</i>	<i>Peso</i>	<i>Baht</i>
Yen weakness	0.203	0.207	0.256	0.222
Yen strength	0.091	0.093	0.106	0.151

Source: Daily exchange rate data from Bloomberg.

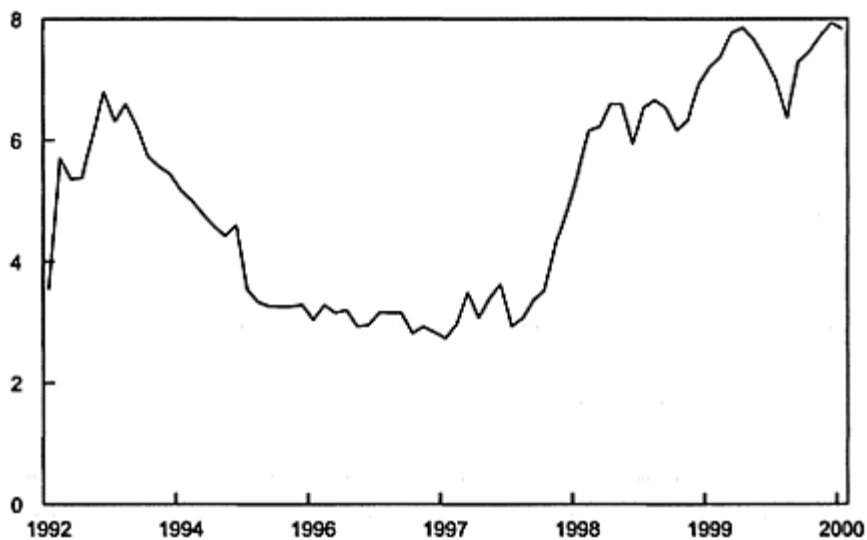
Notes: Based on daily exchange rate data for the two years to end-June 2000. Daily percentage changes in the yen/dollar, rupiah/dollar, won/dollar, peso/dollar and baht/dollar exchange rates were computed. Data was divided into two groups: one comprising those dates where the yen was weakening against the dollar and a second group when the yen was strengthening. Correlation coefficients between the movements in the yen/dollar exchange rate and the crisis-country currency were computed. Yen weakness implies dollar strength and yen strength implies dollar weakness.

central bank obligations to the banking system (Figure 8.5). In Malaysia sterilisation debt has reached approximately 20 per cent of GDP from zero in mid-1998. In Korea liquidity-management debt exceeds 10 per cent of GDP. Monetary Stabilisation Bond (MSB) issuance is over twice the level of that in the early 1990s. In the Philippines sterilisation debt is 6 per cent of GDP compared with zero at the end of 1998. In Thailand the weak capital account, repayment of external debt and a lower current account surplus

caused sterilisation debt to decline in 2000 after a peak of about 12 per cent of GDP in 1999.¹⁰

An enormous increase in liquidity would result if the obligations of the central banks were unwound. These obligations vary between 43 per cent and 160 per cent of base money and thus pose a sizeable risk to monetary conditions when credit demand recovers (Table 8.6). Commercial banks, guided by interest rates, choose between rolling over their funds with the central bank or lending to private borrowers. The central bank faces a dilemma. To prevent credit from expanding too rapidly, the central bank must withdraw liquidity from the system. Interest rates must therefore be raised. However, higher interest rates not only increase the cost of sterilisation debt, they can encourage further hot-money flows. If history is any guide, rolling over the debt will prove difficult when recovery takes hold and will be more costly. In earlier episodes central banks have unwound the debt, resulting in a procyclical easing of monetary policy.

Figure 8.5 ASEAN-4+Korea: sterilisation debt, 1992–2000 (per cent of GDP; GDP weighted)



Sources: CEIC; and IMF, *World Economic Outlook*.

The risk to monetary conditions is influenced by the average maturity of the liquidity-management debt. The shorter the average maturity of the debt, the higher the risk it will be unwound and feed into a credit boom and asset-price inflation. The maturity in some countries is as short as a few weeks. In the Philippines the rollover of obligations is probably shorter—less than one week—because tax factors discourage the use of longer maturities. Consequently, the task for the authorities could be extremely difficult once recovery strengthens. The maturities of Korea's MSBs are longer (three months to two years) and thus pose a less urgent but still important challenge for monetary policy.¹¹

MACROECONOMIC POLICY REGIMES—THE MENU FOR THE SHORT AND LONG TERM ¹²

The short term

The post-crisis debate on alternative exchange rate regimes has been interpreted as offering a ‘two-corner’ solution.¹³ One solution is a hard peg, ideally in the form of an irreversible decision to link the local currency to another currency such as would be achieved by a currency board. The other solution is a floating exchange rate with limited intervention.

The policy of a hard peg or rigidly fixed rate can be seen as a similar action to that of Odysseus, who strapped himself to the mast to avoid the calls of the Sirens who might allure him. Tying the hands of policymakers might deliver a better outcome than a discretionary regime subject to short-term pressures from interest groups. The regime can deliver currency stability—offering investors exchange rate certainty—and, if truly credible, lower interest rates because the risk premium that might be associated with other regimes would disappear.¹⁴ Yet there are some important preconditions for the use of fixed rates. These include a strong and well-managed financial system and healthy corporate balance sheets that can withstand swings in interest rates and real shocks. If the peg needs to be adjusted, the scale of unhedged foreign liabilities will be another issue. Finally, the need for the economy to respond to external shocks through adjustments in the real

Table 8.6 Sterilisation debt as a percentage of GDP and base money, mid-2000

	<i>GDP</i>	<i>Base Money</i>
Indonesia	9.0	83.7
Korea	12.0	165.8
Malaysia	19.2	92.0
Philippines	4.9	47.7
Thailand	3.8	42.2

Sources: IMF, World Economic Outlook; and CEIC.

economy will necessitate flexible labour markets and prices. The track record of fixed rates is not impressive; the average life of pegs has been short and, of more concern, exit takes place, more often than not, in a crisis.¹⁵

A floating exchange rate regime signals that the exchange rate will be allowed to shelter the economy from external shocks and that monetary policy will guide domestic economic activity. A flexible exchange rate would respond to a pick-up in net inflows; for example, by permitting exchange rate appreciation. The path of reserve accumulation would be consistent with the growth of base money. However, while in principle a flexible exchange rate provides an incentive for investors to hedge their foreign currency

liabilities, this may be difficult to achieve in the underdeveloped markets of emerging economies. Consequently, movements in a floating rate may place pressure on corporate balance sheets and the government's budget. The development of domestic financial sectors may also be hampered by a floating exchange rate.¹⁶

So what is wrong with the regimes that fall between these two extremes? In principle such regimes, involving some degree of flexibility such as a loose peg to a currency basket, can be pursued. They too pose their own challenges. Investors may see these regimes more as weak pegs than as providing beneficial flexibility and may make judgments as to whether the peg (or perhaps the band) will be sustained. Policymakers will need an intervention policy, which will also be subject to speculation—raising the risk that the peg will be challenged. Policymakers must be technically adept and able to address the various political pressures so as to adjust the rate neither too late nor too early. Proponents of such regimes must articulate how political economy realities will be addressed in such a system.¹⁷

Might not the use of capital controls offer a degree of freedom in the choice of an exchange rate/monetary policy regime? The familiar argument is that capital controls resolve the 'trilemma' by enabling policymakers to set both the exchange rate and monetary policy (see Obstfeld 1998). The consensus emerging in international fora is that prudential-based capital controls may have a role to play in helping countries deal with strong capital inflows, particularly where financial sectors are not yet capable of safely intermediating such flows.¹⁸ Capital controls are not likely, however, to resolve the question of which exchange rate regime is suitable for Asia. Controls are likely to prove inconsistent with development goals and hence, while perhaps useful in specific circumstances for short-term stabilisation or to provide time to strengthen the financial sector, they are not likely to be a long-term solution. Moreover, risks to stability from monetary developments can still arise with restrictions on capital transactions. The following discussion elaborates on these two points.

Capital controls pose a dilemma for Asian emerging markets. On the one hand, maintaining restrictions on offshore trading of local currencies may be seen as a way to limit offshore positions on currencies and stabilise domestic monetary conditions. On the other hand, these economies want to develop deeper financial markets to promote investment. Moreover, some are anxious to strengthen the intermediation of Asia's high savings within the region. What would it take to develop a New York or London type of market in Asia? Apart from the necessary legal and regulatory framework, capital markets will need to be more open than at present. Most countries in the region are too small to be able to develop liquid markets. Yet countries are, perhaps for good reason, not willing to allow unrestricted offshore trading of their currencies. Such an opening would increase the scope for investors to take positions that might destabilise their economies, especially at their present stages of development. So there is a catch-22 situation in which open capital markets are needed to promote investment but the economies are not in a position to sustain the risks that such an opening might present. Singapore illustrates one possible path through this dilemma. Singapore has long restricted offshore trading of the Singapore dollar yet has sought to become a financial centre. To resolve this apparent contradiction, in parallel with strengthening its domestic financial sector, Singapore has gradually loosened restrictions on lending Singapore dollars to non-residents for activities

unrelated to the Singapore economy. The share of offshore trading in the Singapore dollar has increased over time. It is reported (anecdotally) that the majority of trading in Singapore dollars now takes place offshore.

Moreover, capital controls do not avoid the issue of monetary policy consistency. Malaysia's present policy regime, combining a fixed exchange rate and selective controls on capital flows, offers some insights. The introduction of controls on capital flows in September 1998 has been interpreted as offering greater independence over monetary policy, yet this has not avoided the same liquidity-management problems that face other economies. Malaysia has experienced a surge in international reserves and sterilisation debt that is exceeded only by the peak in 1993–94 (see Appendix Figure A8.1). However, on this occasion the build-up has been driven by real trade (cold-money) flows.¹⁹

The long term

The policy choices presented above all pose considerable challenges for policymakers, and so it is likely that the search for other regimes will go on. Perhaps the first step in such a search is to identify the reasons why these regimes have been found to be lacking. An answer to this question might offer direction as to where to find solutions that are more satisfying.

The exchange rate regime options, outlined above, are unlikely to be satisfactory for two reasons, according to Eichengreen and Hausmann (1999). Emerging markets face, they suggest, incomplete markets. One gap is that emerging markets are unable to borrow offshore in their own currencies and a second gap is that they cannot borrow long term. A consequence of not being able to borrow abroad in local currency is that external liabilities will always be denominated in foreign currency. Emerging markets cannot hedge because they cannot take a short position in their own currency that would offset the foreign currency risk. Consequently, domestic projects in emerging markets tend to be funded in foreign currencies, with long-term investments funded by short-term debt.

Both fixed and floating exchange rate regimes have serious deficiencies owing to these incomplete markets. In a floating regime (or a collapsing fixed rate regime), a depreciating currency can lead to bankruptcies because of the currency mismatch—receipts are denominated in a weakening domestic currency and liabilities in the foreign currency. Alternatively, however, under a fixed rate regime, the policymaker defends the currency by raising interest rates and that places pressure on holders of short-term loans.

The solution to these problems, according to Hausmann et al. (1999), is to dollarise (or 'yenise' or 'euroise'). This regime would enable countries to deepen markets quickly and avoid the currency mismatch, and would lengthen the maturity profile of lending opportunities. Such a choice poses a number of difficulties for Asian emerging markets. Because of the diversified nature of Asia's trade, the choice of currency is not readily apparent. This is illustrated by the pre-crisis experience when the crisis countries had quasi-pegs to the dollar. The pegs are seen by some as contributing to the crisis because of the consequences of the depreciation of the yen against the dollar after 1995. The considerable diversity of trade shares with the major currency blocs suggests that some countries might be better to adopt the yen and others the dollar. However, one advantage of the quasi-dollar pegs was that they helped stabilise bilateral exchange rates and so

promoted the integration reflected in the growth of intraregional trade.

The economic shocks that Asia's emerging economies might face are likely to be significantly different to those faced by any of the major economies. Consequently, the loss of exchange rate and monetary independence might prove costly. This is of concern particularly until Asian countries have reduced other risks to financial stability by, for example, capitalising financial institutions, improving prudential regulations and supervision, and strengthening fiscal positions. Without progress in these areas, the loss of flexibility on both exchange rate and monetary policy could pose major problems.²⁰

In response to these concerns and boosted by the political momentum favouring regional solidarity, interest has grown in whether a regional currency (an 'Asian euro') might be an appropriate long-term goal.²¹ The diversified nature of Asian trade favours an independently floating common currency over a peg to another currency.²² The pay-off from such a system comes from greater economic integration, reduced transaction costs and the higher levels of trade and investment that can result from exchange rate stability. Consequently, one indicator of the suitability of a common currency is the importance and composition of intraregional trade (Table 8.7). Looking at the Association of South East Asian Nations (ASEAN) economies, Bayoumi and Mauro (1999) find that intraregional trade, as a share of regional GDP, is

Table 8.7 Regional trade patterns, percentage of total regional GDP

	1980		1990		1998	
	Exports	Imports	Exports	Imports	Exports	Imports
<i>ASEAN^a</i>						
Within ASEAN	5.6	4.2	7.6	6.9	11.7	11.8
With Japan	9.5	6.5	7.6	10.5	5.9	8.3
With the US	5.2	4.4	7.8	6.6	10.9	6.8
With euro area	3.4	2.8	4.7	5.1	6.3	4.3
With other industrialised countries	2.0	3.0	3.0	4.5	4.5	3.3
With other developing countries	6.5	8.3	9.3	11.5	13.4	14.0
<i>Euro Area^b</i>						
Within euro area	11.4	11.3	12.6	12.4	12.8	12.0
With Japan	0.2	0.6	0.5	1.0	0.4	1.0
With the US	1.1	2.0	1.4	1.6	2.0	2.0
With other industrialised countries	4.2	4.0	4.5	3.9	5.0	4.2
With other developing countries	5.3	7.6	4.0	4.5	5.8	5.6
<i>Mercosur^c</i>						
Within Mercosur	1.1	1.1	1.0	1.1	2.1	2.3

With US	1.1	1.9	1.7	1.2	1.2	2.2
With euro area	2.0	1.7	2.4	1.2	1.7	2.3
With other industrialised countries	1.0	1.4	1.2	0.9	0.9	1.4
With other developing countries	2.0	3.3	2.0	1.6	2.0	2.0
<i>NAFTA^d</i>						
Within NAFTA	3.1	3.5	3.4	3.5	5.3	5.4
With Japan	0.8	1.1	0.9	1.6	0.7	1.5
With euro area	1.6	1.1	1.3	1.4	1.2	1.7
With other industrialised countries	0.9	0.8	0.8	0.8	0.8	0.8
With other developing countries	2.7	3.9	1.9	3.0	2.5	4.0

Source: Bayoumi and Mauro (1999).

Notes

a ASEAN: Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam (Brunei data are not available).

b Euro area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain.

c Mercosur: Argentina, Brazil, Paraguay, Uruguay and associate members Bolivia and Chile.

d NAFTA: Canada, Mexico and the United States.

similar to that of the euro area, and higher than that of the Mercosur or North American Free Trade Agreement (NAFTA) groupings. However, this reflects the high degree of openness of the ASEAN countries because intraregional trade as a share of total trade is not very large. The composition of ASEAN's trade by type of product is also relatively favourable for considering a currency union. The price to be paid for choosing a common currency comes from the loss of policy autonomy that limits the response to macroeconomic shocks.

Asia's track record on macroeconomic policy is relatively strong, thereby improving prospects for the viability of a common currency arrangement. Low inflation and modest fiscal deficits and government debt were some of the key preconditions for monetary union in Europe. However, unlike Europe, Asia lacks the benefit of an 'anchor' country, like Germany, that has an established track record of stable macroeconomic policy. The challenges facing a monetary union are likely to be greater if the prospective members are at different stages of development. There is a considerable divergence within ASEAN and even more so if a wider group is envisaged. The nature of the macroeconomic shocks that participating countries face, along with the ability of their economies to adjust to shocks, is important in view of the loss of an independent monetary policy to address such shocks. On this score Bayoumi and Mauro find that ASEAN has some of the characteristics seen in Europe in the 1980s. Underlying macroeconomic disturbances appear relatively similar across some ASEAN members, a pattern also seen in Europe in

the 1980s. An analysis of these disturbances suggests there are similarities in the supply shocks experienced by Hong Kong and ASEAN members Indonesia, Malaysia and Singapore. Two other ASEAN members, the Philippines and Thailand, experienced more idiosyncratic shocks.

Regional institutional needs²³

Political commitment is critical to the success of any regional exchange rate arrangement. However, the political and institutional demands of regional arrangements do not lend themselves easily to analytic examination. As a result perhaps, these issues have received less attention than the more digestible examination of trade relations or the economic shocks that confront prospective participants in regional arrangements.

A useful first step in examining such issues would be to identify in clear terms the objective of moving from independent national currencies to a common currency. Although perhaps self-evident, there must be a reason for adopting a common currency that can motivate political support across the participating countries. Greater political integration, or the benefits of anchoring macroeconomic policy and of promoting trade and investment within the region could be suitable goals. European union was driven by the desire to unify following a history of wars and disruption, and economic integration was seen as an important part of that process. In other regions, including Africa and Latin America, proponents of a regional monetary arrangement see it as a way to overcome poor macroeconomic track records. Such an arrangement vests responsibility for macroeconomic policy in an institutional structure less susceptible to the influence of domestic fiscal demands. The promotion of trade and investment through the reduction of transaction costs is presented frequently as the pay-off from currency union. This pay-off may occur but it alone is unlikely to provide a compelling case for union or be a meaningful trigger that leads to agreement across nations.²⁴

The prevention and resolution of economic crises, in the context of an integrated global economy with highly mobile capital, would seem the most likely motivation for a regional currency arrangement in Asia at the present time. Whether such an arrangement is the best instrument to protect the region from the vagaries of the international financial market needs to be assessed. The size of a currency arrangement is no guarantee against large economic swings or even crises. Among the readily available examples are the swings in the yen/dollar exchange rate in mid-1998 and the more recent sharp fall of the euro. Moreover, Europe's problems with the Exchange Rate Mechanism in 1992 offer little confidence that a larger grouping will prevent crises.²⁵ Second, is a monetary union the best response to concerns about how to set economic policy (domestically, regionally and internationally) to address large and rapid movements in global capital?

Responses to these questions will help take the discussion of an Asian regional arrangement beyond a concept and a sign of regional solidarity to a definable goal. The arguments made in favour of regional arrangements seem to propose (at least) three separate functions. The first role is surveillance, the second is crisis resolution and the third is monetary union. If the objective is to identify the best way to address concerns about large and volatile capital flows, which of these functions ought regional arrangements fulfil? In my view, and at the risk of oversimplification, there would seem

to be a greater consensus on the first function—surveillance—with diminishing consensus on the benefits of the crisis-resolution and monetary union functions.

The consensus around strengthening regional efforts on surveillance is reflected in various activities already in operation including within the Manila Framework Group and ASEAN. Some would argue that any regional arrangement should not go beyond a surveillance role. Sussangkarn (2000) proposes roles for surveillance and regional financing for minor needs (such as a swaps arrangement like that proposed in the Chiang Mai Initiative), but that major crisis resolution should be left to others. More strongly, Lee Kuan Yew (2000) notes that the Asian crisis might have been worse had a crisis-resolution arrangement been in place in Asia. Others, however, see a role for crisis resolution. Sakakibara (2000), for example, develops an argument for a regional lender of last resort on second-best grounds. Finally, there is the concept of monetary union, which some view as a successor to one or both of the first two functions of regional arrangements, although it is not clear why these must be related.

The membership of a regional group, suited to accomplish each of the various functions, will likely differ considerably across functions. Some suggest that ‘peer pressure’ for the adoption of better macroeconomic policy is a strong reason for a regional arrangement. A smaller group of countries such as ASEAN would be most suited to this type of peer review. If, however, the issue is one of ‘what matters’ to the economies of the members, then it would clearly be important to include the United States and Japan in any arrangement. A group along the lines of the Manila Framework Group would then seem more appropriate. However, in such a group, the scope for peer pressure diminishes. A third grouping, not on geographical lines but rather based on systemic importance (e.g., the G-20) might be optimal if the issues are ‘what matters’ plus concerns with contagion. Assessing the case for monetary union involves, among many other things, examining the symmetry of economic shocks across the potential membership—the greater the symmetry of shocks, the more suitable monetary integration will be. Such a group may or may not be geographically close, although proximity might be seen as improving political commitment. Finally, the function of crisis resolution usually relies on the pooling of foreign exchange reserves. This function might therefore be characterised as risk sharing. In that case it is, of course, better to group together countries with dissimilar shocks—the exact opposite of the case for the group on monetary integration. Thus, the group suited to monetary integration might be diametrically different to that suited to crisis resolution.

The political motivation for a regional exchange rate arrangement must be compelling if a consensus on these functions is to be more than of just academic interest. A regional arrangement will mean ceding sovereignty. Furthermore, wealthier participants will probably have to commit resources to promote convergence across countries that are at different stages of development. Participating countries must be willing to give up their use of exchange rate and monetary policy to shape domestic economic activity. At the same time, they would need to accept constraints on fiscal financing while recognising that fiscal policy would be used for stabilisation.

The new demands on policy instruments would represent a profound change in Asia’s development model. Efforts to change relative prices to promote export development, while discouraging the non-tradable sector, have been at the centre of development

policy. The loss of exchange rate and monetary policy independence would remove the ability to pursue that strategy. In contrast with Asia's tradition of relatively neutral fiscal policy, the government's role would become more important. Moreover, countries have tended to pursue their own development policies with limited assistance from their neighbours. While not saying that Europe necessarily offers the only model of integration, the efforts to bring lagging countries 'up to speed' prior to accession to monetary union was important to strengthen the union.

Currency union has the potential to impose enormous political stresses on participating countries. At the same time, its pay-off is only likely to come if the barriers to exit from the system are high. These reasons mean that the transition to union can be extremely difficult. The long transition to European Monetary Union, which was phased in under various stages of the Maastricht Treaty, meant that monetary coordination became workable. It is less clear whether institutions will be similarly robust in Asia. Consequently, the transition path, including whether it is desirable to jump quickly from a loosely coordinated agreement to a more binding arrangement, will need to be defined. Questions will also arise as to whether political and/or other forms of integration should move in parallel with monetary union. It is likely that the barriers to exit will increase considerably if monetary union is just one element of a wider unification. It must be kept in mind that currency unions can fail, leaving all worse off owing to shattered policy credibility. Thus, in consensus building it is important that the inevitable trade-offs that arise in negotiation do not end up undermining a workable union. For example, it can be argued that the former Soviet Union strayed too far in allowing some discretion to the constituent parts of the ruble zone that ultimately was an important part of its undoing.

The organisational requirements for union will depend in part on the identification of the objective of a regional arrangement. In the case of monetary union, it is clear that an organisation responsible for monetary policy will be needed. The careful design of its charter, in order to make the organisation accountable and subject to checks and balances, will be challenging. The central bank will need to be free from the pressure to finance member governments. While depending, in part, on who the participating countries are, it is not clear that in Asia there is a strong institutional foundation for a regional central bank. Weak institutions were one of the features, some have argued, that contributed to the depth of the Asian crisis. Even in the advanced economies in the region, institutional reform is relatively recent. Strengthening national institutions to provide a foundation for regional institutions is likely to be an essential part of the reform sequence.

CONCLUSION

This chapter looked at the menu of exchange rate and monetary regimes facing East Asian emerging economies. Political considerations are decisive in defining credible regimes because the choice of a regime has an opportunity cost; some aspect of policy flexibility is lost by that choice. Macroeconomic policy consistency is fundamental to sustaining economic stability. Decisions to fix the exchange rate while maintaining independent monetary policy were central to the East Asian crisis. Investors were encouraged to finance investments by foreign borrowing and a carry trade, boosting

short-term capital flows. Institutional developments reinforced these incentives.

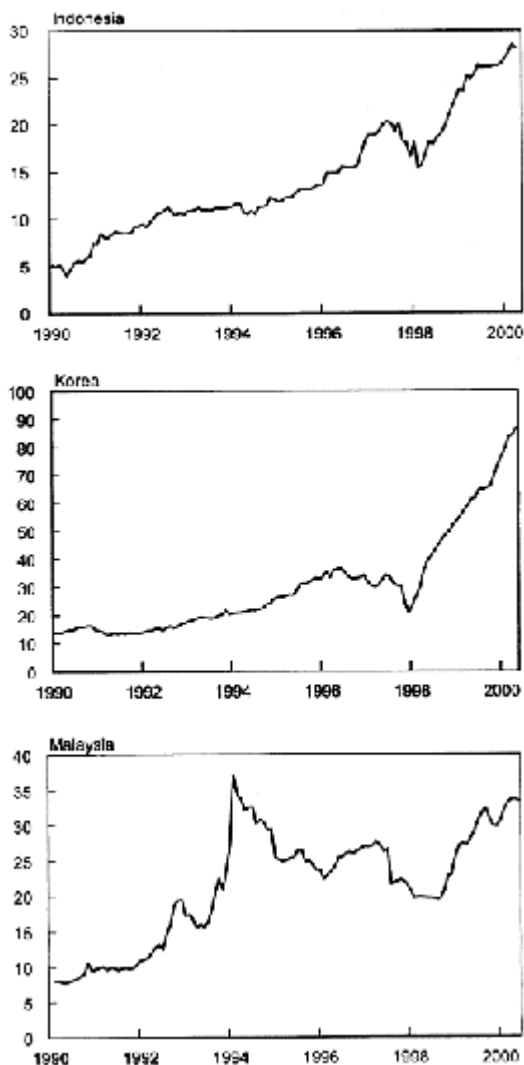
In the post-crisis period, countries are searching for sustainable policy regimes. Most crisis countries have chosen to float their currencies, but progress on monetary policy regimes has been more measured. Some countries intend to adopt inflation targeting, and greater central bank independence should help support these new regimes. Stable macroeconomic policy regimes have not yet fully evolved. Exchange rate policies have followed an asymmetric pattern. To promote export-led recovery, some countries have resisted appreciation while accepting downward pressure on their currencies. These developments have posed challenges for monetary policy and prompted concerns about policy consistency. The sterilisation debts of central banks were higher in mid-2000 than during the peak of the hot-money flows of the 1990s, and represent a significant liquidity overhang.

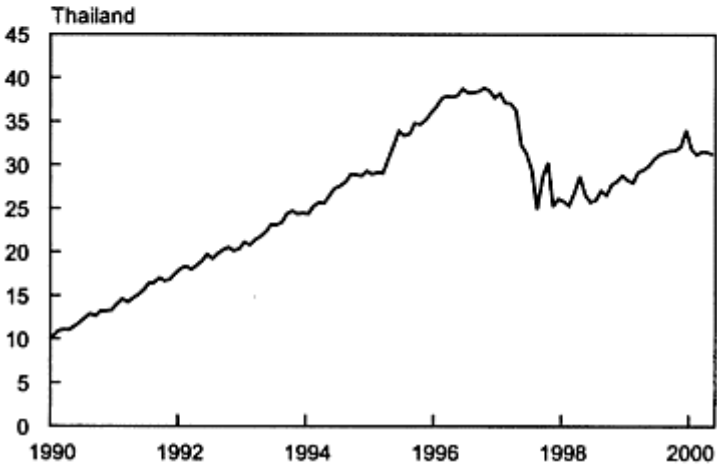
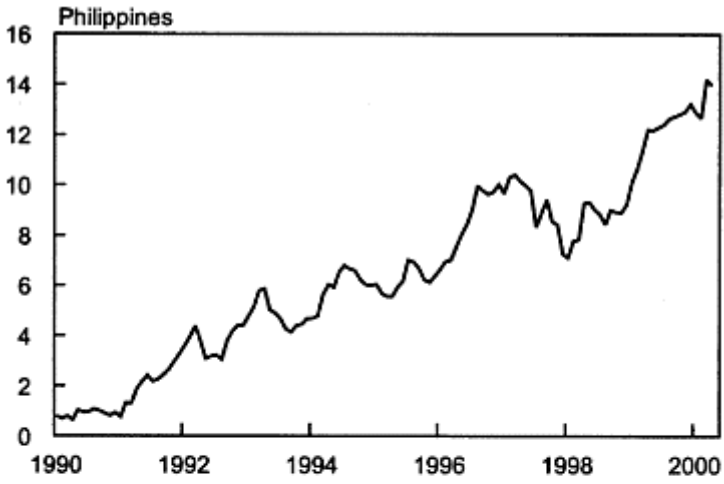
The success of any new regime will require significant strengthening of policy-related institutions, and strong political commitment. In the short term, emerging economies in Asia are torn between their preference for fixed exchange rates and the awareness that, for many countries, this option is not feasible in the near term. Capital controls are not likely to provide a useful solution to the regime choice, other than in the short term, because they are likely to prove inconsistent with the development of financial markets. Moreover, even with restrictions on capital transactions, monetary developments can pose risks for stability and this raises questions about the sustainability of such measures.

In the longer term, other options will likely be considered. Adopting one of the major currencies is an option. However, this may not be suitable for Asia owing to variations in trading patterns across the region, the nature of its economic shocks and ongoing efforts to strengthen domestic economies. In response to these concerns, and boosted by political momentum favouring regional solidarity, interest in a regional currency has grown. This option needs to be assessed against clearly defined goals. A regional monetary arrangement requires countries to cede sovereignty. Participating countries must give up their use of exchange rate and monetary policy to shape domestic economic activity. At the same time, they will need to accept constraints on fiscal financing while using fiscal policy for stabilisation. Furthermore, wealthier participants are likely to have to commit resources to promote convergence. An organisation responsible for monetary policy will be needed. At a time when countries are seeking to rebuild national institutions that have been found wanting, the development of strong regional institutions will be a challenging but essential part of the reform sequence.

APPENDIX: THE INTERNATIONAL RESERVES AND STERILISATION DEBT OF THE ASIAN-5

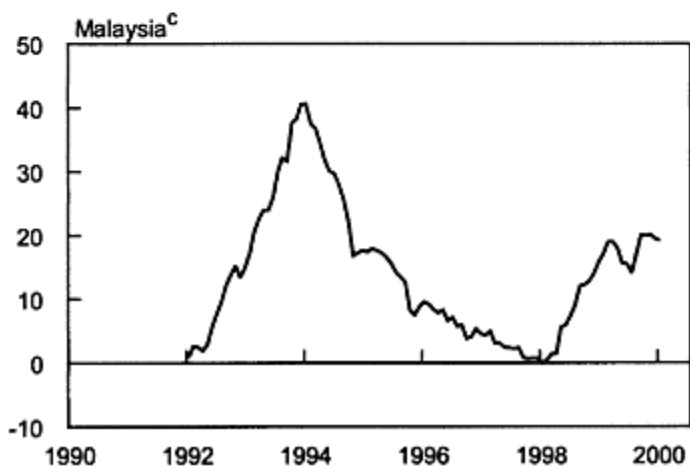
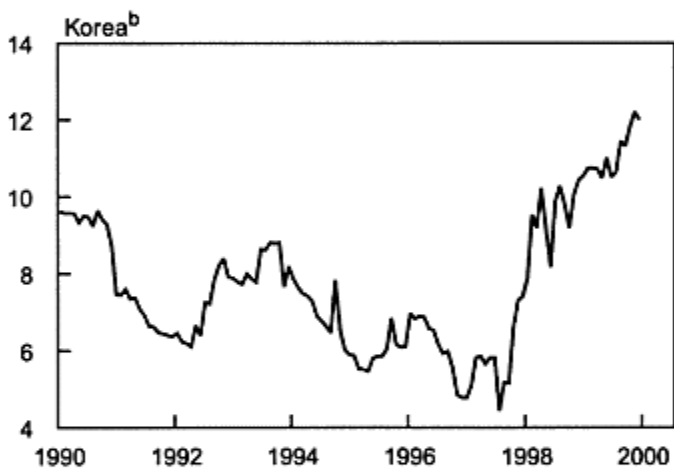
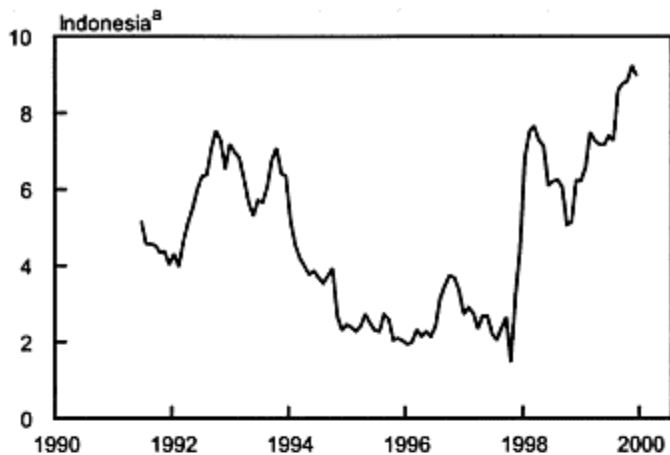
Figure A8.1 International reserves (US\$ billion)

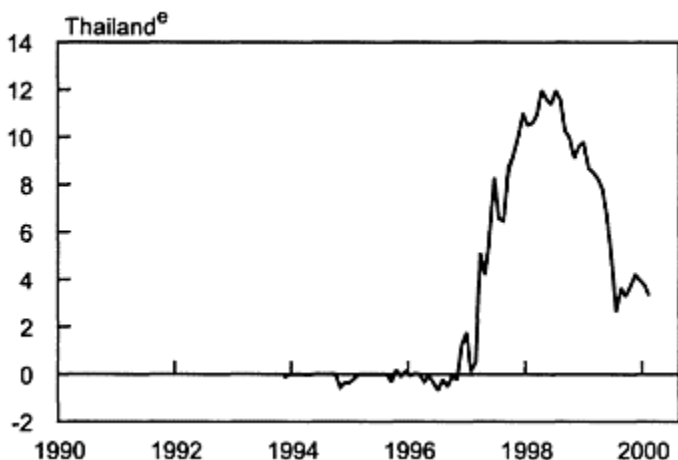
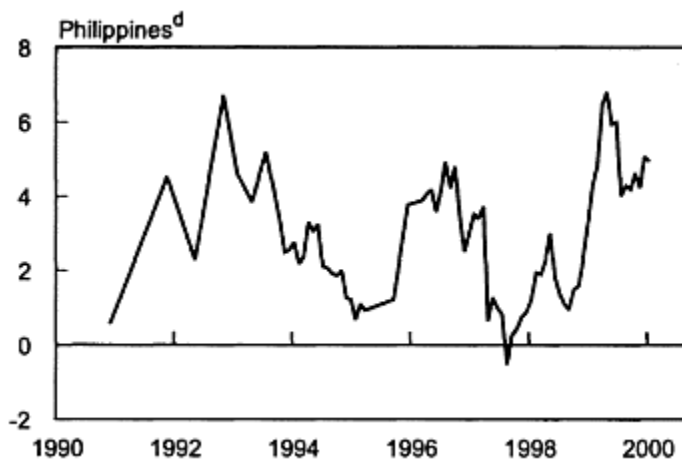




Source: IMF, *International Financial Statistics*.

Figure A8.2 Sterilisation debt, 1990–2000 (per cent of GDP)





Sources: National Sources; CEIC; IMF, *International Financial Statistics*

Notes

- a Bank Indonesia Certificates.
- b Monetary Stabilisation Bonds.
- c Interbank deposits, central bank bills and deposits.
- d Open market instruments.
- e Repurchase operations.

NOTES

The views expressed are those of the author and do not necessarily reflect those of the International Monetary Fund. The author wishes to thank the participants of the ANU Conference that led to this book, particularly Ken Henry, as well as Chris Morris and

Michi Tanaka for their helpful comments.

- 1 Although, by some measures, the scale of capital flows was at least matched in the early 1900s (Obstfeld 1998) and can be interpreted less than optimal (Fernández-Arias and Hausmann 1999).
- 2 Nellor (1999) examines tax policy aspects of the East Asian crisis.
- 3 By contrast, in a flexible exchange rate regime, the capital inflows would lead to an appreciation of the exchange rate. The exchange rate would reach a point such that the predominant view would be that the rate had become overvalued and inflows would slow. The authorities could ease exchange rate pressures by increasing the fiscal surplus.
- 4 Other factors, including the 'push' from creditors, also played a role.
- 5 These objectives have, of course, their own intrinsic merit irrespective of whether or not an inflation-targeting regime is adopted.
- 6 This is not intended to suggest that intervention should be ruled out.
- 7 Sterilisation debt is defined as the central bank's liabilities to the banking system through liquidity-management instruments such as central bank bills or repurchase arrangements. The increase in sterilisation debt reflects several factors. Central banks may wish to mop up excess liquidity resulting from foreign exchange market intervention. Prevailing weak private credit demand means that banks have little to do with excess liquidity but deposit it with the central bank. In some countries, including Korea, MSB issues have been used to mop up liquidity resulting from the assistance provided to ailing banks.
- 8 Fiscal costs arise when the interest rate paid to banks on the sterilisation debt exceeds the interest rate earned on the purchased foreign currency.
- 9 Appendix Figure A8.1 shows the changes in international reserves for individual countries.
- 10 The decline in the level of sterilisation debt reflects weakness in domestic credit. Credit to the private sector is falling and foreign inflows, which had been the primary source of liquidity growth, have declined in 2000. Consequently, liquidity growth has fallen to the point where the central bank no longer needs to withdraw liquidity from the economy. A period of sustained weakness in capital flows to the other crisis countries could see a similar pattern emerge.
- 11 A benign scenario would arise when a slow pace of recovery and limited net foreign inflows permitted liabilities to be unwound gradually. To reduce the risk posed by sterilisation debt, the maturities of the liabilities could be extended or the debt could be converted to a longer maturity. Another option is to increase statutory reserve requirements.
- 12 It is not the intention of this section to canvass the extensive literature on alternative exchange rate regimes. This detailed assessment is found, for example, in Mussa et al. (2000).
- 13 In the post-crisis context, this stance emerged in the reports of the G-22 (Group of Twenty-Two).
- 14 Batiz and Sy (2000) compare a currency board with a standard peg. They conclude that the former can deliver lower inflation and nominal interest rates albeit at the

cost of losing the option to make discrete changes to the exchange rate.

- 15 See Eichengreen et al. (1998) and Klein and Marion (1994). The latter's study of Latin American and Caribbean countries found that the average duration of a peg was ten months and that more than half were abandoned by the end of their first year.
- 16 See Hausmann et al. (1999) who find, in an assessment of Latin American economies, that the financial sector is smaller in countries with a floating exchange rate than in countries with a fixed rate.
- 17 Consider the demanding technical and political economy implications of the 'middle-ground' proposal of Yoshitomi and Shirai (2000). They propose (p. 33) that: a country should stabilise the real effective exchange rate at a pre-defined level that is compatible with balanced medium- and long-term economic development, redefine the reference parity on a regular basis, and peg the domestic currency to a basket of currencies. The new approach suggests that the real effective exchange rate should be allowed to appreciate against the reference parity during economic overheating. By contrast, when confronting downward exchange rate pressure, a monetary authority should assess whether the parity is sustainable and apply a credible, transparent, and gradual mechanism. Any doubt about the sustainability calls for timely readjustments including the change in the parity itself. The authority should then defend the sustainable parity in a flexible way (eg. no hikes in the domestic interest rate at an unbearable level and a concurrent protection of foreign reserves).
- 18 Many have pointed to Chile as offering an example of such controls. However, these controls impose a different range of costs. See Gallego et al. (1999). Chile announced the elimination of the one-year minimum holding requirement for foreign investments in May 2000. The *encaje* (a cash reserve requirement effectively taxing short-term flows) is presently set at zero and some expect that it may be abolished.
- 19 Like other countries in the region, Malaysia in the first half of the 1990s had the challenge of addressing liquidity conditions that were driven by large inflows of hot money. In 1993–94 Malaysia experienced a sharp increase in international reserves as it responded to a rapid inflow of capital (see Appendix Figure A8.1). In the post-crisis period, to the extent that capital controls permit interest rates to remain lower, the fiscal costs of sterilisation may be held down for a longer period.
- 20 Berg and Borensztein (2000) examine the case for dollarisation.
- 21 This proposal is considered in several places including Bayoumi and Mauro (1999).
- 22 De Brouwer (2001) considers a peg to a basket of the major currencies.
- 23 The term 'institution' is defined broadly. It encompasses not only organisations but also regulations, policies and practices that make up the environment for regional arrangements.
- 24 Looking at Asia, the case for a monetary union on these grounds is perhaps not compelling. Asia has seen the largest increase in integration of any region over the past two decades and without any formal union (Table 8.7).
- 25 Eichengreen and Wyplosz (1993) point to the reluctance of Germany to extend the 'unlimited support' it had agreed to under the Articles of Agreement of the

European Monetary System.

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Fixed or floating: is it still possible to manage in the middle?

Reuven Glick

INTRODUCTION

The debate over the best choice of exchange rate arrangement, particularly for developing countries, has been given new life in the 1990s with the fast movement of capital around the world and the currency and balance of payments crises in emerging markets. Three prescriptions for developing countries are currently circulating.

Those who blame exchange rate targets, specifically adjustable ('soft') pegs, as contributing factors for the crises in Mexico, East Asia, Russia and Brazil, advocate greater exchange rate flexibility (e.g., Obstfeld and Rogoff 1996; Ito et al. 1998; and Corsetti et al. 1998). In this view many Asian countries lost international competitiveness by continuing the de facto peg of their currencies to the US dollar when the dollar was appreciating between 1995 and 1997, particularly against the yen. Increased flexibility would have dampened the appreciation of their currencies, lessened the one-way bets of speculators, and limited the reversal of capital flows that contributed to the crisis in East Asia.

A second view argues for reducing exchange rate flexibility by rigidly committing to permanently fixed ('hard') rates through institutional arrangements such as currency boards, currency unions or the full abandonment of the domestic currency. Advocates of this view (e.g., Hanke 1999) point out that none of the crisis currencies was formally pegged to the dollar when the crisis hit, while the currency boards of Hong Kong and Argentina successfully weathered the storm.

A third view subsumes the first two and argues that 'intermediate' exchange rate regimes, such as adjustable single-currency and basket pegs, crawling pegs, target bands and even managed floats, are crisis prone and increasingly less feasible (e.g., Obstfeld and Rogoff 1996; Eichengreen 1999:104–5; Summers 2000; Eichengreen 2000; and Edwards 2000). Consequently, countries must choose between the two extremes of fully fixed or fully flexible exchange rate regimes. That is, countries must be totally committed to the goal of fixing their exchange rates, as Hong Kong and Argentina have been, or they must inevitably allow greater exchange rate flexibility. However, even among those who believe that the middle range along the spectrum of exchange rate regimes has vanished, there is no apparent consensus on which of the two polar regimes—fully floating or rigidly pegged—might be more appropriate; that is, which countries should adopt which extreme.

These issues have implications for exchange rate and monetary policy in East Asian

economies. The East Asian financial crisis of 1997–98 involved a general abandonment of de facto pegs against the dollar by the emerging economies in the region (with the exception of Hong Kong), followed by greater exchange rate flexibility. However, there is still debate about which exchange rate arrangement should be followed in the future. Some advocate continued floating, while others support the restoration of the de facto pegs to the dollar or to a basket including the yen. Another possibility is a regional currency arrangement that would limit fluctuations in intra-Asian bilateral exchange rates but allow flexibility with respect to the major world currencies.

This chapter reviews the conventional arguments for alternative exchange rate regimes and discusses why countries may have difficulties maintaining intermediate exchange rate regimes in the face of open capital markets. It then looks at the empirical basis for the ‘missing middle’ argument and presents stylised facts concerning the association between exchange rate arrangements and country characteristics. It shows that the middle has indeed shrunk, although a substantial number of developing countries are still engaged in intermediate exchange rate arrangements. However, it has become increasingly more difficult to sustain these regimes, as evidenced by the successive widening of intervention margins by countries with target-band arrangements, by the sizeable number of countries that recently abandoned intermediate arrangements altogether and by the fact that countries remaining in the middle are increasingly able to do only by restricting capital movements. Moreover, effectively controlling capital flows will only become more difficult as market development proceeds. In the long run, it appears that countries with open capital accounts will sooner or later be compelled to abandon the middle ground and allow more exchange rate flexibility, unless they are prepared to go to the opposite pole of a hard peg.

The final section discusses the feasibility of alternative exchange rate arrangements for the developing economies of East Asia. The conclusion drawn is similar to that for developing countries generally. As the openness of the region to global trade and finance continues to grow, these countries have little choice but to allow more exchange rate flexibility in the future than they have permitted in the past. This does not preclude an active but discretionary use of intervention and other policy tools to influence the exchange rate. Monetary policy will still need to take into account and react to exchange rate developments. But policymakers should not make explicit or implicit policy commitments to keep the exchange rate within particular ranges for extended periods of time.

ALTERNATIVE EXCHANGE RATE REGIMES

Benefits and costs

The literature on the advantages and disadvantages of exchange rate regimes has typically considered two highly simplified and extreme cases: (1) a fully flexible exchange rate; and (2) an irrevocably fixed exchange rate. The arguments for and against both are well known.¹

At the macro level, the main argument in favour of a flexible exchange rate is that it

allows a country to retain independent and discretionary monetary policy as a tool for responding to shocks, particularly shocks to aggregate demand.² In addition, flexible exchange rates allow faster and less costly price adjustment when shocks necessitate a shift in the real exchange rate, particularly when the nominal prices of goods change slowly.

There are several arguments in favour of a fixed exchange rate. Pegging to a low-inflation currency can provide a credible anchor for restraining domestic inflation expectations, as long as expectations that the fixed exchange rate will not be abandoned are credible.³ Another argument for a peg is that it fosters fiscal and monetary policy discipline by curbing the temptation to follow excessively stimulatory macroeconomic policies that would lead to an exhaustion of foreign exchange reserves and an end to the peg.⁴ At the micro level, a fixed exchange rate may also reduce the transaction costs and exchange rate risks that can discourage trade and investment.⁵

Both regimes have their costs. A flexible exchange rate and discretionary monetary policy usually come at the cost of some loss of credibility, which can lead to an inflation bias. At the microeconomic level, greater exchange rate variability creates uncertainty and discourages international trade and investment.

The main cost of a fixed exchange rate is the loss of macroeconomic flexibility to respond to shocks, particularly those that affect the equilibrium real exchange rate.⁶ Giving up an (implicit or explicit) escape clause to exercise a devaluation in response to severe shocks may be undesirable if the short-term cost of defending the peg exceeds the long-term benefit of maintaining the regime. The loss of the domestic central bank as a lender of last resort can also be costly. And, fixed rates lacking credibility leave countries open to speculative attacks on their currencies. In particular, by serving as a 'lightning rod' for concerns about broader debt and banking problems as well as macroeconomic policies, they may spawn crises that greatly amplify the costs of adjustment.⁷

To fix or float? That is the question

The relative advantages of exchange rate fixity and flexibility depend, in large part, on the circumstances and characteristics of the particular country and period. Larrain and Velasco (1999) provide the following set of necessary conditions for the adoption of a credible fixed exchange rate with a particular anchor currency:⁸

- 1 Strong trade links with the anchor country, implying that the benefits of reducing the adverse effects of exchange rate variability on international trade competitiveness are great.⁹ A peg to a single currency will not be desirable unless there is a strong concentration of trade, because of the effects on international competitiveness of cross-rate fluctuations between the anchor currency and other major currencies.
- 2 A high correlation of shocks with the anchor country, implying that the costs of giving up macro policy flexibility are low.¹⁰ Thus small open economies and countries sharing common (symmetric) shocks with the potential anchor country have less need for an independent monetary policy and flexible exchange rate than if they had to respond primarily to their own idiosyncratic (asymmetric) shocks. Larger economies that are more likely to experience asymmetric shocks benefit more from exchange rate flexibility.¹¹

- 3 Similar inflation preferences to those of the anchor country. A fixed exchange rate can be desirable for countries with a history of hyperinflation or other economic misfortune that has rendered investor confidence scarce and independent monetary policy no longer tenable. In this case the benefits of improved credibility and a permanently lower inflation rate are likely to be great. Provided the public is willing to give up monetary sovereignty, even full official dollarisation may be attractive for some countries. The benefits are less in countries that have never experienced hyperinflation and if there is less public support for accepting the costs of ensuring greater price stability.
- 4 Flexible factor markets, in order to lessen the need for other policy measures with which to respond to economic shocks.¹² Countries with factor mobility and price flexibility may have less need for exchange rate and monetary policy flexibility in adjusting to asymmetric shocks.
- 5 A strong, well-capitalised banking sector in order to lessen the need for a lender of last resort to domestic banks. Countries with poorly regulated, fragile financial systems will find the loss of the domestic central bank as a lender of last resort costly, unless they can obtain contingent credit lines from foreign banks, governments, multilateral institutions or other sources to provide at least limited lender-of-last-resort services.

Countries that fail to satisfy the above conditions have a greater incentive for exchange rate flexibility.

Rationale for intermediate regimes

In reality, of course, there is a continuum of possible exchange rate arrangements between the two extremes of a rigid peg and a pure float. In this middle range are adjustable pegs, crawling bands and various other regimes that are characterised neither by day-to-day flexibility nor by a commitment to a fixed and unchanging peg, termed 'fixed rates lite' by Obstfeld and Rogoff (1996).

If the trade-off in terms of costs and benefits of exchange rate flexibility varies with the degree of flexibility, ideally each country should pick the optimal degree of flexibility subject to this trade-off. Therefore, as Frankel (1999) argues, optimisation may often, although not always, involve an 'interior solution' between the two 'corner solutions' of pure floating and rigid fixing.

What factors might create an incentive to adopt an intermediate exchange rate arrangement; that is, create a convexity in the cost-benefit trade-off? Calvo and Reinhart (2000b) argue that developing economies are very different from developed countries in key dimensions that give rise to a 'fear of floating', in general, and of devaluing or depreciating, in particular. This fear, they suggest, is justified on several grounds:

- 1 Devaluations in developing countries are generally contractionary, in contrast to more advanced countries where devaluations are typically associated with export-led booms. The contractionary effects can arise from lower real income or wealth pushing aggregate demand down, as well as from reductions in aggregate supply owing to greater costs of imported inputs or working capital.¹³ Depreciations may also be contractionary by worsening the condition of the financial sector—for example, if

lending institutions have unhedged foreign liabilities—and reducing the availability of domestic credit.

- 2 Devaluations result in a loss of credibility and typically a loss of access to international capital markets in response to deteriorating credit ratings. An interruption in the supply of foreign credit—what Calvo and Reinhart term ‘the sudden stop problem’—rather contributes to economic downturns in developing countries whose currencies are depreciating.
- 3 In developing countries trade is more adversely affected by exchange rate volatility than in industrialised countries. This is because their trade primarily involves exports of primary commodities and/or manufactures to the United States and is invoiced in dollars. Exposure to exchange risk is increased if exchange rate movements against the dollar are volatile. In addition, illiquid or non-existent futures markets limit the available tools to hedge exchange rate risk.
- 4 Currency swings have higher pass-through effects on domestic inflation in developing countries. If movements in the nominal exchange rate rapidly result in higher domestic prices, then the insulation properties provided by flexible exchange rates are reduced considerably. The degree of pass through depends on the extent to which exchange rate changes are perceived as permanent or transitory and the speed of the transmission between the exchange rate and prices.¹⁴ Thus in developing countries with poor records on inflation and monetary policy and/or pervasive wage indexation, exchange rate changes will lead to greater and more rapid domestic price increases.
- 5 The fear of depreciation can also be explained by the fact that government and private sector debt in developing countries is largely denominated in foreign currency. Significant exchange rate movements—and in particular large depreciations—will tend to magnify the burden of liabilities and adversely affect corporate balance sheets.¹⁵

In addition to concerns about depreciation, developing countries also fear large appreciations because of the effects on international competitiveness. For all of these reasons, Calvo and Reinhart argue that many developing countries who may not find it optimal to adopt a fixed exchange rate will still not find it desirable to adopt an independent float. They will make great efforts, through manipulating interest rates and through other policies, to avoid large exchange rate fluctuations. The implication is that developing countries that do not meet the criteria for a hard peg will have a strong preference for some intermediate, ‘middle’ form of exchange rate arrangement.

Are intermediate arrangements still feasible?

While intermediate exchange rate arrangements have been perceived as a way of retaining some policy independence while also limiting exchange rate volatility, the feasibility of intermediate regimes has been increasingly questioned in recent years.

In the past two decades a number of developing and transitional economies have moved to currency board arrangements, including Hong Kong (1983), Argentina (1991), Estonia (1992), Lithuania (1994), Bulgaria (1997) and Bosnia and Herzegovina (1998).¹⁶ In addition, the euro was adopted by twelve members of the European Union.

At the other end of the spectrum, many developing countries have moved toward increased exchange rate flexibility in recent years. In December 1994 Mexico adopted a

floating exchange rate. In July 1997 Thailand, whose official policy had been a basket peg, dropped its de facto link to the dollar and announced it would move to a floating rate. Korea, Indonesia and the Philippines have also announced more flexible exchange rate policies. Other countries that have abandoned band arrangements of some sort and moved toward greater exchange rate flexibility in recent years include the Czech Republic (May 1997), Russia (August 1998), Brazil (January 1999), Chile (September 1999) and Colombia (September 1999).¹⁷ Also in 1999 Angola, which dropped its crawling peg, and Croatia, which dropped its horizontal band, moved toward increased flexibility. Obstfeld and Rogoff (1996) concluded (even before the most recent series of crises): 'A careful examination ... suggests that even broad-band [intermediate exchange rate] systems... pose difficulties, and that there is little, if any, comfortable middle ground between floating rates and the adoption by countries of a common currency'.

Various arguments have been offered to explain the greater difficulty of maintaining intermediate exchange rate regimes. At first glance the problems of intermediate regimes can be explained by the impossible-trinity principle that, with greater integration of financial markets, countries cannot simultaneously attain the goals of exchange rate stability and monetary independence. But as Frankel (1999) has observed, this does not rule out allowing greater capital mobility while partially pursuing the remaining two goals of exchange rate stability and monetary independence. That is, the impossible trinity does not rule out a country pursuing a managed float or soft peg in which some of the fluctuation in demand for its currency is accommodated by intervention and the residual is allowed to be reflected in the exchange rate.

However, rising international capital mobility has made intermediate arrangements more vulnerable to shifts in market sentiment and more difficult to operate. Calvo and Mendoza (2000) argue that in a world with capital mobility and asymmetrically informed international investors, countries are subject to herding behaviour and possibly self-fulfilling speculative attacks by investors that misinterpret the behaviour of other agents in the global market.¹⁸ This situation can be remedied, or at least minimised, only by adopting a very transparent and credible policy stance, as displayed by a rigidly fixed exchange rate or a freely floating exchange rate.

A related argument is that most intermediate regimes are insufficiently 'transparent', or 'verifiable' for international investors (Frankel, Schmukler and Servén 2000; Frankel et al. 2000). That is, they are more difficult to monitor than hard pegs or independent floats. For example, if the announced exchange rate regime is a simple dollar peg, investors need only check that the current exchange rate is the same as the exchange rate on the previous day to verify that the central bank is indeed following its announced policy. If the announced regime is a pure float, investors can check whether the central bank intervened in the market by seeing whether its holdings of foreign exchange reserves have changed (assuming information on reserves is accurate and timely). Allowing greater variability in the exchange rate within a horizontal or crawling band and/or a peg to a basket of currencies makes verification more difficult by requiring a longer period of observation for market participants to be able to confirm that the central bank is indeed implementing the announced policy. Thus the credibility of intermediate regimes is more easily cast in doubt.¹⁹

In addition to problems of verifying their credibility, intermediate regimes, as

compared with hard pegs or floating arrangements, may also suffer from providing insufficient incentives for policymakers and private agents to undertake actions that would reduce the vulnerability of the economy to crises (see Eichengreen 2000). In particular, the domestic financial system will be more fragile, foreign borrowing will be greater and fiscal deficits will be larger. In the words of Eichengreen (2000:13):

Banks will have limited incentives to raise their capital standards or risk management practices because they think that any exchange-rate-related limits on the capacity of the authorities to act as lenders of last resort are only temporary. Debt managers will not shun short-term debt because they will be aware that the authorities retain the capacity to adjust the exchange rate and monetary policy so as to backstop the market. Fiscal policymakers will have mixed incentives to eliminate excessive deficits, because they will have reason to suspect that the revocation of the inflation tax is only temporary.

In contrast, with a fluctuating exchange rate, banks and other private borrowers will have a greater incentive to hedge their foreign currency exposure. With a hard peg, they will be more willing to improve their capital positions in response to the more limited capacity of the monetary authority to act as the lender of last resort.²⁰ Thus the endogenous relationship between economic fundamentals/vulnerabilities and the incentives (or lack of incentives) associated with intermediate regimes may also play a role in their demise.

IS THE MIDDLE VANISHING? EMPIRICAL EVIDENCE

Measurement issues

The usual starting point for characterising exchange rate regimes is the official exchange rate arrangements that countries report to the International Monetary Fund (IMF). A potential problem with these classifications is that they accept that countries are doing what they say they are doing. Exchange rates of the East Asian crisis countries prior to the 1997 crisis exhibited very little flexibility with respect to the US dollar for extended periods of time; however, only Hong Kong and Thailand were explicitly classified as maintaining pegs—and the latter to a basket; the Philippines was classified as having a freely floating exchange rate; while Indonesia, Malaysia, Singapore, Korea and (unofficially) Taiwan were all labelled as having managed floats.

According to Calvo and Reinhart (2000a, b), many developing countries that purport to float to some extent are, because of their fear of floating, ‘closet peggers’. That is, they make every effort through interest rate manipulations and foreign reserve intervention to avoid large exchange rate fluctuations. Relative to more committed floaters—such as the United States, Australia and Japan—the observed exchange rate variability in these countries is quite low.

Nevertheless, even by Calvo and Reinhart’s metric—the proportion of monthly exchange rate changes larger than 1 per cent or 2.5 per cent—countries with different IMF classifications on average show clear differences in exchange rate flexibility.²¹ Thus

even if most of those countries classified as having independent floats intervene more so than the United States and Japan, they tend to allow more exchange rate variability than countries with managed floats and other exchange rate arrangements that only allow some flexibility. Moreover, in recent years the IMF has reclassified several countries that purport to be engaged in managed floating as de facto peggers. With these adjustments the IMF classifications are a good starting point for measuring relative degrees of exchange rate flexibility.

Trends in exchange rate arrangements

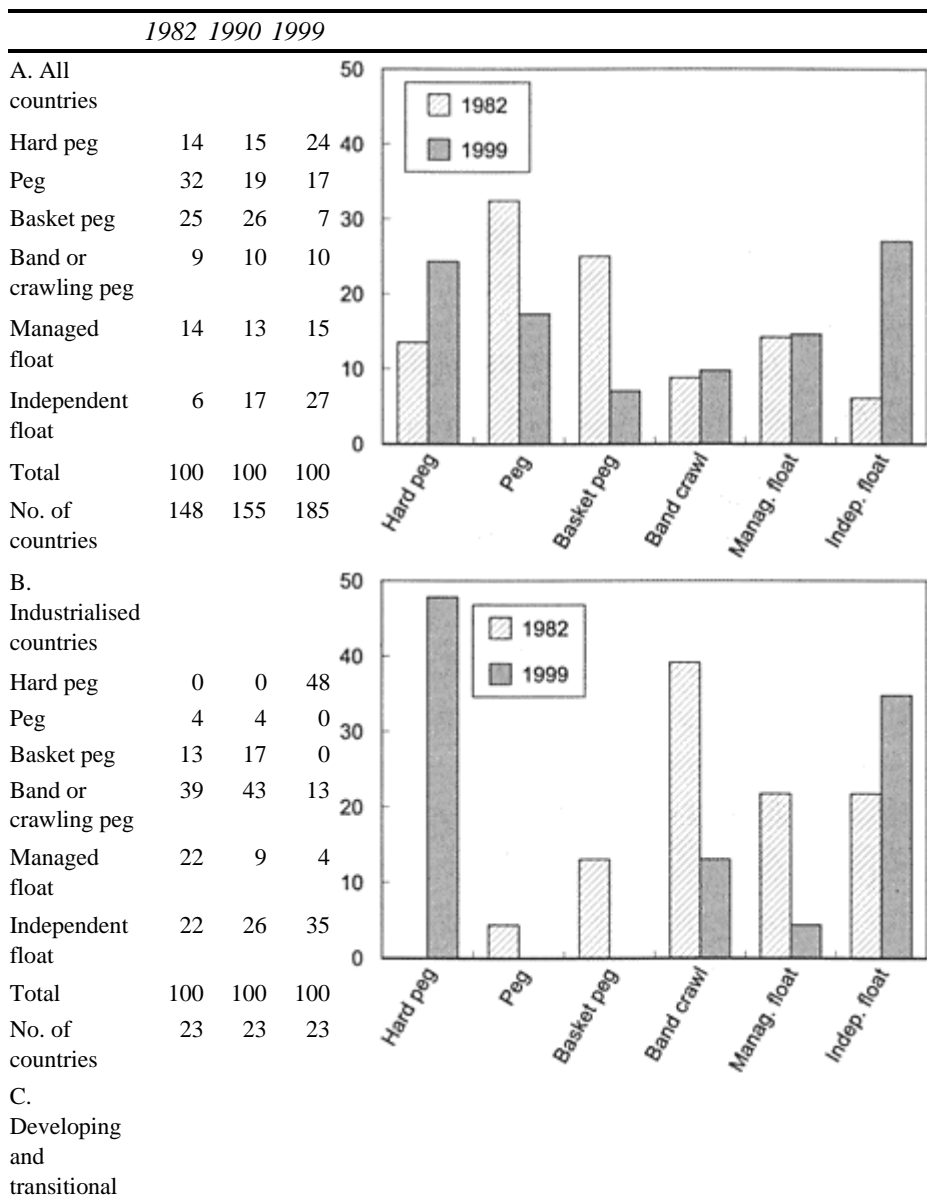
Table 9.1 presents statistics on the different exchange rate regimes in place in 1982, 1990 and 1999, based largely on the IMF's classifications.²² The regimes are categorised into six groups: (1) rigid currency pegs including countries with currency boards or without legal tender; (2) single-currency adjustable pegs, including de facto pegs;²³ (3) basket-currency pegs to either the SDR (special drawing right) or other composite basket; (4) horizontal bands, crawling pegs, crawling bands and other regimes with announced targets;²⁴ (5) managed floats; and (6) independent floats. The table reports figures for all countries, industrialised countries, developing and transitional countries, and a subsample of emerging markets.²⁵ In 1999 the IMF reported regime classifications for 185 countries, including 23 industrialised countries, 26 transitional countries and 136 other developing countries. (For earlier years the totals for the non-industrialised countries were lower because of the ensuing creation of new countries.)

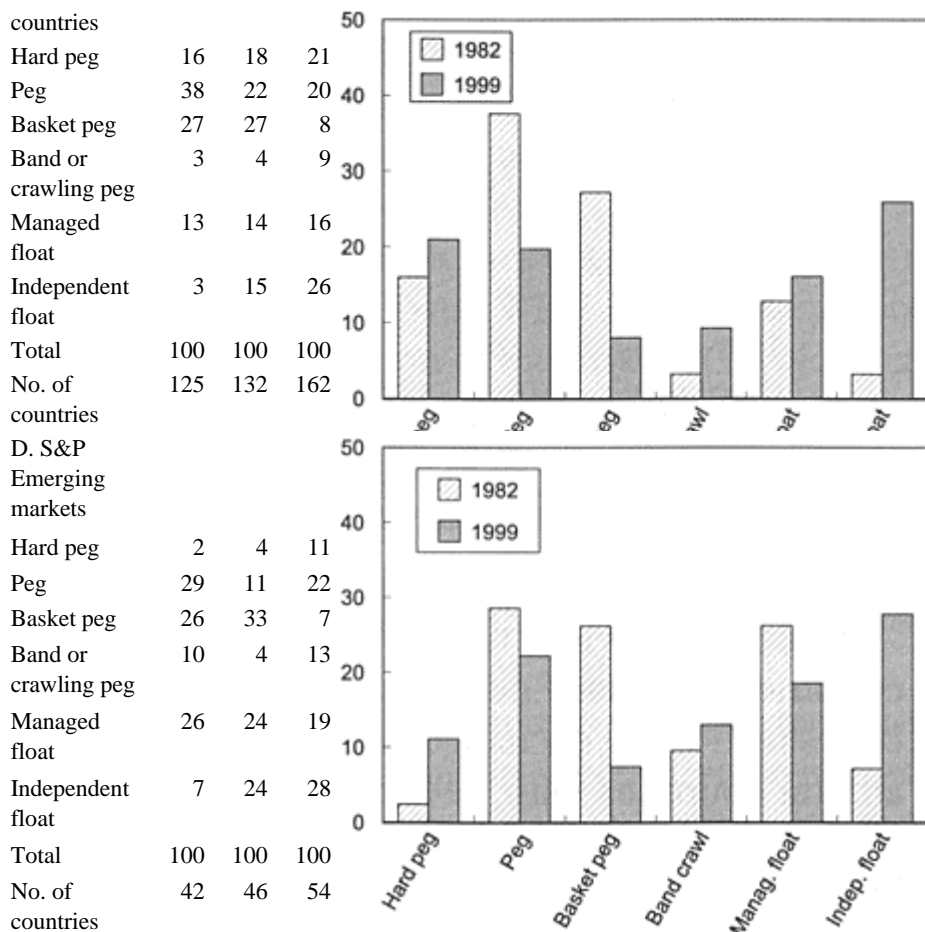
Table 9.1 clearly shows that the proportion of countries with hard pegs and independent floats has increased over time. In 1982, 14 per cent of all countries maintained a hard peg and only 6 per cent had independent floats; in 1999 the figures had risen to 24 per cent and 27 per cent, respectively. Correspondingly, the proportion of countries with a single-currency or basket peg has declined significantly, from a total of (32+25=) 57 per cent in 1982 to (17+7=) 24 per cent in 1999. The proportion of arrangements involving bands, crawls and managed floats has remained roughly constant at around 23 per cent.²⁶ Thus between 1982 and 1999, the frequency of regimes at the 'corners' (that is, hard pegs and independent floats) has risen, while the frequency of intermediate arrangements (that is, single-currency and basket-adjustable pegs, bands, crawling pegs and managed floats) has declined. The same general pattern of a shrinking middle is observable for the country subgroups, with the difference being that the frequency of intermediate regimes noted for developing and transitional countries (53 per cent) and emerging markets (61 per cent) in 1999 was much greater than for industrialised countries (17 per cent).

To control for the effects on the analysis of the growing number of new countries, it is also useful to describe the regime changes decided on by individual countries over the course of the period.²⁷ Table 9.2 presents the transition matrix of regime decisions between 1982 and 1999. Results are reported for all countries as well as for developing countries (transitional economies were excluded from the latter group since almost all were established after 1990). To be included in the table, a country must have had its exchange rate regime arrangement classified by the IMF in both 1982 and 1999; this reduces the number of countries to 146, including 121 developing countries. The diagonal

cells of the table capture the number of instances in which the exchange rate regime remained unchanged. The off-diagonal cells capture the extent to which countries adopted greater exchange rate flexibility (moved rightward) or less exchange rate flexibility (moved leftward).

Table 9.1 Exchange rate regime frequencies (per cent)





Source: IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions*.

Table 9.2 Exchange rate regime transition matrix, 1982 to 1999

A. All countries							
Regime in 1999	Hard peg	Peg	Basket Peg	Bands and crawls	Managed float	Independent float	1982 totals (freq. in %)
Hard peg	20	0	0	0	0	0	0 20 (14%)
Peg	2	19	0	5	9	9	12 47 (32%)
Basket peg	2	6	9	4	6	6	10 37 (25%)

<i>in 1982</i>	Bands and crawls	8	0	0	1	0	4 13 (9%)
	Managed float	3	1	2	5	1	8 20 (14%)
	Independent float	0	1	0	2	0	6 9 (6%)
	1999 totals	35	27	11	17	16	40
	(freq. in %)	(24%)	(18%)	(8%)	(12%)	(11%)	(27%)

B. Developing countries

<i>Regime in 1999</i>	<i>Hard peg</i>	<i>Peg</i>	<i>Basket peg</i>	<i>Bands and crawls</i>	<i>Managed float</i>	<i>Inde- pendent float</i>	<i>1982 totals (freq. in %)</i>
	Hard peg	20	0	0	0	0	0 20 (17%)
	Peg	1	19	0	5	8	12 45 (37%)
<i>Regime in 1982</i>	Basket peg	1	6	9	3	5	9 33 (27%)
	Bands and crawls	0	0	0	0	0	4 4 (3%)
	Managed float	2	1	2	3	1	6 15 (12%)
	Independent float	0	1	0	2	0	1 4 (3%)
	1999 totals	24	27	11	13	14	32
	(freq. in %)	(20%)	(22%)	(9%)	(11%)	(12%)	(26%)

Source: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions.

Note: The entry for cell (x, y) indicates the number of countries with regime x in 1982 and regime y in 1999; e.g., cell (2, 6)=12 shows that 12 countries had a peg in 1982 and an independent float in 1999.

Table 9.2 provides further proof of a shrinking middle. The proportion of countries with hard pegs rose from 14 per cent to 24 per cent; while those choosing floating exchange rates rose from 6 per cent to 27 per cent. Moreover, among countries with intermediate regimes in 1982, more (almost twice as many) moved in the direction of greater flexibility (rightward) than toward less flexibility (leftward). The lower panel of Table 9.2 shows similar results for developing countries, but with even more movement to greater flexibility.

It should also be noted that of the 146 countries, 56 (the sum of entries along the diagonal) did not change their regime classification between 1982 and 1999, including 20 that maintained hard pegs and 28 that maintained adjustable pegs to single currencies or to baskets. However, this does not imply that these countries never exercised exchange rate flexibility. As Obstfeld and Rogoff (1996) observed, aside from some very small countries, very few have maintained an unchanged parity for more than five years. Even

the fourteen hard-pegging members of the CFA Franc Zone devalued in 1994.²⁸

Country characteristics and exchange rate arrangements

The above discussion highlighted the roles of various factors in the choice of exchange rate arrangements. Table 9.3 presents data on the frequency distribution of exchange rate arrangements in 1999 while slicing the country sample in different ways. The frequency distribution for small countries, defined as countries that had a nominal GDP of less than US\$5 billion in 1998, is presented in Table 9.3a. Corresponding results for large countries are presented in Table 9.3b, and for large non-industrial countries in Table 9.3c.

Observe first that the frequency of single-currency and basket pegs declined between 1982 and 1999 for both small and large countries, including large developing and transitional countries. Correspondingly, the frequency of countries with independent floats has risen. However, the middle ground of intermediate regimes shrunk less for large countries, particularly for developing and transitional countries, as the frequency of band arrangements or managed floats either stayed constant or rose. Thus small countries have moved to the poles more frequently than large countries. As discussed above, small countries with strong trade links and correlated shocks with an anchor country are likely to have a strong preference for a hard peg.

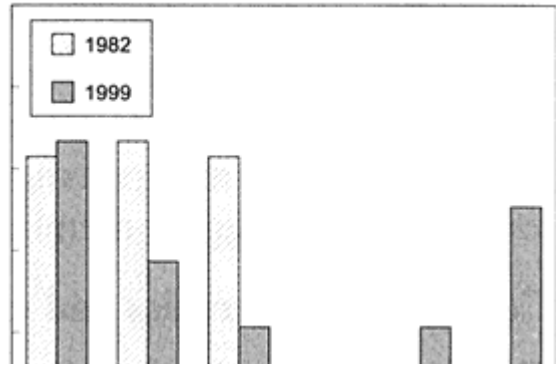
However, Table 9.3 also shows that a very high percentage (25 per cent) of small countries have chosen independent floats. Why? One explanation may have to do with the commodity concentration of their trade. Developing countries dependent on the export of a few primary commodities are especially vulnerable to terms-of-trade shocks. For these countries exchange rate flexibility may be relatively desirable. Table 9.3d presents regime frequencies for small and large exporters of primary commodities, as identified by the IMF. The frequency of floating rate regimes—almost 40 per cent—is higher than that of any other type of arrangement. Approximately two-thirds of these countries are small, showing that many countries that export commodities have found a floating rate regime preferable to a hard peg.

The discussion earlier in the chapter implied that countries with intermediate regimes are likely to resort to capital controls to contain speculative pressures that would otherwise force them to the ‘corners’. Table 9.4 compares the frequency with which countries with different exchange rate regimes in 1999 employed balance of payments controls, as indicated by the reporting of surrender requirements for export proceeds (at the end of the prior year) in

Table 9.3 Exchange rate regime frequencies by country characteristics (per cent)

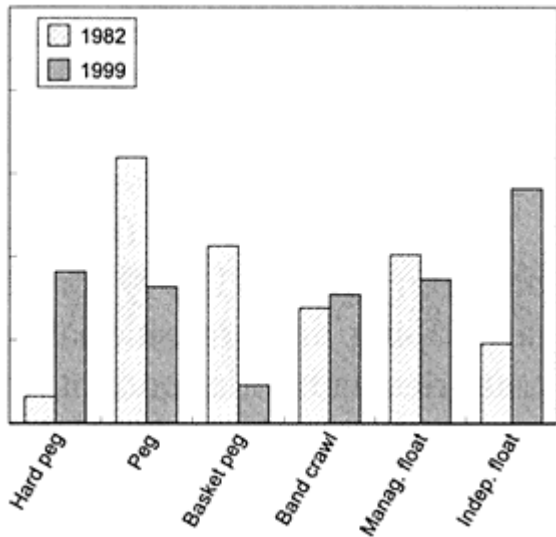
	1982	1990	1999
A. Small countries			
Hard peg	31	34	33
Peg	33	21	19
Basket peg	31	24	11

Band or crawling peg	0	5	1	50
Managed float	4	9	11	40
Independent float	0	7	25	30
Total	100	100	100	20
No. of countries.	54	58	75	10



B. Large countries

Hard peg	3	4	18	50
Peg	32	19	16	40
Basket peg	21	27	5	30
Band or crawling peg	14	12	15	20
Managed float	20	15	17	10
Independent float	10	23	28	0
Total	100	100	100	0
No. of countries.	94	97	110	

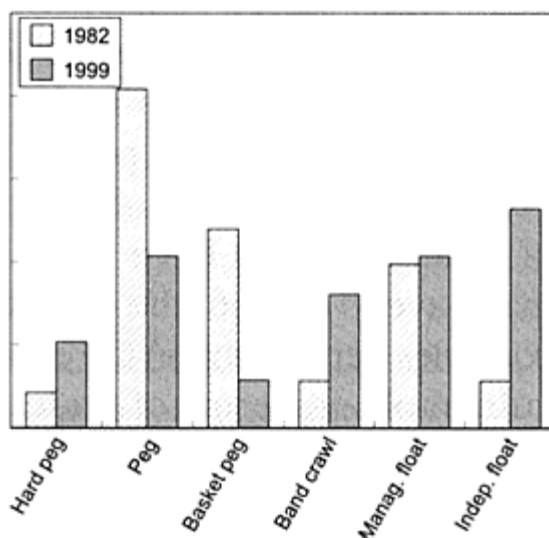


C. Large developing and transitional countries

Hard peg	4	5	10
Peg	41	23	21
Basket peg	24	30	6
Band or crawling peg	6	3	16
Managed float	20	18	21
Independent float	6	22	26
Total	100	100	100

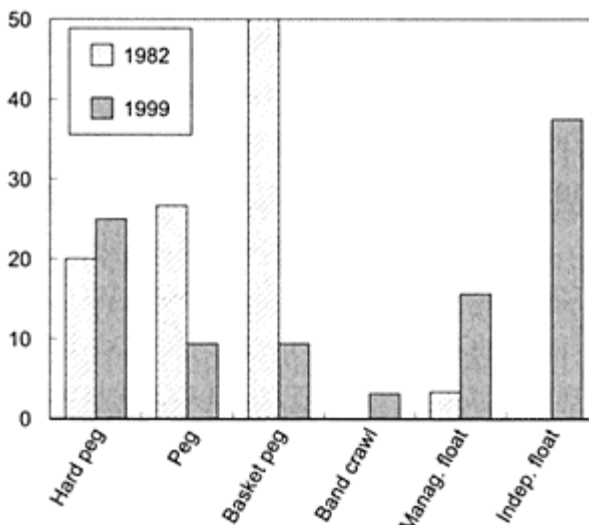
No. of countries.

71 74 87 50



D. Commodity exporters

Hard peg	20	23	25
Peg	27	13	9
Basket peg	50	35	9
Band or crawling peg	0	6	3
Managed float	3	13	16
Independent float	0	10	38
Total	100	100	100
No. of countries.	30	31	32

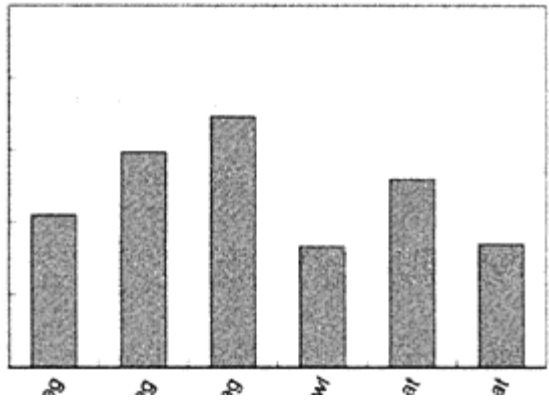


Source: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions.

Table 9.4 Frequency of controls by exchange rate regime, 1999

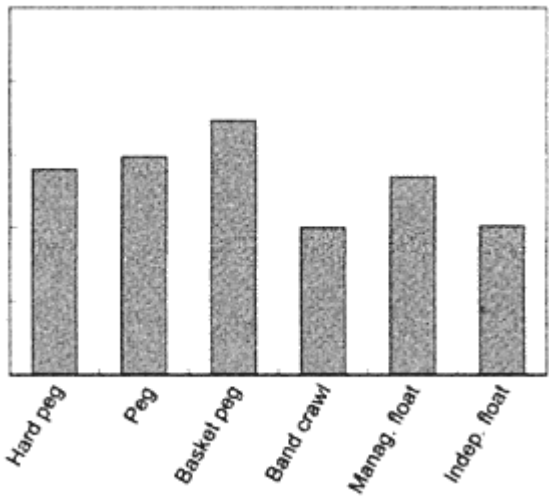
	No. of countries	% with controls
A. All countries		
Hard peg	45	42

Peg	32	59	100
Basket peg	13	69	
Band or crawling peg	18	33	
Managed float	27	52	
Independent float	50	34	
Total	185	45	0



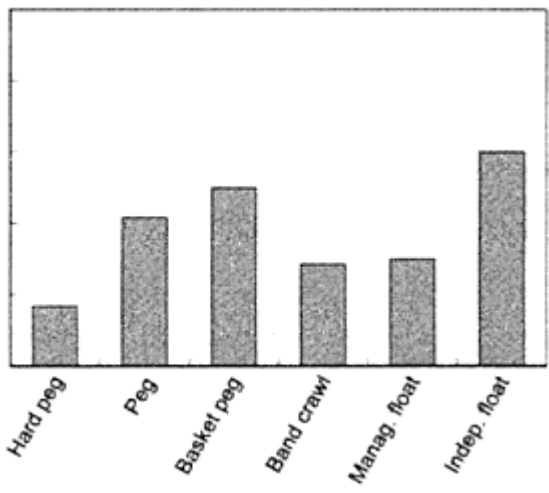
B. Developing and transitional countries

Hard peg	34	56	80
Peg	32	59	
Basket peg	13	69	
Band or crawling peg	15	40	
Managed float	26	54	
Independent float	42	40	
Total	162	52	0



C. S&P Emerging markets

Hard peg	6	17	80
Peg	12	42	
Basket peg	4	50	
Band or crawling peg	7	29	
Managed float	10	30	
Independent float	15	60	
Total	54	41	0



Source: IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions*.

Note: Controls are defined by the IMF as surrender requirements for export receipts in 1998.

the IM's *Annual Report on Exchange Arrangements and Exchange Restrictions*.²⁹

Capital controls were more frequently employed by countries with intermediate regimes than with either hard pegs or independently floating exchange rates. In 1999, 42 per cent of countries with hard pegs and 34 per cent of those with floating rates imposed controls, compared with 53 per cent of countries with intermediate regimes (for countries with single or basket pegs, 62 per cent employed controls). For developing countries alone, the discrepancy only exists among those with floating exchange rates: countries with hard pegs or intermediate regimes employed controls roughly 60 per cent of the time, compared with 40 per cent of those with floating rates.³⁰

Interestingly, 60 per cent of emerging market economies that had independent floats employed controls, a frequency higher than those that had intermediate regimes or hard pegs. One explanation is that a number of emerging markets were forced by recent crises to adopt flexible exchange rates while also maintaining or reimposing controls.³¹

Clearly, those countries experiencing greater integration with international capital markets have found the requirements for sustaining intermediate exchange rate regimes more demanding.³²

Questioning the vanishing middle

Some economists have questioned whether the characterisation of a missing middle has been overdone. Calvo and Reinhart (2000a), for example, argue that because most managed floats resemble non-credible pegs, the so-called demise of the fixed exchange rate is a myth. Even those classified as independent floaters in fact frequently intervene in the foreign exchange market. Thus they state that the middle is not disappearing. Frankel (1999) and Mussa et al. (2000) argue that though the middle is shrinking, it is still quite large—many countries choose something in between rigid fixity and free floating.³³ Indeed, as Table 9.1 shows, roughly half of the countries classified in 1999 operated some kind of intermediate regime.

However, this seems to be an issue of whether a glass is half full or half empty. Quibbles over the accuracy of IMF classifications of exchange rate arrangements notwithstanding, there is no denying that the number of countries adopting hard pegs or exercising greater exchange rate flexibility has increased over time. Many countries remain in the middle, but they have found it more difficult to sustain intermediate regimes, as evidenced by the successive widening of intervention margins in crawling band arrangements and by the number of countries that recently abandoned intermediate arrangements altogether.³⁴ In addition, many of the countries remaining in the middle are able to do so only by restricting capital movements. Effectively controlling capital flows will only become more difficult as market development proceeds.

Thus in the long run, it appears that all countries with open capital accounts will ultimately experience an episode of capital flow reversal, leaving little alternative but to abandon their pegs, baskets, bands and crawls, and move to a float, unless they are

prepared to go to the opposite pole of a hard peg.³⁵

EXCHANGE RATE ARRANGEMENTS IN EAST ASIA

The suitability of various exchange rate arrangements has been of particular concern to East Asia, especially since the recent crisis put into question the appropriateness of past policies.

Pre-crisis behaviour

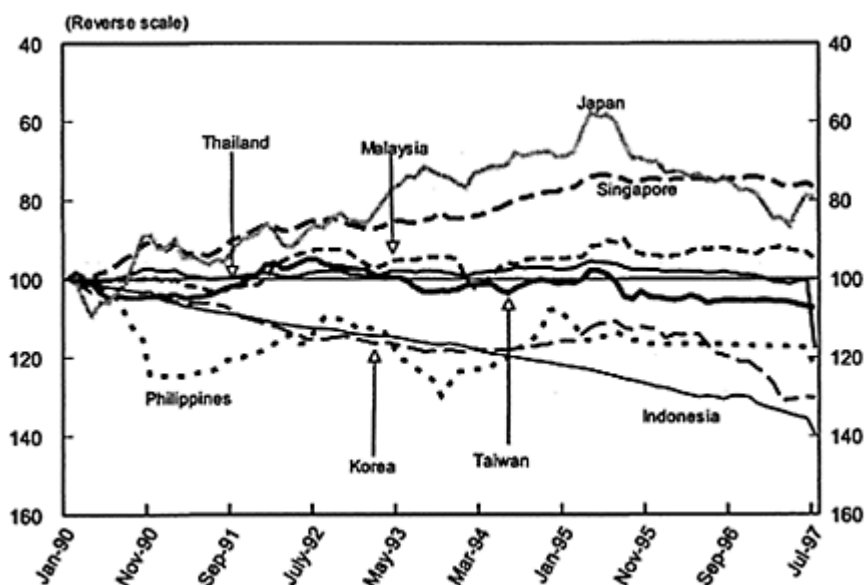
Prior to the 1997–98 crisis, all East Asian economies generally limited the movements of their currencies against the dollar. Most responded very little to changes in other currencies, such as the yen. According to the IMF classifications, however, only Hong Kong explicitly adhered to a dollar peg in the form of a currency board. Thailand officially pegged to a currency composite (although without explicitly disclosing weights), Indonesia maintained a crawling band and Malaysia, Korea, the Philippines, Singapore and Taiwan all officially had managed floats.

Figure 9.1 plots quarterly movements of nominal dollar exchange rates of selected East Asian countries, including Japan, from 1990 to mid-1997. The currencies of Thailand and, to a lesser extent, Malaysia changed little against the dollar over the period.³⁶ Those of Korea and the Philippines showed more flexibility, although both were also relatively stable in the two to three years before the crisis.³⁷ Taiwan had allowed a steady but modest depreciation, while Indonesia had exhibited a larger downward crawl of 4–5 per cent a year,³⁸ and Singapore showed a slower upward drift.³⁹

Frankel and Wei (1994) estimate the implicit weights of the dollar and the yen in the exchange rate targets of selected Asian countries by regressing daily changes of each currency against the dollar and yen (using the Swiss franc as an arbitrarily chosen numeraire) over the period 1972–92. They find that the weight attached to the US dollar in the currency baskets of most of these countries was 0.9 or higher. Only Singapore and Malaysia maintained true basket systems, with weights on the dollar of less than 0.8, and additional weights on both the yen and deutschmark. Later work by Ohno (1999) and Beng and Yin (1999) confirms these results using data to mid-1997.

Limiting his analysis to periods when the yen fluctuated sharply against the dollar, Takagi (1996) finds that Korea and Malaysia attached higher weights to the yen when it depreciated, suggesting a concern about losing competitiveness to Japan. Singapore attached a higher weight to the yen when it appreciated, suggesting a concern about imported inflation. These asymmetric responses, reflecting different priorities toward export competitiveness and price stability, imply complications for efforts to establish a regional currency peg.

Figure 9.1 East Asian exchange rates against the US dollar (Jan. 1990=100)



Source: IMF monthly data, quarterly averages

Why did East Asian policymakers maintain quasi- or de facto dollar pegs? One factor was the competitive advantage conferred to these currencies when the dollar was relatively weak in foreign currency markets from the mid-1980s. However, the sharp appreciation of the dollar against the yen after April 1995 led to appreciations in the effective exchange rates of countries that were de facto pegged to the dollar, upsetting the relative competitive positions of these countries and contributing to the crisis that followed.⁴⁰

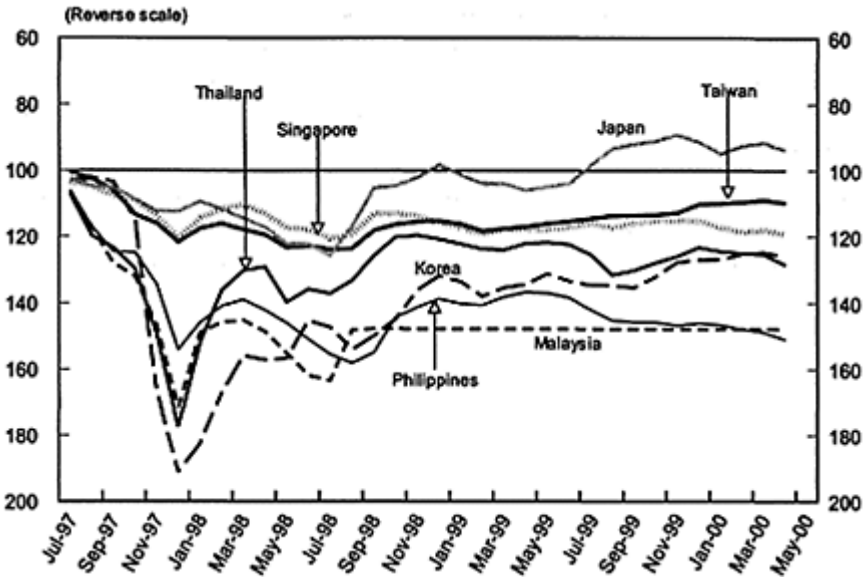
Post-crisis behaviour

Following the major depreciations between the onset of the crisis, in mid-1997, and the middle of 1998, currency values in East Asia rebounded somewhat and stabilised against the dollar for various periods under the flexible exchange rate arrangements that replaced the implicit pegs (see Figure 9.2; Indonesia's exchange rate is not included to avoid skewing the scale). However, aside from Malaysia, which established a formal peg to the dollar in September 1998 (and Hong Kong, of course), moderate swings have continued to occur. In the first half of 2000, several currencies in the region—particularly the baht, peso and rupiah—have depreciated, while the won and Singapore dollar have appreciated.⁴¹

Are countries in Asia now engaged in pure floating? In principle, the variance of reserves should be zero in a pure float. To assess the extent of policy intervention to smooth out exchange rate fluctuations, Calvo and Reinhart (2000a) report figures on the

frequency of monthly changes in foreign reserves (in dollars) for selected countries.⁴² They find that over the period of July 1997 to April 1999, the probability of the monthly change in reserves being less than ± 2.5 per cent was less than 41 per cent in Thailand, 30 per cent in Indonesia, and only 6 per cent in Korea. This compares with figures of 62 per cent for the United States and 74 per cent for Japan (over the period February 1973 to April 1999).⁴³ The implication is that, even under more flexible exchange rate arrangements, East Asian policymakers are still intervening substantially.⁴⁴

Figure 9.2 East Asian exchange rates against the US dollar (July 1997=100)



Source: IMF monthly data, quarterly averages.

Factors affecting choice of exchange rate arrangements

The cost-benefit calculation for any particular exchange rate arrangement depends on many factors, including the diversity of trade, the degree of openness and exposure of the economy to disturbances, the degree of price flexibility, the willingness to employ controls, the fragility of the financial system, and so on.

While many East Asian countries were compelled to adopt more flexible exchange rate arrangements in the midst of the recent crisis, policymakers in the region must still consider what future arrangements are feasible as well as desirable. Of particular concern is the extent to which in the long term it is feasible and desirable to achieve stable inter-regional exchange rates through a peg to any of the three major global currencies as well as stable intraregional exchange rates through the adoption of some common intervention arrangement or common currency in the region. In addition, to what extent do countries in Asia have a greater or lesser fear of floating than other developing countries and/or more advanced countries?

Trade links

How strong are the trade links of East Asian economies with potential currency anchors and within regional groupings? Table 9.5 shows the regional distribution of trade for the five East Asian countries (the Asian-5) most affected

Table 9.5 Regional trade patterns (per cent of total regional trade)

	1990		1995		1998	
	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>
<i>Asian-5^a</i>						
Within Asian-5	6.7	6.6	8.4	8.1	10.2	12.5
With Japan	22.2	26.1	15.9	25.8	11.6	17.8
With the US	23.9	18.2	19.5	17.3	20.2	14.4
With euro area	11.8	11.3	10.4	11.6	10.7	8.6
With other industrialised countries	8.3	10.6	6.6	9.4	8.1	7.4
With other developing countries	25.0	24.1	36.9	26.1	36.5	36.6
<i>ASEAN^b</i>						
Within ASEAN	19.0	15.2	24.6	18.0	22.1	24.1
With Japan	18.9	23.1	14.2	23.8	11.1	16.9
With the US	19.4	14.4	18.6	13.8	20.6	13.8
With euro area	11.7	11.2	10.8	11.1	11.9	8.9
With other industrialised countries	7.6	9.8	6.9	8.1	8.6	6.7
With other developing countries	23.1	25.2	24.3	24.3	25.2	28.5
<i>Mercosur^c</i>						
Within Mercosur	11.6	17.5	22.6	20.2	26.8	22.7
With the US	20.4	19.3	15.0	20.6	15.1	21.6
With euro area	28.8	20.1	21.3	22.3	21.3	22.0
With other industrialised countries	14.6	15.4	14.3	13.7	10.6	13-3
With other developing countries	23.2	26.6	26.0	22.1	25.0	19.5
<i>Euro area^d</i>						
Within euro area	54.1	52.8	51.2	50.7	48.7	48.5
With Japan	2.0	4.1	2.0	3.8	1.6	3.8

With the US	6.1	6.7	5.9	6.8	7.6	7.8
With other industrialised countries	19.5	16.7	18.3	16.8	18.9	16.6
With other developing countries	17.2	19.1	21.3	21.0	22.0	22.4

Source: Bayoumi and Mauro (1999).

Notes

a Asian-5: Indonesia, Korea, Malaysia, the Philippines and Thailand.

b ASEAN (Association of South East Asian Nations): Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam (Brunei data are not available).

c Mercosur: Argentina, Brazil, Paraguay, Uruguay, and associate members Bolivia and Chile.

d Euro area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain.

by the recent crisis and for the Association of South East Asian Nations (ASEAN) (for comparison purposes, trade data for Mercosur countries in Latin America and the countries in the euro area are also presented). The data shows that in 1998 the United States was the largest export market for both the Asian-5 and ASEAN countries, receiving roughly 20 per cent of each group's exports. However, exports to Japan and Europe were still substantial at 11–12 per cent each.⁴⁵ Japan was a more important import source than the United States in 1998, accounting for 17–18 per cent of imports by East Asian economies, which rely on supplies of intermediate goods and capital equipment from Japan. This diversification of trade implies that exposure to cross-rate movements between the dollar and yen will be important.⁴⁶

The ASEAN countries trade a great deal with each other—intraregional trade is almost 25 per cent of ASEAN's total trade. The growing importance of this trade has increased the real effects of fluctuations in bilateral exchange rates within the region. However, the share of regional trade is still much less than the roughly 50 per cent magnitude for the countries of the European Union.⁴⁷

Correlation of shocks

The desirability of exchange rate coordination also depends on the extent to which countries are affected by common shocks. If the correlation is high, a rigid exchange rate or a single currency could be appropriate.

Bayoumi and Mauro (1999) analyse the pattern of disturbances for countries in Asia over the 1968–96 period using structural VARs (vector autoregressive models).⁴⁸ They focus on the correlation of aggregate supply shocks, which they regard as more useful for assessing exposure to common shocks since supply shocks are less sensitive to the impact of macroeconomic policies. As shown in Table 9.6a, similarities in macroeconomic shocks were found for two sets of countries—Taiwan and Thailand, and Hong Kong, Indonesia, Malaysia, Singapore and Taiwan. The Philippines and Korea experienced

more idiosyncratic shocks. In none of the countries (except Australia) were shocks significantly correlated with shocks in Japan.⁴⁹ In Europe there is a similar variance—shocks appear to be more highly correlated in Austria, Belgium, Denmark, France, Germany and the Netherlands, and more idiosyncratic in Italy, Portugal and Spain (Table 9.6b). However, the number of countries with significantly correlated shocks is smaller in Asia. Nor does Japan appear able to play the role of an anchor country in an Asian union, as Germany does in Europe, at least by the measure of correlated shocks.

Bayoumi and Mauro also find evidence of relatively quick adjustments to shocks in Asia. Almost half the changes in output and prices caused by shocks took place within two years, suggesting relatively flexible labour markets. However, the disturbances experienced in Asia were considerably larger than in Europe. On balance, they conclude that East Asian countries are currently less suited to a regional currency arrangement than Europe was in 1989 prior to the Maastricht Treaty, although they do not totally dismiss the prospects of an Asian currency union.⁵⁰

More supportive results for an Asian currency area are provided by Loayza et al. (1999), who present evidence from an error components model of the importance of country-specific, sector-specific and common shocks for groups of East Asian, Latin American and European countries over the period 1970–94.⁵¹ They find significant short-run and also long-run co-movements within East Asia, comparable to those found within Europe. In particular, roughly half of the short-run fluctuations in East Asia have a common origin.⁵² They

Table 9.6a Correlations of aggregate supply shocks, East Asia, 1968–96

	<i>Malaysia</i>	<i>Indonesia</i>	<i>Singapore</i>	<i>Philippines</i>	<i>Thailand</i>	<i>Hong Kong</i>	<i>Japan</i>	<i>Taiwan</i>	<i>Ko</i>
Malaysia	1.00								
Indonesia	0.49*	1.00							
Singapore	0.40*	0.32	1.00						
Philippines	0.05	0.16	0.01	1.00					
Thailand	0.02	0.16	0.33	0.14	1.00				
Hong Kong	0.12	0.40*	0.42*	0.00	0.33	1.00			
Japan	-0.02	0.03	0.02	0.03	0.32	-0.23	1.00		
Taiwan	0.00	0.32	0.42*	0.15	0.54*	0.40*	0.23	1.00	
Korea	0.17	0.11	0.21	0.07	0.21	0.18	0.17	0.01	
Australia	0.00	0.14	0.08	-0.16	0.25	0.13	0.36*	0.27	
New Zealand	0.04	0.22	0.19	-0.01	0.21	0.00	0.22	0.07	

Table 9.6b Correlations of aggregate supply shocks, Europe, 1969–89

	<i>Germany</i>	<i>France</i>	<i>Netherlands</i>	<i>Belgium</i>	<i>Denmark</i>	<i>Austria</i>	<i>Italy</i>	<i>United Kingdom</i>	<i>Spain</i>	<i>Portugal</i>	<i>Ireland</i>
Germany	1.00										
France	0.52*	1.00									
Netherlands	0.54*	0.36	1.00								
Belgium	0.62*	0.40*	0.56*	1.00							
Denmark	0.68*	0.54*	0.56*	0.37*	1.00						
Austria	0.41*	0.28	0.38*	0.47*	0.49*	1.00					
Italy	0.21	0.28	0.39*	0.00	0.15	0.06	1.00				
United Kingdom	0.12	0.12	0.13	0.12	-0.05	-0.25	0.28	1.00			
Spain	0.33	0.21	0.17	0.23	0.22	0.25	0.20	0.01	1.00		
Portugal	0.21	0.33	0.11	0.40	-0.04	-0.03	0.22	0.27	0.05	1.00	
Ireland	0.00	-0.21	0.11	-0.02	-0.32	0.08	0.14	0.05	-0.05	-0.03	1.00

Source: Bayoumi and Mauro (1999).

Note: * Significant at 5 per cent level.

interpret this finding as evidence of a high degree of symmetry of shocks in the region, and that the East Asian countries are at least as good candidates as the European economies for the establishment of a currency area.

Pass through

Another reason why developing countries may fear floating, in general, and devaluations or depreciations, in particular, may be traced to concerns about the effects of large currency swings on domestic inflation. Calvo and Reinhart (2000b) explore this issue by estimating bivariate VAR models for inflation and exchange rate changes. They find that the average pass-through effect of lagged exchange rate changes on inflation is about four times as large for developing countries (0.228) as for Australia and New Zealand (0.065), the industrialised countries in the sample. Taken together, these results may help understand developing countries' intolerance to large exchange rate fluctuations—especially devaluations.

However, the reported pass-through estimates for Indonesia, Malaysia and Korea were much lower than for other emerging markets, and in fact similar to the estimates for New Zealand and Australia.⁵³ Thus the pass-through concern may be much less relevant for these countries, which have had quite low inflation, even during the large depreciations following the East Asian crisis.

Role of controls

Table 9.7 presents IMF classifications of exchange rate regimes for the Asian-5, ASEAN and Japan for the years 1982, 1990 and 1999. It shows that a number of countries have been exercising greater exchange rate flexibility, although most of these still had intermediate regimes in 1999- However, consistent with the finding in Table 9.3, virtually all of the countries with intermediate regimes also employed balance of payments controls (the exception being Singapore). The countries with hard pegs or independent floats did not employ controls (with the exception of Thailand). The conclusion is that, as with developing countries in general, balance of payments controls are critical to limiting the currency pressures that otherwise would compel Asian countries to adopt more flexible arrangements.

Exchange rate policy prescriptions for East Asia

What exchange rate arrangements are desirable and feasible in East Asia? A number of suggestions have been offered.

Pegs and bands

Given the predominance of East Asian trade with the United States, McKinnon (1999) and others have advocated the restoration of dollar-based exchange rate regimes in which countries individually (or collectively) adopt soft dollar pegs.⁵⁴ However, a prerequisite for a successful return to dollar pegging

Table 9.7 Exchange rate regimes and controls in East Asia

	1982	1990	1999
Hard peg		Hong Kong Brunei	Hong Kong Brunei
Peg	Indonesia Laos Thailand		China Malaysia
Basket Peg	China Malaysia Myanmar Singapore Vietnam	China Malaysia Myanmar Thailand	Myanmar
Bands and Crawls			Vietnam
Managed Float	Philippines	Indonesia Laos Korea	Cambodia Laos Singapore

		Singapore	
		Vietnam	
Independent Float	Hong Kong	Japan	Indonesia
	Japan	Philippines	Japan
			Korea
			Philippines
			Thailand
Total	11	13	14

Source: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions.

Note: China is classified as having a de facto peg in 1990 and 1999 by the author; bolding indicates the presence of export-proceed-surrender requirements at the end of the previous year.

appears to be greater stability of the yen/dollar rate,⁵⁵ which currently seems unlikely. Moreover, any such exchange rate arrangement will always be susceptible to speculative attacks. A return to an announced peg is an open invitation for future speculative attacks that would have significant adverse effects. The loss of credibility generated by the recent crisis and uncertainty about the correct level of the exchange rate suggest that defending an exchange rate peg has not become any easier. An exclusive peg to the yen makes even less sense, given trade patterns and the evident asymmetry of shocks between Japan and the rest of the region.

Alternatively, some have suggested pegging to a basket (e.g., Ito et al. 1998; Kwan 1998) of the region's major currencies, including the yen and the dollar, to offset the effects of cross-rate movements, particularly between the dollar and yen.⁵⁶ In theory, this arrangement would reduce the volatility of the nominal real effective exchange rate. But the neat theoretical formulas used to calculate basket pegs are not always easy to implement in practice. In particular, the virtues of simplicity, transparency and observability are lost to the extent that the weights used to calculate the basket are not public information and may change over time in response to structural changes. Discretionary manipulation of weights can be perceived as arbitrary and can undermine the credibility of the regime and reduce the benefits of maintaining stable bilateral exchange rates.

Some advocate that allowing pegs to move within a wide band could cushion the effects of speculative movements and offer monetary authorities greater monetary independence than would be possible with very narrow bands. Before the East Asian crisis, Dornbusch and Park (1999) and Williamson (1999) had advocated a hybrid basket-crawl-band regime that would take account of the region's diversified trade destinations, allow bilateral exchange rates to adjust to intraregional inflation differentials and permit some room for domestic monetary policy independence. Ohno (1999) also recommends that developing countries in East Asia adopt inflation-adjusted crawling basket rates within bands, but not necessarily using a common basket of currencies.

However, band arrangements, including crawling bands, are not immune to speculative attacks. When the exchange rate is pushed to the limits of the band, these arrangements face the same types of problems as a standard exchange rate peg. The monetary

authorities can, of course, realign the bands before the exchange rate reaches any kind of region where an attack might be likely. But if agents come to expect that the bands will always be changed or believe they are too broad, such an arrangement will not stabilise the currency and will differ little from an independent exchange rate.

In response to this problem, Ohno (1999) has suggested that 'pragmatic exchange rate policy rules' be applied differentially in normal and crisis periods. In normal periods the exchange rate would be managed to stabilise the real effective exchange rate and allowed to adjust in response to real shocks. During a crisis the normal arrangement could be suspended. McKinnon (1999) advocates a similar approach, as long as there is a 'restoration rule' about the long-run exchange rate target in place to guide market expectations back to the normal target after the crisis. However, it is precisely the inability to predict crises and know how much effort is needed to defend any particular exchange rate target that makes such a system crisis prone. At the same time, once the exchange rate has moved away from the target following a crisis, it is unclear when intervention should resume to restore the economy back to the target. Thus the credibility of a restoration rule seems no easier to sustain than the initial exchange rate target.

In this regard it should be recalled that the currencies of Mexico before December 1994, Indonesia before August 1997 and Russia before August 1998 were all engaged in crawling band arrangements. In August 1997, when capital was flowing out of Indonesia after the devaluation of the Thai baht, the rupiah went from the upper edge of its band (which had been widened to 6 per cent in July 1997) to the lower edge in one day (3 August). As outflows continued and further interest rate increases to defend the currency proved too costly, the band was abandoned altogether.

Can the prospects for some form of peg be enhanced by adopting a collective approach? If a group of countries repegged their currencies to the dollar or a basket of foreign currencies at the same time, concerns might be reduced about the effects of bilateral exchange rate changes within the group. However, a dollar peg will not eliminate the problem of cross-rate movements between the dollar and other major currencies. If a collective peg to a basket is proposed, it will be difficult to agree on its composition without a degree of political consensus that does not currently exist. Because the East Asian economies were affected differently by the recent crisis, have recovered at different speeds and remain subject to different domestic and external shocks, market pressures on their exchange rates are unlikely to be uniform over time. Moreover, as the work of Takagi (1996) suggests, countries in the region have traditionally displayed different priorities to the goals of export competitiveness and price stability. Without firm political commitment, any regional pegged currency arrangement would likely be viewed as another fixed exchange rate regime, open to speculative attacks.

Thus, it does not seem likely that any system with a soft (adjustable) single-currency or basket peg with or without a band will provide a durable arrangement without the widespread maintenance of exchange controls. The implication is that those East Asian countries that wish to continue their growing involvement with international financial markets must accept the increasing infeasibility of intermediate exchange rate arrangements. The recent crises have forcefully illustrated the same lessons learned by Western Europe in the Exchange Rate Mechanism (ERM) crisis of 1992–93—that the policy requirements for maintaining pegged and band exchange rate arrangements are

very demanding in circumstances of high international capital mobility.

What are the prospects for adopting a hard peg? None of the crisis countries at present appears suited to a currency board arrangement using a single foreign currency. Almost all are relatively large economies (by developing country standards) with diversified trade and exposure to a variety of shocks that such an arrangement would be ill equipped to counter. A basket-based currency board is conceivable, but has the same transparency and credibility problems as a soft basket peg.

Even more problematic is the ongoing financial fragility in the region. Cleaning up the existing bad-loan problems and raising prudential standards in the region's financial systems is a prerequisite for the success of a hard peg, since during a financial crisis central banks would be constrained in lending to domestic banks by the availability of excess reserves, while deposit insurance is limited by the availability of fiscal savings.⁵⁷ While problems at individual financial institutions could still be handled if the central bank or other government agency had resources beyond the backing required for the currency or could draw on established lines of credit with foreign banks or international organisations, a bank run in the future involving a shift from bank deposits to foreign currency would be no less difficult to deal with than during the most recent crisis.

The floating rate alternative

Thus, for most emerging markets in East Asia, a floating exchange rate appears to be the most plausible option.⁵⁸ Such a policy does not imply or require 'benign neglect' of the exchange rate and no intervention in the foreign exchange market. That is, it does not exclude an active but discretionary use of intervention and other policy tools to influence the exchange rate. Monetary policy may still take into account and react to exchange rate developments. Nor does a flexible exchange rate policy imply there is no need to accumulate and hold foreign exchange reserves. Responding to contagion effects during an unwarranted crisis warrants efforts to increase international liquidity either by building up reserves through current account surpluses or by establishing credit lines. Nor does it matter whether the exchange rate policy is referred to as a managed float or an independent float. What matters is that policymakers not make any explicit or implicit policy commitments to keep the exchange rate within some range or crawling band for any extended period of time.

For a floating exchange rate to function effectively and avoid the problems that tend to develop over time with exchange rate pegs, it is important that its particular level not become a lightning rod for speculators and that it actually moves—in both directions—in response to market forces. Such movements will lead economic agents to recognise and properly manage the foreign exchange risks that arise with open capital markets. Excessively tight management of the exchange rate that limits exchange rate volatility may foster complacency about foreign exchange risks and the build-up of foreign liabilities. Of course, there will be concerns about the effects of any further depreciations on the burden of foreign-currency-denominated foreign debts in the region. But since the crisis began, most of the hardest hit economies have steadily reduced their stocks of foreign borrowing.⁵⁹

More ambitious efforts at floating on a regional basis through the formation of a

currency union, however, do not seem feasible at the moment, as much for political as for economic reasons. The region currently lacks a natural focal country for the convergence of policies. In addition, a monetary union requires political commitment to build a regional central bank for formulating a common monetary policy and region-wide political institutions to hold it accountable. Given the diversity of development and the historical tensions in Asia, it is difficult to see the region moving toward significantly stronger political integration in the near future.

In the short run, less formal means of coordinating exchange rate policies may be feasible, along the lines of the recent system of currency swaps announced by the ASEAN-plus-three (Japan, China and Korea) grouping. It is even possible that an Asian monetary fund might evolve to identify and respond to crises on a regional basis. Such cooperation may be useful, but not if it increases pressure for the adoption of common pegs.

Of course, if the exchange rate is not used to provide a nominal anchor by either a country or a region, monetary credibility must be established through other means, such as an inflation target.⁶⁰ This requires the ability to implement the sometimes complicated feedback rule typically required for an effective inflation-targeting system. This may prove difficult, given the uncertain transmission mechanisms through which monetary policy affects the economy and inflation, particularly as financial system liberalisation and structural change is ongoing. Nevertheless, the record of relatively low inflation and strong fiscal responsibility in most East Asian countries implies that stabilising inflation expectations and maintaining an inflation target may be more easily achieved than in other emerging markets.

NOTES

The views presented in this chapter are the author's alone and do not necessarily reflect those of the Federal Reserve Bank of San Francisco or the Board of Governors of the Federal Reserve System.

- 1 For recent discussions of the relative merits of different exchange rate regimes, see Larrain and Velasco (1999) and Mishkin (1999).
- 2 Of course, money and exchange rate changes work only as short-term policy tools. In the long run, repeated nominal depreciations or increases in domestic credit will only cause inflation and have no real effect as they come to be expected by the private sector.
- 3 By reducing speculation and exchange rate risk, a credible peg may also lower domestic interest rates relative to alternative regimes. This will be reinforced to the extent that lower exchange risk also lowers the country risk premium.
- 4 However, Tornell and Velasco (2000) argue that flexible rates may provide greater fiscal discipline through the more immediate effects of lax policies on the exchange rate and the price level. They point to the experience of the hard-pegging African CFA countries, which have exhibited less fiscal discipline than other developing countries without hard pegs.

- 5 Eichengreen and Hausmann (1999) argue that there is another very important benefit for emerging markets to giving up the currency altogether for a hard currency such as the US dollar. Such countries may suffer from what they refer to as ‘original sin’—the inability to borrow long term in local currency either from abroad or domestically, creating a mismatch between assets and liabilities. According to Eichengreen and Hausmann, this problem can be partly overcome by giving up the domestic currency and dollarising. However, while dollarisation may solve the problem of currency mismatch, it does not necessarily eliminate maturity mismatch or country risk.
- 6 In this regard, it has been argued that fixed exchange rate regimes may be particularly prone to real overvaluation. For example, countries using an exchange rate peg as an anti-inflation mechanism typically experience sustained, sharp appreciations in the real exchange rate, in part because domestic inflation is initially above the world rate and comes down only gradually over several years. Exogenously motivated capital inflows may also appreciate the real exchange rate if the inflows help finance an increase in traded-goods consumption and investment, leading to a rise in domestic inflation. See Edwards and Savastano (1999).
- 7 A fixed exchange rate regime also eliminates the ability to collect seigniorage revenue.
- 8 In addition to the economic conditions listed below, credibility also requires legal and political commitment to the peg.
- 9 The role of trade links and openness in the formation of optimal currency areas was first emphasised by McKinnon (1963).
- 10 The commodity composition of trade may affect these costs. When the commodity composition of production and trade differs greatly across countries, sector-specific shocks are likely to affect them differently and increase the benefits of exchange rate flexibility. See Kenen (1969).
- 11 However, some empirical work (e.g., Frankel and Rose 1998) suggests that currency arrangements and observed cross-country correlations are endogenous; that is, when a country adopts the currency of a neighbour, the creation of the monetary union promotes trade between them over time, which in turn promotes a convergence in income. The implication is that this optimum currency area criterion may be satisfied *ex post* even if it fails *ex ante*.
- 12 The need for flexible labour markets in currency areas was first pointed out by Mundell (1961).
- 13 A depreciation can reduce real financial wealth by increasing domestic prices and reducing real money balances; if domestic interest rates are not anchored by world interest rates, the reduction in money balances will tend to create excess demand in the loan market, raising domestic interest rates and thereby reducing investment and aggregate demand. See Agénor and Montiel (1996).
- 14 The degree of pass through also depends on the market structure and the degree of competition in product markets.
- 15 An opposing view argues that the dollarisation of liabilities in developing countries is itself partly an endogenous result of pegging, magnified by moral-hazard problems and the underestimation of currency risk that pegging fosters. This is

- another example of possible endogeneity between the nature of exchange rate arrangements and the conditions affecting their relative desirability.
- 16 Ecuador recently announced its intention to be the first of what may be several countries in Latin America to adopt the US dollar as its currency. Montenegro is said to be considering adoption of a currency board.
- 17 The Czech Republic officially adopted a managed float; the other countries moved to independent floats.
- 18 In so-called first-generation currency crisis models (e.g., Krugman 1979), speculative attacks occur in response to ongoing balance of payments difficulties and the anticipated exhaustion of foreign exchange reserves. In second-generation models of self-fulfilling crises (e.g., Obstfeld 1994), the speculation can precipitate a devaluation that would not have occurred in the absence of the attack by raising the costs of defending the peg. Herding raises the frequency of attacks that are successful.
- 19 Frankel, Schmukler and Servén (2000) and Frankel et al. (2000) check the verifiability of exchange rate regimes with Monte Carlo simulations. Their results confirm the intuition that the amount of information necessary to verify the regime increases with its complexity, as reflected by the number of parameters to be estimated concerning the rate of crawl, band margins, weights in a basket, and so on. In their words, ‘verifiability is a partial means to the Holy Grail of credibility’.
- 20 Looking at Europe’s experience, Eichengreen concludes that hard pegs do not necessarily accelerate the pace of financial-sector and fiscal-policy reform that would reduce these vulnerabilities. Consequently, he argues, greater exchange rate flexibility is more likely to give emerging markets the incentive to make such reforms. This is supported by the observation that many small countries with hard pegs have experienced fiscal debt problems as well as banking crises.
- 21 For their sample of observations across 154 exchange rate arrangements for 36 countries during the January 1970 to April 1999 period, monthly exchange rate changes were within a ± 1 per cent (± 2.5 per cent) band, 52 per cent (79 per cent) of the time for independently floating rates, 60 per cent (88 per cent) for managed floats, 65 per cent (92 per cent) for limited flexibility pegs, and 83 per cent (96 per cent) for pegs. They find that the difference between independent floats and pegs is statistically significant, but not between managed floats and limited-flexibility pegs, or between limited-flexibility pegs and hard pegs. A limitation of their measure of exchange rate flexibility is that only short-term monthly changes are assessed and not longer-term changes.
- 22 The IMF first distinguished between managed and independent floating arrangements in 1982. In addition, some countries were reclassified by the author as having de facto pegs based on information in the *Annual Report on Exchange Arrangements and Exchange Restrictions* and other IMF studies.
- 23 In 1999 the IMF classified fourteen developing countries as having de facto pegs.
- 24 The distinction between a peg and a band is somewhat arbitrary, but a peg is generally defined as a band in which the margins on either side of the central parity are less than or equal to 2.25 per cent.
- 25 The emerging market subset consists of countries included in the S&P 500 global

- and frontier emerging market stock indices in 1999, with the omission of Taiwan and Greece and the addition of Hong Kong and Singapore, giving a total of 54 countries.
- 26 Within the category of countries with band arrangements, these figures do not capture any increases in exchange rate flexibility through a widening of band margins.
- 27 Frankel, Schmukler and Servén (2000) assert that, as a result of the break-up of the Soviet Union, Czechoslovakia and Yugoslavia, and the creation of the euro, roughly as many independent currencies have been created in the 1990s as have disappeared. In their words, 'One might assert a sort of Markov stasis, in which independent currencies are always being created and disappearing, but the overall pool remains roughly steady'. This is clearly not the case, as many more currencies have been created in the past two decades even taking into account the formation of the European Monetary Union.
- 28 The number of member countries increased to fifteen with the accession of Guinea Bissau in 1997.
- 29 The various binary indicators of balance of payments controls reported by the IMF are problematic as they capture neither the breadth nor the intensity of controls in place. Export proceeds and surrender requirements are narrow enough in their focus to overcome some of these limitations. Nevertheless, better measures of controls on specific forms of capital flows are desirable.
- 30 The frequency figures for intermediate regimes are averages of the frequencies for pegs, basket pegs, bands, crawling arrangements and managed floats, weighted by the number of countries in each category.
- 31 The countries with independently floating rates in 1999 and export surrender requirements (in 1998) included Brazil, Chile, Colombia, Ecuador, Ghana, India, South Africa, Russia and Thailand.
- 32 These observations are supported by results of probit regressions. In a multivariate probit containing binary indicators of balance of payments controls and smallness, and a measure of trade openness (the average of exports and imports as a share of GDP), the probability of having an intermediate regime is positively associated with the presence of controls and the degree of openness, and negatively associated with being small. These results are significant at better than 1 per cent for the full sample as well as the developing and transitional country sample, with the exception that the controls variable is not significant in the latter.
- 33 In more recent writings (Frankel, Schmukler and Servén 2000; Frankel et al. 2000), Frankel appears to have become more sympathetic to the 'disappearing middle' view.
- 34 For example, Indonesia widened the margins of its band to ± 5 per cent in June 1996, ± 8 per cent in September 1996 and ± 12 per cent in July 1997, before entirely floating its currency in August 1997. Chile widened its margins from ± 0.5 per cent in 1984–85, to ± 2 per cent in 1985–87, ± 3 per cent in 1988–89, ± 5 per cent in 1989–91, ± 10 per cent in 1992–97, and ± 12.5 per cent in February 1997, and abandoned the band altogether in September 1999. Colombia widened its band from ± 14 per cent from early 1994 to mid-1999 to ± 20 per cent in the latter part of 1999, before abandoning the band in September 1999. Israel widened its margins from 0 per cent

- in 1986–88 to ± 3 per cent in 1989–90, ± 5 per cent in 1990–95, ± 7 per cent in 1995–97 and ± 29 per cent in June 1997.
- 35 The shortcomings of soft pegs and bands as a longer-run strategy for monetary policy does not rule out their use as a tool in the initial phases of an antiinflation stabilisation program.
- 36 Malaysia's currency moved in a 10 per cent range of 2.7 ringgit per US dollar to 2.5 ringgit for most of the period between 1990 and the beginning of 1997. The Thai baht was effectively fixed in a narrow range of 25.2 baht per US dollar to 25.6 baht from 1990 until 1997.
- 37 The Korean won depreciated in nominal terms from 1990 until the beginning of 1993 (from 700 to almost 800 won); then traded in the very narrow range of 800–770 won per US dollar between the beginning of 1993 and the middle of 1996, and thereafter depreciated by about 10 per cent, reaching a rate of 884 at the end of 1996. The Philippine peso fluctuated in a 15 per cent range of 28 peso to the dollar to 24 peso between 1990 and the beginning of 1995, but was practically fixed at 26.2 from the spring of 1995 until the beginning of 1997.
- 38 Taiwan allowed its currency to fall from a rate of 24 New Taiwan dollars per US dollar in 1990 to a rate of 27.8 by the end of 1996. Indonesia's policy can be described as a policy of explicit real exchange rate targeting, with the nominal rate falling from 1,900 rupiah to the dollar in 1990 to 2,400 by the beginning of 1997.
- 39 In Singapore the currency appreciated in nominal terms throughout the 1990s, going from a rate of 1.7 to the US dollar in 1990 to 1.4 by the end of 1996.
- 40 The cheaper yen had other trade and financial effects as well. It lowered the cost of intermediate products and capital equipment. In addition, by raising the cost of Japanese overseas production, it reduced foreign direct investment from Japan. Estimates of the extent of real overvaluation in the region and its role in the crisis vary. See Sachs et al. (1996), Corsetti et al. (1998), Chinn (1999), McKinnon (1999) and Edwards (2000).
- 41 After finishing 1999 at more than 7,000 to the US dollar, the rupiah fell to around 9,000 as of July 2000, a depreciation of more than 25 per cent. The Thai baht depreciated almost 8 per cent from 36 baht to the US dollar to 41 baht, and the Philippine peso fell 10 per cent between January and July 2000. The won and the Singapore dollar have appreciated 1 per cent and 4 per cent, respectively.
- 42 There are measurement problems in relying on reserve changes to capture the degree of intervention in the foreign exchange market. The analysis can overstate the degree of intervention to the extent that reserve changes reflect valuation fluctuations and interest earnings, and can understate intervention by excluding 'hidden' transactions involving lines of credit or the futures market. It also does not take account of other policy measures, such as interest rate changes, utilised to influence the exchange rate.
- 43 The corresponding figure for Australia over the period of January 1984 to April 1999 was 50 per cent.
- 44 Korea's apparently substantial intervention, despite its floating exchange rate, largely represents the accumulation of foreign exchange reserves. This likely reflects an effort to build up reserves during the currently 'good' state, that is, higher

- credibility associated with a strong economic recovery and sizeable capital inflows.
- 45 Exports to Japan in 1998 and 1995 were no doubt depressed by Japan's economic stagnation, but exports to the United States were higher even back in 1990.
- 46 Invoice patterns may also matter in determining the effects of exchange rate fluctuations on trade. Both US exports and imports are largely invoiced in dollars. In contrast, relatively little of Japan's trade is invoiced in yen. In fact, 51 per cent of Japan's exports to East Asia and 71 per cent of imports from the region were invoiced in dollars (Ohno 1999). Hence the trade of East Asian economies with the United States, and to a great extent with Japan, is in dollars. McKinnon (1999) believes this justifies placing a low or no weight on the yen in the exchange rate targets of developing countries in East Asia. At the same time, he recognises the impact of dollar/yen exchange rate fluctuations on trade by emphasising the need for the rate to be stabilised (by the United States and/or Japan).
- 47 Bayoumi and Mauro (1999) show that ASEAN's intraregional trade as a share of regional GDP is similar to that of the euro area, and higher than that of Mercosur members.
- 48 They apply the structural VAR methodology of Blanchard and Quah (1989) to identify temporary disturbances to output as aggregate demand shocks and permanent disturbances as aggregate supply shocks.
- 49 Bayoumi and Eichengreen (1999), using data only to 1993, find high correlations for Japan with Taiwan (0.61) and Korea (0.46); clearly the inclusion of more recent data has reduced the correlation of shocks with Japan.
- 50 This contrasts with the conclusion of Bayoumi and Eichengreen (1999), who believed the prospects of an Asian currency area were favourable on economic grounds in an analysis written before the 1997–98 crisis. However, they strongly questioned the political commitment to such an arrangement.
- 51 The East Asian countries in the sample are Indonesia, Korea, Malaysia, Singapore, Thailand, Taiwan and Japan.
- 52 In contrast, they find that the variability of output growth in Latin America has country-specific origins. The latter finding is supported by the work of Ahmed (1999), which finds no evidence that the business cycles of Argentina, Brazil and Mexico (over the period 1981–98) are driven by output shocks in export markets, including the United States.
- 53 Ito et al. (1998) also estimate pass-through equations that consider the response of export prices to changes in the bilateral (real) exchange rate with respect to the yen as well as the dollar. They found pass-through coefficients to the dollar of less than 0.15 in Thailand, Indonesia and Korea, but 0.49 in Taiwan. In general, they find that the degree of export-price adjustment varies across countries.
- 54 McKinnon (1999) also emphasised the accompanying need for greater prudential regulation of the banking system and short-term capital flows.
- 55 McKinnon (1999) has referred to the fluctuations in the dollar/yen rate as a 'loose cannon'.
- 56 Ito et al. (1998) calculate the optimal currency-basket weight of the yen for several East Asian countries, based on the criterion of minimising the variance of the trade balance of these countries. Their estimates of the optimal weight for the yen are

much greater than the implicit weights estimated by Frankel and Wei (1994) and others.

57 Certainly, any exchange rate arrangement benefits from establishing high prudential standards for banks.

58 The following discussion presumes that imposing greater controls on international capital flows—Malaysian style—is not an option.

59 By the end of 1999, the Asian-5 countries had reduced their outstanding debt to international banks by over 40 per cent (from US\$329 billion to US\$190 billion) since the onset of the crisis, as investment fell and banks and firms restructured their balance sheets. The outstanding foreign debt of domestic Asian banks has fallen even more (Bank for International Settlements, *70th Annual Report*, 2000).

60 For discussions of the advantages and disadvantages of inflation targeting in developing countries, see Mishkin (1999) and Mishkin and Savastano (2000).

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The viability of inflation targeting for emerging market economies

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INTRODUCTION

Over the past decade, a number of countries have adopted an inflation-targeting framework for the conduct of monetary policy. The majority have been industrialised countries, although Chile and Israel have also pursued some form of inflation targeting for the best part of ten years. In part spurred on by the successful economic performance of the countries that have adopted inflation targets, and in part driven by concerns about their policy frameworks in the aftermath of the East Asian crisis, a number of emerging market economies are seriously considering, or have recently adopted, inflation targeting.

This chapter assesses whether inflation targeting is indeed a viable monetary policy strategy for an emerging market. Are there aspects of inflation targeting that do not translate well from an industrialised economy to an emerging market economy? Are these features critical for the successful practice of inflation targeting? Does the absence of these features imply that an alternative monetary policy framework would help deliver superior economic outcomes, or are the alternatives similarly compromised?

In addressing these questions, Masson et al. (1997) conclude that most developing countries are not well placed to pursue inflation targets. They argue that most developing countries lack two crucial preconditions: the ability to conduct an independent monetary policy and the willingness to subordinate an exchange rate objective to the inflation target. In addition, there are technical problems, particularly difficulties in forecasting inflation, the volatility of inflation and a lack of knowledge about how inflation is transmitted.

This chapter reaches a more optimistic conclusion, particularly with regard to the East Asian emerging markets.¹ It argues that the problems identified by Masson et al. apply to most monetary policy frameworks—not just inflation targeting. Furthermore, many of the industrialised economies encountered similar technical problems when they first adopted inflation targets. For the East Asian emerging markets, inflation targeting may be the most viable policy framework, particularly given that inflation is already low in these economies.

This chapter describes the key components of an inflation-targeting framework. It discusses whether these components are present in emerging market economies and whether these economies have other features that would hinder inflation targeting. The viability of alternative monetary policy strategies is then considered.

WHAT IS INFLATION TARGETING?

The goal of monetary policy in many countries is to achieve low inflation. Many countries announce a forecast for inflation over the coming year: in a recent survey by the Bank of England, fifty-five of ninety-three central banks characterised themselves as having an inflation target (Fry et al. 1999). Despite this, only a small number of countries could be characterised as having a rigorous inflation target—the same survey identified only sixteen central banks as inflation targeters.²

The primacy of the inflation target

The central feature of an inflation-targeting regime is that the inflation target is the primary objective of monetary policy. This differentiates an inflation-targeting regime from one in which the central bank simply presents a forecast for the inflation that it would like to achieve. In such situations there is no obligation on the central bank to set policy to ensure that the inflation forecast is realised, particularly if to do so would compromise other macroeconomic objectives.

The primacy of the inflation target does not imply that other objectives, most notably employment and output objectives, are ignored.³ That is, inflation targeting is not ‘inflation-only’ targeting. Most inflation-targeting countries have adopted flexible regimes, where output or employment growth plays an important role in monetary policy. Even in strict inflation-targeting regimes, output considerations remain important because of the critical role that output plays in determining future inflation: output will always feature in the reaction function of the central bank. The extent to which output or employment objectives are taken into account is influenced by the flexibility of the regime and will be reflected in the design of the inflation-targeting framework. This is discussed in more detail below.

While employment and output objectives can be accommodated within an inflation target, a fixed exchange rate objective is incompatible with an inflation-targeting regime. A rigidly fixed exchange rate makes monetary policy endogenous to external developments. Hence the instrument independence of the central bank is compromised. A fixed exchange rate and an inflation target should be regarded as alternative approaches to achieving price stability.

Goal independence

In a number of inflation-targeting countries—for example, New Zealand and the United Kingdom—the adoption of inflation targeting has been associated with the introduction of new central banking legislation. The new legislation has generally specified that price stability is the primary (and in some cases sole) objective for monetary policy. However, the legislation has not given an operational definition of price stability. The operational definition of price stability has been the inflation target, which has often been specified in an accompanying document, such as the *Policy Targets Agreement* in New Zealand. Where the adoption of an inflation-targeting framework has not coincided with the

passage of new legislation, the central banks have regarded the inflation target as the operational interpretation of the objectives in the existing legislation.

In these circumstances the central bank generally does *not* have goal independence.⁴ The legislation (and hence the parliament) specifies the goal(s) for the central bank. The precise definition of the inflation target is agreed on jointly by the central bank and the government or, as in the case of the United Kingdom, is specified unilaterally by the chancellor of the exchequer after consultation with the Bank of England. In only a few cases does the central bank have complete goal independence and unilaterally pursue an inflation target.

This goal dependence of the central bank helps to ensure that the government retains ownership of the ultimate goals of monetary policy, as is appropriate in a democratic society. It also bolsters the government's own commitment to the inflation target, thereby serving to increase the credibility of the regime.

Instrument independence

While goal independence is generally absent in most inflation-targeting regimes, a critical aspect of an inflation target is that the central bank has instrument independence. To successfully pursue an inflation target, the central bank must have the freedom to adjust its instrument of monetary policy in the manner it feels necessary to achieve the inflation target. The settings of monetary policy should not be subject to political interference, nor should they be subjugated to achieve other goals. Instrument independence is desirable in any monetary policy regime, but it is particularly essential in an inflation-targeting regime, given the greater degree of discretion allowed. To counterbalance this independence, the central bank should be accountable to the democratic process, as is discussed below.

The main avenue by which the instrument independence of the central bank is constrained is the need to finance the government's deficit. Absence of fiscal dominance is a vital prerequisite for the adoption of an inflation-targeting regime. Fiscal dominance can take the direct form of a requirement to fund the government's deficit on the central bank's balance sheet. The central bank needs to be freed of the obligation to act as the buyer of last resort of government paper and to engage in other quasi-fiscal activities. For example, the Central Bank Act passed in the Philippines in 1993 granted the central bank increased fiscal autonomy and forbade it from engaging in development banking or financing. Fiscal dominance can also take more subtle forms such as pressure on the central bank to lower interest rates to decrease the cost of servicing the public debt.

Government endorsement of the inflation target should reduce the pressure on the central bank to accommodate slippages in fiscal policy. Nevertheless, the government must be aware that it cannot fund its spending by creating money. A country that relies on seigniorage revenue because it lacks any other source of budgetary funding is not suited to an inflation-targeting regime, as Masson et al. (1997) argue.

Instrument independence also requires that the day-to-day decisions of the central bank be free from political influence. There are a number of institutional changes that can be made to shore up this independence: the central bank's governor and board can be appointed for terms longer than the political cycle, politicians can be prohibited from

serving on the central bank's board and the governor can be called to testify to a bipartisan review committee to explain the central bank's actions.

Accountability and transparency

A distinguishing feature of inflation-targeting regimes has been the high degree of transparency of the practising central banks. Transparency has become more common in many central banks, and should be a central feature of any monetary framework. The distinguishing feature of the transparency and accountability in an inflation-targeting framework is that the central bank is accountable for the achievement of a clear, indisputable numerical target. All the policy changes are motivated publicly with reference to that target.

In practice, transparency has taken a number of forms including the regular publication of the central bank's assessment of current and future economic conditions, and the announcement by the central bank of changes in the stance of monetary policy at the time they occur, generally accompanied by a press release and/or press conference to explain the reasons for the change. In a number of countries, the governor is required to testify before a parliamentary committee on a regular basis to explain the central bank's actions in achieving the inflation target.

One motivation for the increased transparency of inflation-targeting central banks has been to enhance public accountability and hence act as a counterbalance to the greater independence that has occurred over the past decade or so. Another major motivation for the increased transparency and accountability has been to provide a means of distinguishing the new inflation-targeting regime from the less successful, inflation-prone monetary regimes of the past. In both cases the inflation target provides a clear benchmark with which to assess the performance of the central bank. In this sense transparency is more useful than in other regimes that do not provide such a definitive benchmark.

The increased transparency has been characterised as 'cheap talk of the weak' (Kuttner and Posen 1999). That is, the public utterances of central banks may only be a form of window dressing to keep financial markets convinced that price stability is the goal of monetary policy, when instead the central bank may still be pursuing other objectives. While this accusation is a little overstated, it reflects the relatively poor inflation histories of the inflation-targeting countries. Given a lack of track record, the increased transparency can help to build reputation and credibility more quickly. Kuttner and Posen provide some evidence that the transparency of the inflation-targeting central banks has helped to build trust in their actions.

Finally, the increased transparency serves as a useful means of communicating with the public. A greater public understanding of the inflation-targeting regime in particular, and of the monetary policy process in general, is likely to contribute to the longevity of the regime. The clear specification of the inflation goal, and the actions taken to achieve that goal, help to provide a nominal anchor for wage and price setters. This is particularly important in emerging markets that have a history of indexation. The inflation target can serve as a forward-looking focal point for indexation, thereby helping to decrease the costs of disinflation.

ISSUES FOR EMERGING MARKETS

This section considers issues that might be regarded as obstacles to the implementation of inflation targeting in emerging markets. It highlights that in many instances these same obstacles were present in a number of the inflation-targeting countries at the time they commenced inflation targeting.

Objectives of monetary policy

As discussed in the previous section, a prerequisite for successful inflation targeting is that the inflation target be the primary objective for monetary policy and that the central bank have instrument independence. In many emerging markets, monetary policy has traditionally had a multiplicity of objectives, including the exchange rate, full employment, the current account and financing of the government's budget.

To establish a clear break from the past, a number of emerging markets have rewritten the central bank law to state that the primary goal of monetary policy is to achieve price stability. This has been the case in the Philippines, for example, which enacted a new Central Bank Charter in 1993 that stated the primary objective of monetary policy was 'maintaining price stability conducive to the balanced and sustainable growth of the economy'.

Where there may be other objectives specified in the Acts of the central banks, it may be useful to continually stress the primacy of the price-stability objective in the early stages of the inflation-targeting regime. Once a track record has been established, there is likely to be scope to take greater consideration of other goals such as full employment, although, as noted above, such a goal is not necessarily inconsistent with the achievement of the inflation target.

The goal of price stability stated in the central bank Act rarely provides an operational definition. Instead, this is generally provided by the wording of the inflation target. The central bank may choose to define its inflation target unilaterally, but there are considerable benefits from either agreeing on the target jointly with the government or at least having the government publicly endorse the target. A sense of co-ownership of the inflation target by the government serves to increase the credibility of the regime, reduce the scope for fiscal dominance and facilitate a consistent approach to macroeconomic policymaking.

Many central banks also have the goal of preserving financial stability. In general this should not conflict with the goal of price stability. But in the aftermath of the East Asian crisis, the banking systems in many countries in the region were particularly fragile. This raised the possibility that rises in interest rates to preserve price stability may have generated more financial distress. The central bank should be taking the deflationary forces emanating from the financial distress into account in making its assessment about the appropriate policy stance. Some reduction in financial sector lending is a necessary part of the transmission mechanism of monetary policy and should not be resisted.

Inflation targets and exchange rate goals

Masson et al. (1997) raise the problem of the presence of a conflicting exchange rate objective in emerging markets. A fixed exchange rate is incompatible with an inflation-targeting regime. The experiences of Chile and Israel show that more flexible exchange rate objectives can be accommodated but that there are still some problems.

Chile and Israel pursued exchange rate objectives concurrently with an inflation target.⁵ In Chile a crawling peg had been in place since 1984. When the inflation target was first introduced, soon after the new legislation granting increased independence to the Bank of Chile in 1989, the exchange rate band was flexible at around ± 10 per cent. The exchange rate band was primarily used to achieve a desired outcome for the current account deficit.⁶ The band was supported by intervention, capital controls and, to the extent that it did not conflict with the inflation target, by monetary policy. Morande (2000) notes that 'whenever there was a clear conflict...the Central Bank chose to maintain the inflation target and proceeded to modify the exchange rate band'. From 1990 the emphasis on the inflation target as the primary objective of monetary policy was gradually increased until the exchange rate band was finally abandoned in 1999.

In Israel a crawling peg had been adopted as the exit strategy from the successful exchange-rate-based stabilisation in the second half of the 1980s. The genesis of the inflation target was, in part, the need to have a forecast for Israeli inflation to enable the rate of crawl of the exchange rate to be set in a forward-looking manner, in order to achieve a particular goal for the real exchange rate. The exchange rate band was progressively widened as conflict arose between the inflation target and the exchange rate band. Leiderman and Bufman (2000:76) highlight the problem:

The level of the interest rate that was required to ensure the inflation target was met [was higher] than the level of the interest rate that would have resulted in no pressures on the exchange rate band limits. Since the exchange rate band limits became a binding constraint, a large degree of sterilized intervention of capital inflows was required—sterilization that carried with it a sizeable quasi-fiscal cost—and monetary policy could not fully affect inflation developments through the very important exchange-rate channel of monetary transmission.

In both Chile and Israel, the exchange rate had served a useful role as a nominal anchor in the past. The inflation target took over that role. While there was some benefit in maintaining an exchange rate band to provide 'guidance about the desirable trend of the real exchange rate and to reduce excessive exchange rate volatility' (Morande and Schmidt-Hebbel 1999), whenever a conflict arose between the inflation target and the exchange target, monetary policy decisions were determined by the need to achieve the inflation target, and the exchange rate target was modified.

In summary, the presence of an exchange rate objective may not be a large problem, provided the inflation target takes precedence. Nevertheless, it is worth noting that, in the end, Chile moved to a freely floating exchange rate regime.

Capital inflows

Large and volatile capital flows pose a much greater problem for emerging markets than for industrialised economies.⁷ Even if the exchange rate goal is simply to maintain stability rather than to target any particular rate, the presence of volatile capital inflows can create a conflict with the inflation target. If the capital inflows are temporary, sterilised intervention to maintain exchange rate stability should not be inconsistent with the inflation target. If the capital inflows are more sustained, attempting to maintain exchange rate stability will either be too costly (if the inflows are sterilised) or would potentially lead to inflation (if they are not).

If the capital inflows reflect improved fundamentals, an appreciation of the real exchange rate is likely to be required. It is generally preferable to achieve this real appreciation through an appreciation of the nominal exchange rate rather than through higher domestic inflation. Allowing the nominal exchange rate to appreciate contributes to lower domestic inflation and avoids the need for a costly disinflation at a later date. Resisting the nominal appreciation blocks an important channel of monetary transmission.

In practice it may be difficult to determine whether the capital inflows do indeed reflect improved domestic fundamentals, and hence whether an appreciation is appropriate. A nominal appreciation could potentially lead to the exchange rate overshooting, with adverse consequences for the current account balance and the tradable goods sector.

As the experiences of Chile and Israel demonstrate, the inflation target helps to simplify this decision by emphasising inflation as the primary goal of monetary policy ahead of exchange rate stability. The inflation target provides a consistent framework to weigh up the inflationary consequences of capital inflows against the possible costs of increased exchange rate instability. In doing so it forces the central bank to ‘ask the right questions’ about the forces driving the movements in the exchange rate.

Instruments of monetary policy

Many emerging market economies do not have the financial depth of industrialised countries. This can pose problems for the implementation of monetary policy changes and for the transmission of those changes through to the rest of the economy.

The instrument(s) of monetary policy that the central bank has at its disposal is *not* critical to the success of an inflation-targeting regime. In every industrialised country that pursues an inflation target, an indirect instrument of monetary policy is used—generally the overnight interest rate on the deposits of the banking system with the central bank. However, inflation targeting is compatible with the use of a monetary measure as the instrument of monetary policy. It is also compatible with the use of direct instruments such as credit controls. The important issue is that whatever the instrument of monetary policy, it is adjusted in order to achieve the inflation target.

In less-developed financial systems there is potentially greater uncertainty between monetary policy actions and the final objective of the inflation target. While knowledge of the transmission mechanism of monetary policy is a key ingredient of an inflation-

targeting regime, this requirement should not be exaggerated. The adoption of inflation targeting in industrialised countries generally followed the failure of other monetary regimes: fixed exchange rates in the United Kingdom and Sweden, and monetary targeting in New Zealand, Canada and Australia. In these countries, as is still the case in nearly every industrialised country, there is a great deal of uncertainty about the transmission mechanism.

The volatility of inflation

Inflation in emerging markets tends to be considerably more volatile than in industrialised countries (Table 10.1).

Table 10.1 Inflation in industrialised and emerging market economies, 1990s

	CPI		Food ^a	Administered prices		
	Mean	Variance	Share in CPI	Mean	Variance	Share in CPI
<i>Emerging markets</i>						
Brazil	123.1	16,424.5	22	n.a.	n.a.	21
Czech Republic ^b	7.2	11.9	33	3.5	22.0	18
Indonesia ^c	23.5	446.9	42	32.0	958.1	n.a.
Korea	5.6	5.4	30	6.2	11.3	n.a.
Malaysia	3.7	0.9	35	5.1	4.1	11
Mexico	18.3	70.4	12	14.8	153.8	18
Philippines	8.9	15.4	50	8.0	16.9	n.a.
<i>Industrialised economies</i>						
Australia	2.5	4.6	19	2.8	1.7	16
Canada	2.2	2.8	18	1.9	2.7	n.a.
New Zealand	2.1	3.3	18	1.8	6.1	10
United Kingdom	3.8	4.2	13	2.7	6.6	15

Sources: CEIC database; Datastream.

Notes

a Includes beverages for Czech Republic, Mexico and the Philippines and tobacco for the Czech Republic and Mexico.

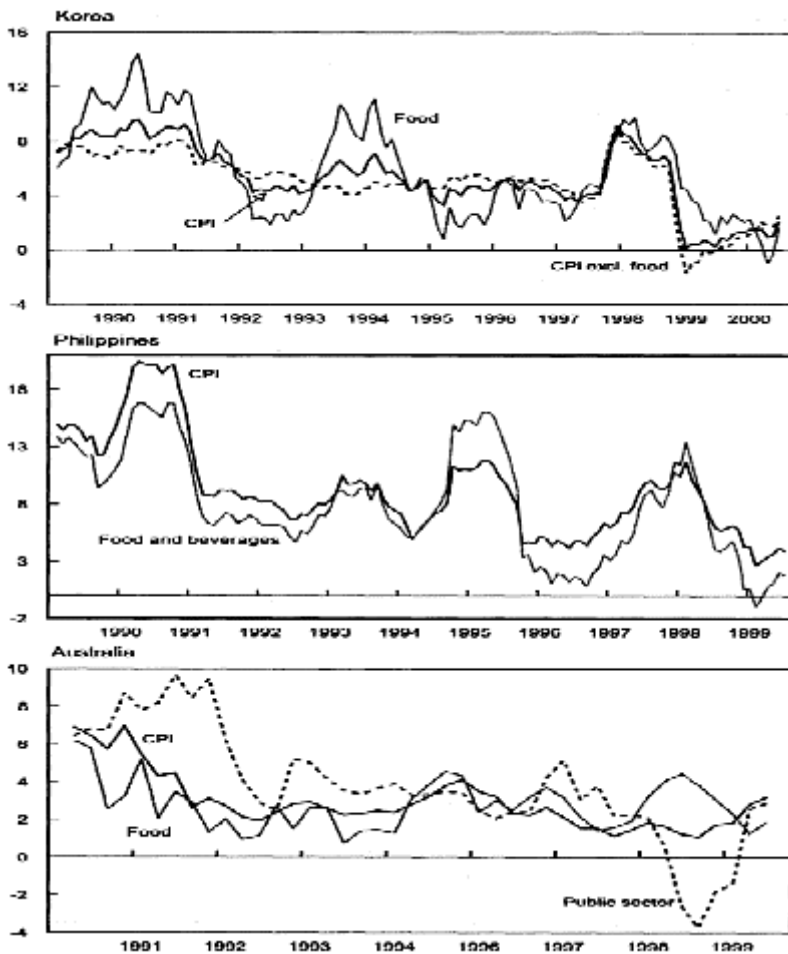
b March 1996—December 1999.

c January 1997—December 1999.

There are a number of reasons for the greater volatility of consumer prices in emerging markets. First, food, the production of which is subject to the vagaries of the weather, tends to have a larger weight in the basket of goods used to calculate the consumer price index in emerging markets. For example, food accounts for just under 20 per cent of the consumption basket in Australia, while it accounts for around 50 per cent in the Philippines and over 40 per cent in Indonesia. In addition to having a higher weight, food

prices also tend to be more variable in emerging market countries, as column five of the table shows.

Figure 10.1 Inflation in Korea, the Philippines and Australia (per cent)



Sources: CEIC database; Datastream.

Figure 10.1 shows that food prices have contributed significantly to swings in CPI (consumer price index) inflation in Korea and the Philippines, whereas they have had much less of an impact in Australia.

Another factor that can increase the volatility of inflation is government regulation of prices. Table 10.1 shows that while governments of emerging markets control quite a number of prices, in many cases price control is not much greater than in industrialised countries. However, in emerging markets administered prices tend to be more greatly affected by the government's budget constraint. Furthermore, if the adoption of the inflation target coincides with a

general program of economic reform, there may be large upward spikes in the prices of goods and services that are withdrawn from government control, given that many of them are likely to be essential goods and services whose prices have been artificially suppressed for social welfare purposes.

If inflation is volatile, the central bank will find it difficult to control inflation sufficiently to achieve its inflation target consistently. If inflation is highly volatile, there may be little point in the central bank explicitly pursuing an inflation target and enduring the loss of credibility as the target is continually missed. It may be preferable to implicitly target the inflation rate and only move to a more transparent form of inflation targeting as inflation becomes less volatile over time. Nevertheless, the design of the inflation-targeting regime can lessen the impact of volatile price movements by conditioning the response of inflation expectations to such movements.

Designing the inflation target

The volatility of inflation can be accommodated within the inflation-targeting framework if the framework is appropriately designed. Appropriate features include:

- the definition of the target inflation rate (that is, the published measure or another underlying rate);
- the use of ‘caveats’ or exclusion clauses;
- specifying whether the target is a band or a point; and
- the horizon of the target.

The decision in each case will involve a trade-off between credibility and flexibility. The central bank may prefer to allow itself more flexibility in achieving the inflation target, but in doing so it may undermine the credibility of the regime, particularly in the initial stages.

Targeting an underlying measure of inflation provides the central bank with the flexibility to abstract from volatile movements in food prices, for example. However, it may undermine the central bank’s credibility because the public is most familiar with the published measure of inflation. It may therefore be preferable for the inflation target to be defined in terms of the ‘headline’ measure of inflation to increase public acceptability, but for the central bank to focus on underlying measures in its own internal policy deliberations.

This approach has been taken in Brazil, where it was considered that using a headline, rather than an underlying, measure of inflation was necessary to enhance the credibility of the regime because price indices had been manipulated in the past for political purposes (Bogdanski et al. 2000). In addition, the index that was chosen was selected from a wide range of consumer price indices available in Brazil for its broad geographical coverage and its greater familiarity. However, internally, the Banco Central uses a number of different measures of underlying inflation to gain a better understanding of inflationary pressures in the economy.

If an underlying rate is to be used as the target, it is beneficial for the underlying rate to be calculated, using a known and accepted technique, by an agency other than the central bank—preferably the national statistical authority. If this is not possible, the central bank

should make public the method of calculating the underlying measure, so that it can be independently verified.

As an alternative to using an underlying measure of inflation, 'caveats' or exclusion clauses can be used to specify events that the central bank wishes to abstract from in its conduct of monetary policy because they only have a temporary impact on inflation. These caveats should be specified before the event rather than after. For example, New Zealand's *Policy Targets Agreement*, which defines the inflation target, excludes such events as large movements in commodity prices, changes in indirect taxes and natural disasters.⁸ The intent in such situations is to abstract from the immediate price-level effect of such events but not from any second-round inflationary pressures that might occur. As with the measure of underlying inflation, excessive use of exclusion clauses can diminish the public's trust in the inflation-targeting regime.

The choice between an inflation-target band and a point provides another mechanism with which to cope with the inherent volatility in inflation, and also to take account of the variable and uncertain lags of monetary policy. A wider inflation-target band also allows greater scope for stabilising output.

The historical variability of inflation in emerging markets suggests that an inflation-target band would need to be quite wide. A wide band that is only infrequently breached may not be perceived to be credible, however. A narrower band may be perceived to be more credible initially, but if it were to be breached frequently, confidence in the inflation-targeting regime would soon be undermined. The experience of inflation targeting to date suggests that the costs of small and temporary breaches of a target band are quite small, implying that a narrower band may be more suitable.

Similar concerns were expressed about this issue when inflation targets were being adopted in the industrialised countries (Stevens and Debelle 1995), but breaches of inflation-target bands have been infrequent. Inflation variability over the past decade has been noticeably lower than in the past. Whether this is an outcome of the shift to inflation targeting or whether it simply reflects a calmer world economy is not clear.

Besides variability considerations, the choice between a band and a point should also focus on the use of the inflation target as an anchor for wage and price expectations. It may be beneficial to express the target as a point (perhaps with a tolerance interval) rather than a band to prevent expectations being focused only on the upper end of the band.

Finally, the longer the horizon of the inflation target, the longer the time frame over which the central bank can return inflation to the target, and the greater the scope for output stabilisation. However, if the horizon is too long, there may be little confidence that the central bank is committed to returning to its target.

Choices about these four aspects of the design of the inflation target all involve a trade-off between flexibility and credibility. If there is not a strong track record of fighting inflation, an upfront investment in credibility may permit the central bank to be more flexible in the future. On the other hand, an over-rigorous pursuit of an inflation target should be avoided, as this too can undermine public support for the regime.

Forecasting inflation

Monetary policy must be forward looking in an inflation-targeting framework, given the lags between changes in the instrument of monetary policy and its effect on the ultimate objective—inflation. Hence forecasts of inflation must play a critical role in monetary policy decisions. Masson et al. (1997) argue that the difficulty in forecasting inflation is one of the major obstacles to adopting an inflation-targeting regime in emerging markets.

In many emerging markets, the historical volatility of inflation and the large structural changes that have taken place in the economy make developing a model of inflation particularly difficult. In a number of cases, the sheer lack of historical data for the main macroeconomic variables further complicates the issue.

These analytical hurdles should not be overstated. Similar problems beset many of the current inflation-targeting countries when they first adopted their regimes. When inflation targets were first adopted in New Zealand at the end of the 1980s, the economy was undergoing extensive reform and its inflation history to that point had been particularly volatile.

While it is clear that a well-developed analytical framework to forecast inflation would enhance the efficacy of monetary policy, it is not necessary. Even where such a framework exists, a healthy dose of judgement is required to refine the model-driven forecast. The current inflation rate, which is often a reasonable guide to future inflation and could usefully be employed as a starting point in developing a forecast in emerging markets, can be supplemented with information from other sources about near-term inflation pressures. The impact of past policy actions must be kept in mind, so that monetary policy is not continually adjusted until there is an obvious impact on current inflation. Such an approach can lead to excess volatility in monetary policy.

The benefits of inflation forecasting should not be oversold. Most industrialised countries that target inflation have progressively refined their forecasting techniques as they have accumulated experience, and some of the pitfalls encountered along the way can be avoided by emerging markets. Nevertheless, a large amount of judgement is still involved in forecasting in the inflation-targeting countries. Thus there should not be a desire to have state-of-the-art forecasting technology in place before an inflation-targeting regime is adopted.

The lack of such technology does not appear to have been a major impediment in the inflation-targeting countries. Notwithstanding this, the adoption of an inflation target may require the central bank to reallocate resources to devote more time to monitoring and analysing developments in prices and the real economy, and to developing modelling frameworks.

Openness

Because emerging markets in Asia tend to be more open than the markets of industrialised countries that target inflation, exchange rate movements are a more potent way of transmitting monetary policy. This can pose problems in an inflation-targeting regime.

If the exchange rate is volatile then the prices of traded goods will also be volatile in an

open economy, which raises the difficulties discussed above. Again, it implies that the design of the inflation-targeting framework needs to be carefully considered, and is likely to require some flexibility.

Increased openness also implies that the tradable goods sector bears more of the burden of adjustment. At the limit, in a fully open economy, an inflation-targeting regime resembles an exchange-rate-targeting regime. Despite these problems, the inflation-targeting framework is useful because it provides some guidance with which to assess movements in the exchange rate and shows whether there is a need to respond to them with monetary policy.

Inflation targets and disinflation

Inflation is currently relatively low in many Asian countries, so there is not a need for inflation targets to assist in disinflation. A number of other emerging markets with higher inflation do need to consider this issue. The questions here include whether the disinflation should be gradual or rapid, whether the targets should be pursued asymmetrically during the disinflation, and how much emphasis should be placed on the targets. The experience of Chile and Israel suggests that a gradual disinflation is possible (Colombia provides a counterexample). In both cases the emphasis on the inflation target was gradually increased over time, as the central bank successfully achieved earlier targets. During the disinflation, breaches of the inflation target on the upside were more vigorously resisted than breaches on the downside, in order to reinforce the credibility of the regime (a similar strategy has been employed in Brazil). Once inflation has been stabilised at a lower rate, a symmetrical approach to the inflation is desirable.

WHAT ARE THE ALTERNATIVES?⁹

An inflation-targeting regime presents a number of analytical hurdles to an emerging market economy, and hence it might be regarded as premature to adopt such a regime until these hurdles are overcome. If that is the case, what alternative monetary policy regime could be pursued? This section considers three possibilities—monetary targeting, a fixed exchange rate and a regime of ‘unconstrained discretion’—and compares them with inflation targeting.

Monetary targeting

For a developing country, a monetary-targeting regime has the advantage of being relatively easy to control. The central bank can be confident of its ability to achieve a narrow monetary target. A strict approach to monetary targeting also limits the central bank’s discretion over monetary policy. While inflation targeting has been termed ‘constrained discretion’ (Bernanke and Mishkin 1997), the constraints are potentially much tighter in a monetary-targeting regime. It is easier and faster to determine whether the central bank is meeting its monetary targets than it is to determine whether it is achieving its inflation target, given the long lags of monetary policy and the influence of

exogenous shocks on the inflation rate in the interim.

However, the question must be asked: what is the ultimate goal of the monetary target? If the ultimate objective is a particular inflation rate, then an intermediate monetary target is consistent with inflation targeting. To better anchor pricing behaviour, it may be beneficial to move toward a more explicit inflation-targeting regime and emphasise the final objective rather than the intermediate monetary target.

Inflation targeting also has the advantage of making use of all the available economic information in determining the outlook for inflation. Monetary targeting focuses narrowly on the information in the money demand function. As the emerging market economies undergo financial deregulation, the information provided by money demand is likely to be distorted. While this also poses problems for an inflation target, it is not as critical because the inflation target makes use of a much wider set of information.

The choice between these two approaches boils down to one between a regime where the discretion of the central bank is limited, but the effects of its policy on the ultimate goal are less clear (monetary targeting), and one where there is a much greater opportunity for discretion, but policy actions are aimed directly at the ultimate objective of policy (inflation targeting).

Nominal exchange rate target

A nominal exchange rate target or a currency board place even greater constraints on the discretion of the central bank than a policy of monetary targeting. The advantages and disadvantages of a fixed exchange rate have been discussed extensively.¹⁰ As Frankel (1999) argues, the choice of exchange rate regime depends on the country and on the circumstances.

However, once the decision is taken to allow some flexibility in the exchange rate regime, there needs to be an over-riding framework to provide a more rigorous nominal anchor. Hence there is scope for inflation targeting as the primary objective with some consideration of the exchange rate as a secondary objective, along the lines practised in Chile and Israel.

Unconstrained discretion

Finally, the central bank can set monetary policy taking into account all the information available, as with inflation targeting, but without a clear specification of the ultimate goals of policy. Objectives for policy such as price stability and full employment may be specified, but with no clear articulation of what they mean operationally and how conflicts between objectives are to be resolved. Such a strategy, which to some extent describes the approach taken by the US Federal Reserve, is possible when the central bank has a proven track record. It is not suitable for a central bank without such a track record.

The principal disadvantage of this approach is that it lacks the structure that an inflation target provides to the monetary policy decision. This organising structure is useful both for the internal policy discussion and also for explaining the reasons underpinning monetary policy decisions to the general public.

Another disadvantage of unconstrained discretion is that it is easier for the central bank's independence to be compromised. The priority of the goals can be more easily influenced, without that being clear to the general public. Continual changes in the priorities of the central bank are also likely to undermine the public's confidence in the central bank.

CONCLUSION

Inflation targeting presents a number of hurdles for emerging markets. However, these hurdles are, in many cases, not much larger than those that confronted the inflation-targeting countries when they adopted their regimes in the early 1990s. The experiences of Chile, Israel and, more recently, Brazil provide examples of how the hurdles can be overcome.

Nevertheless, there are some necessary conditions that should be met before an inflation-targeting regime is adopted. Most importantly, the central bank should have the independence to pursue the inflation target and should not be constrained by the strictures of fiscal dominance. There should also be a commitment to the inflation target that extends beyond the walls of the central bank. Without the backing of the government, the credibility of the regime will be weakened, and the ability of the central bank to achieve the inflation target will be compromised.

The absence of a finely honed forecasting and analytical framework should not be seen as a prohibitive barrier. Learning from the experience gained from over a decade of inflation targeting places central banks adopting inflation targeting today in a better position than the pioneers of inflation targeting ten years ago. Nevertheless, inflation targeting does not guarantee an instant solution to all inflation problems. The central bank must still build its reputation through its actions over a number of years.

The current conjuncture seems an opportune time to adopt inflation targeting in a number of emerging markets, particularly in Asia. Inflation is already low and the disinflation costs are already sunk. While these countries have had some success in maintaining low inflation in the past without a well-defined monetary policy framework, inflation targeting would appear to be the most suitable monetary framework with which to lock in low inflation for the future.

NOTES

I thank Ben McLean for research assistance, and Andy Haldane and colleagues at the Reserve Bank for helpful comments. The views expressed are those of the author, and not necessarily those of the Reserve Bank of Australia.

1 Mishkin (2000), Mishkin and Savastano (2000) and Morande and Schmidt-Hebbel (1999) reach similar positive conclusions.

2 The literature on the practice of inflation targeting has burgeoned in recent years. For a collection of papers discussing early experiences with inflation targeting, see

Haldane (1995) and Leiderman and Svensson (1995). Bernanke et al. (1999) and Lowe (1997) provide more recent commentaries. The Web sites of the central banks that have adopted inflation targets contain much material discussing the technical aspects of inflation targeting.

3 These issues are discussed in more detail in Debelle (1999).

4 Debelle and Fischer (1994) develop the concepts of goal and instrument independence.

5 Landerretche et al. (1999) discuss the Chilean experience, and Leiderman and Bufman (2000) look at the Israeli experience.

6 Mishkin and Savastano (2000) argue that monetary policy should not be used to address the issue of external competitiveness.

7 See Haque et al. (1996) for a discussion of these issues.

8 See <<http://www.rbnz.govt.nz/news/1999/0092613.html>>.

9 Mishkin and Savastano (2000) provide an extensive examination of this question and support their answer with examples from Latin America.

10 Recent papers examining the choice of exchange rate regime include Eichengreen and Hausman (1999), Frankel (1999) and Glick (2001).

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11

Comparing monetary policy operating procedures in Indonesia, Korea, Malaysia and Thailand

C.E.V.Borio and Robert N.McCauley

INTRODUCTION

The authors of this chapter were asked to provide a ‘critical assessment of the monetary policy operating frameworks in East Asia’ in relation to ‘best practices and principles’. It is generally not easy, however, nor even appropriate, to be critical in this field of monetary policy. There are many ways to implement monetary policy. These may differ considerably in terms of the interest rates that are the focus of policy, the range of instruments employed, the frequency of operations, the spectrum of counterparties and other technical elements. Such differences reflect a mixture of historical factors and different views on the fine balance between the pros and cons of the various choices. At the end of the day, however, the question is whether the central bank is able to convey its policy signals with the desired degree of clarity and to influence short-term rates with the desired degree of accuracy. On these criteria, the frameworks in Indonesia, Korea, Malaysia and Thailand seem to do the job.

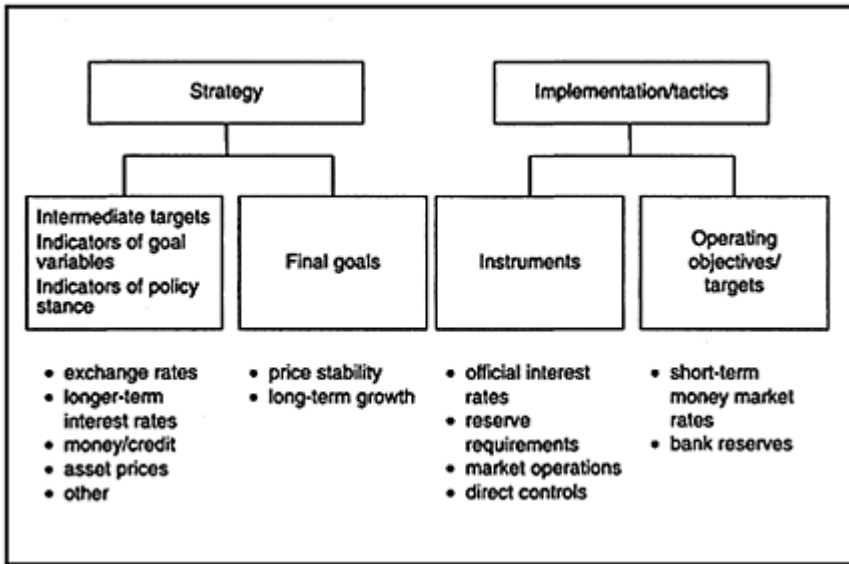
This chapter highlights the key similarities and differences among the four operating frameworks, explaining the implications of the various choices made by the monetary authorities and the possible factors underlying them against the background of the evolution of the different systems. Where relevant, the experience of the central banks of the three major currency areas of the United States, Europe and Japan is brought to bear, generally in order to define a spectrum of practice rather than to set out some ahistorical ‘best practice’.

CONCEPTUAL UNDERPINNINGS¹

Operating procedures and the monetary policy framework

What is meant by monetary policy operating procedures? And how do they fit into the overall policy framework? Figure 11.1 sheds some light on these questions, distinguishing between the strategic and tactical levels of the policy goals pursued by monetary authorities.

Figure 11.1 The monetary policy framework



Monetary authorities aim to achieve certain macroeconomic objectives. These may include goals for long-term growth or employment. In recent years, however, mandates have increasingly focused on price stability, in some cases even going as far as setting numerical targets for inflation over specific periods.

At the strategic level, the pursuit of the final goals rests on a series of choices regarding the information used as the basis for short-term and longer-term policy adjustments, including the weight and specific role attached to various economic variables. This information is used in the choice of exchange rate regime, intermediate targets (if any), forecasting mechanisms (which may or may not give precedence to particular variables) and indices of the thrust of policy or overall conditions in the monetary sphere. Individual country frameworks differ considerably in these respects. However, the financial variables playing a role at the strategic level are generally not under the close control of the authorities and the corresponding policy decisions usually pertain to horizons of longer than one month. Such strategic targets often include money, credit and asset prices.

In contrast, operating procedures relate to the tactical level of policy implementation—the nuts and bolts of monetary policy. They cover the choice both of instruments and of operating objectives or targets. These are variables which, being more proximate to the policy instruments in the causal chain, can be influenced quite closely by the central bank. Examples of policy instruments are official interest rates (e.g., those on standing facilities), market operations (e.g., repo tenders), reserve requirements and, in the past, direct controls such as ceilings on loans or on bank deposit and loan rates. The basic choice concerning operating objectives has generally been how much weight to attach to bank reserves and short-term money market rates as a reference for policy. Thus,

operating procedures deal with the daily implementation of policy, although the planning horizon may extend as far as one month or even longer in certain cases.

Currently, all four central banks, like the central banks in industrialised countries, implement monetary policy through market-oriented instruments geared to influencing closely short-term interest rates as operating objectives.² They do so largely by determining the conditions that equilibrate supply and demand in the market for bank reserves; that is, bank deposits with the central bank. It is in this relatively unglamorous and often obscure corner of the financial markets that the ultimate source of the central banks' power to influence economic activity resides.

The market for bank reserves is a special one indeed. The central bank is a monopolist supplier that can also directly affect demand. It can, and often does, affect it; for instance, by setting reserve requirements or by helping to shape the characteristics of, and by operating, key interbank settlement systems. Moreover, the way in which central banks attain their objectives relies on a varying mix of stated and unstated rules, conventions and communication strategies that are bewildering to the uninitiated.³

Despite the complexity and country-specificity of operating procedures, a stylised framework can throw light on how policy implementation varies with institutional arrangements.⁴ It is helpful to consider the demand for and supply of bank reserves in turn.

The demand for bank reserves

The demand for bank reserves depends crucially on whether binding reserve requirements are in place.

Working balances

In the absence of a binding reserve requirement, the demand for bank reserves is essentially a demand for settlement of working balances. While in only a few countries, such as Canada and Australia, are banks legally required to settle on the books of the central bank, they generally do so for several reasons. Prominent among these are the wish for direct access to the ultimate source of liquidity in the system, the need to reduce credit risk resulting from settlement in a risk-free medium, and competitive considerations, given that the central bank is a neutral participant and at times even arbiter in the market.

Settlement balances clearly have a high cost when, as is generally the case, they bear no interest. In this case, ending the day with a positive working balance means incurring an opportunity cost equivalent to the overnight (day-to-day) rate. Banks on average willingly hold positive balances as a precaution to guard against incurring penalties over the market rate if their balances are insufficient to meet their settlement obligations with the central bank. This penalty may take the form of a premium on prevailing overnight rates, rationing in the interbank market as limits to credit lines are hit and, finally, penal and possibly uncertain interest rate costs or quantitative restrictions on borrowing imposed by the central bank.

As a result the demand for working balances is largely determined by the institutional

and operational characteristics of payments and settlements, and by the terms and conditions of central bank late-day assistance. In general banks tend to keep their holdings of working balances to a minimum.⁵ Indeed when, as is often the case, the settlement system provides for a period for borrowing/lending among participants after the positions become known, the need for precautionary holdings is much reduced, if not eliminated, and banks target approximately zero balances.

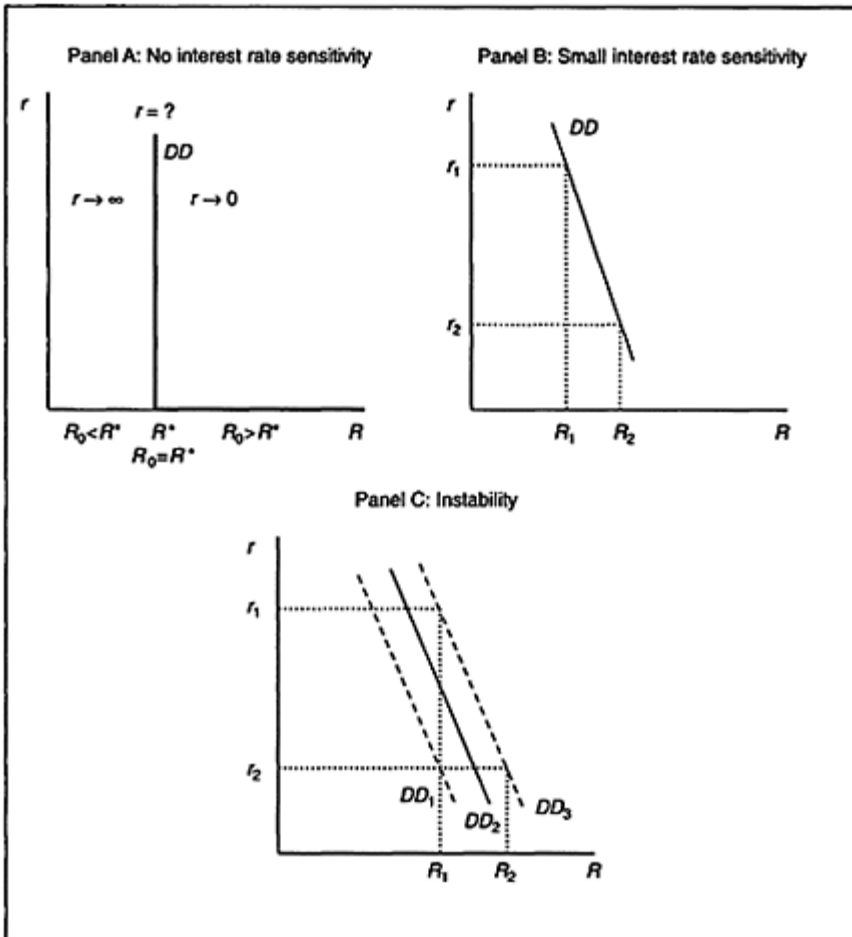
More importantly, and for much the same reasons, the demand for settlement balances is likely to be highly insensitive to changes in the overnight rate over its typical range of variation (Figure 11.2, panels A and B).⁶ Reductions in this rate, for example, would hardly in themselves entice banks into willingly increasing their holdings. Demand could also be unstable, especially at the aggregate level, if banks failed to manage their positions actively and if there are technical or behavioural impediments to a smooth redistribution of reserves in the system (panel C).

A demand for working balances that is extremely interest inelastic, and possibly unstable, requires the central bank to manage the supply of liquidity if large fluctuations in the overnight rate are to be avoided (panel C). It also puts a premium on signalling mechanisms aimed at guiding the rate over the regions where it may, in effect, be largely indeterminate.

Reserve requirements

Two preconditions must be fulfilled for reserve requirements to be the binding factor in determining the (marginal) demand for reserves. First, it should be possible to use the reserve requirement holdings to meet settlement needs. Second, the amount of reserves banks need to hold to comply with the reserve requirement should exceed their working-balance targets. Clearly, these conditions cannot be met on those days when the reserve requirement calls for a specific amount of reserves to be attained—the bank can no longer rely on that amount to meet its liquidity needs.⁷ As a result, the factor influencing the marginal demand for reserves is the working balance (excess holdings) target (Figure 11.3, panel A). The conditions can be met only if some averaging provision exists, allowing individual banks to offset

Figure 11.2 The demand for working balances



Notes

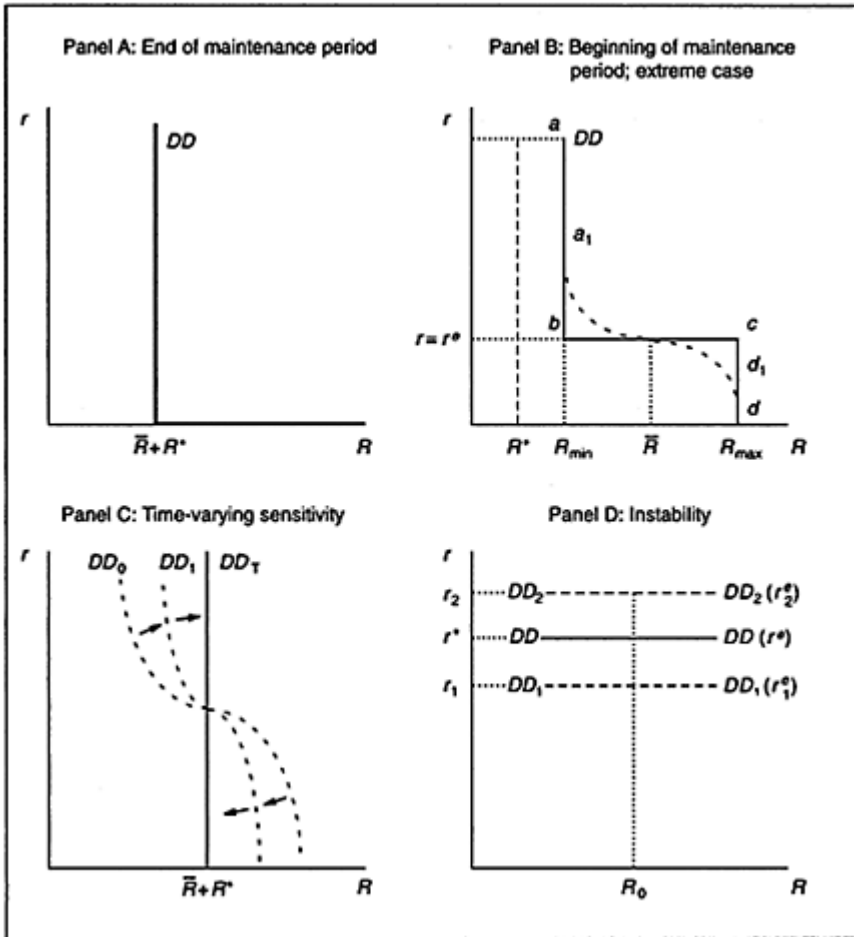
Panel A: The interest rate is either indeterminate ($R_0 = R^*$), tends to zero ($R_0 > R^*$) or to infinity ($R_0 < R^*$). Signalling can help to focus expectations on a particular interest rate within the range of indeterminateness.

Panel B: Small changes in the supply of bank reserves (R_1 to R_2) result in large changes in the interest rate (r_1 to r_2).

Panel C: Given a low interest rate sensitivity, instability (DD_1 to DD_3) results in large changes in the interest rate (r_2 to r_1) for a given supply of reserves (R_1). Actively providing reserves (R_1 or R_2) can stabilise the interest rate.

deficiencies with surpluses over a given period. In addition, the size of the deficiencies that a bank would wish to run should not be such as to infringe the minimum working balance needs.⁸

Figure 11.3 The demand for bank reserves under reserve requirements



Notes

Role of signalling: By focusing expectations around a specific value of the interest rate, signalling can shift the (interest-sensitive) demand for bank reserves to equilibrate the market at a rate consistent with central bank policy (e.g., r^* in panel D).

Panel A: At the end of the maintenance period, the demand for bank reserves converges to that for working balances (R^*) plus whatever amount is necessary to meet the average reserve requirement. (This will be equal to the average requirement itself (R) in the case in which the banks are already on target in the preceding period.)

Panel B: Within a range determined by the level of the requirement and the length of the averaging period ($R_{\min} - R_{\max}$), as long as the minimum bound exceeds the demand for working balances (R^*), the demand for bank reserves

will be very elastic (a_1, d_1) and, in the extreme, perfectly (b, c) elastic at the level of the overnight rate expected to prevail during the period (r^e).

Panel C: Over time, the demand for reserves converges to the demand at the end of the maintenance period (DD_0 to DD_T).

Panel D: Changes in the expected interest rate (r^e_1 to r^e_2) result in similar changes in the market rate (r_1 to r_2) for any given supply of reserves (R_0).

When reserve requirements are the binding factor, averaging provisions can act as a buffer for the overnight rate. At any given point in time in the averaging ('maintenance') period, banks would tend to be indifferent about the amount of reserves they held as long as: the opportunity cost of holding was expected to change little over the remainder of the period; and this expectation was held with little uncertainty or concern (risk aversion was low). Thus, with fixed or zero-remunerated reserve requirements, banks would be indifferent if they were confident that no significant increases/decreases in the overnight rate would take place.⁹ Under these conditions, the demand for reserves would be very elastic around the level of the rate expected to prevail in the future (panel B).¹⁰ The high sensitivity of demand to the interest rate would help to cushion the impact of changes in the supply of reserves on the overnight rate (panel B).

The extent to which reserve requirements can act as a buffer declines during the maintenance period. As time passes the room for manoeuvre is increasingly constrained by the cumulated reserve position, since the number of days available for offsetting any excess/deficiency falls and the size of the corresponding adjustment rises. Similarly, banks would be less willing to arbitrage, as the risks of being unable to offset positions at prevailing market rates would rise. This suggests that the interest elasticity of demand for reserves would tend to decline, especially toward the end of the maintenance period, converging on the last day to the interest elasticity of demand for working balances (panel C).^{11, 12}

These arguments suggest that, other things being equal, reserve requirements with averaging provisions require a less active day-to-day management of liquidity by the central bank. The extent to which this is true will depend on the level of reserves, on the length of the averaging period and on banks' willingness to arbitrage expected changes in the overnight rate over time. At the same time, averaging introduces a new potential source of instability in the demand for reserves, namely volatile expectations about the path of the overnight rate during the maintenance period (panel D).¹³ If anything, this makes signalling even more important as a mechanism for limiting volatility in that rate.

The supply of bank reserves

Given the characteristics of the demand for bank reserves, the central bank's task is to regulate supply in order to achieve its interest rate or quantitative objectives. There are essentially two aspects to this task. The first is how to go about adjusting the liquidity position of the system, balancing supply with demand (liquidity management proper). The second is how to reinforce any influence that liquidity adjustments may have on interest rates through specific communication strategies vis-à-vis market participants (essentially, signalling mechanisms).

Liquidity management involves offsetting to the extent necessary the autonomous (net) sources of reserves (liquidity),¹⁴ which implies changes in the other items on the central bank's balance sheet. While varying somewhat from country to country, these sources primarily include: increases in net foreign assets resulting, for example, from foreign exchange intervention; increases in (net) lending to the government; changes in other residual net assets, such as float or capital and reserves (other than those arising from valuation effects; see Box 11.1); and reductions in currency in circulation

Box 11.1 Stylised sources and uses of bank reserves

Consider 2 an extremely stylised balance sheet of the central bank, with 'Δ' denoting the change in the relevant variable.

Balance sheet of the central bank

Assets

- Δ Net foreign assets
- Δ Net lending to the government
- Δ Net lending to banks
- Δ Other net assets

Liabilities

- Δ Cash (notes)
- Δ Bank reserves

The item 'Other net assets' would typically include changes in capital and reserves (negative sign), float and changes in the valuation of assets. Assume that all the channels for influencing liquidity under the control of the monetary authorities over the relevant horizon have been grouped under 'Δ Net lending to banks' (or the '*net policy position*'). If so, the other items on the asset side are purely autonomous. Then, rearranging terms:

Autonomous liquidity position (+injection;—withdrawal) = Δ Net foreign assets+Δ Net lending to the government + Δ Other net assets—ΔCash

and:

Δ Bank reserves=Autonomous liquidity position+Net policy position

From the viewpoint of liquidity management, it is generally useful to think in *ex ante* terms, as. Replacing 'Δ Bank reserves' by the quantity demanded (implicitly at some desired rate) and rearranging terms we have:

Net liquidity position=Autonomous liquidity position—Δ^d Bank reserves

The net liquidity position is the mirror image of the amount of reserves

that the central bank should provide through its operations to balance the market (at the desired interest rate). In turn, bank reserves can be split into two items: reserve requirements (if any) and (net) excess reserves or working balances, depending on circumstances.

(cash).¹⁵ An autonomous surplus (deficit) can be said to exist if autonomous factors lead to a net increase in (withdrawal of) liquidity.¹⁶

On an *ex-post* basis, the sum of the net liquidity created through the autonomous channels and through central bank operations represents the net addition to bank reserves. On an *ex-ante* basis, it is often useful to think of the difference between the autonomous creation of reserves and the amount demanded as the balance that has to be met by central bank operations (the net liquidity position). An integral part of liquidity management is the forecast of the net liquidity position, which provides an *ex-ante* basis for the assessment of the need to effect operations. If supply falls short of demand, a net liquidity deficit (shortage) is generally said to exist, in which case the central bank needs to inject liquidity; in the event of a net liquidity surplus, it needs to withdraw liquidity.

Central banks thus spend a lot of effort in forecasting the path of autonomous factors. Where reserve requirements with averaging provisions are in place, as in the four countries under consideration, particular, but not exclusive, attention is paid to the impact of autonomous factors during the maintenance period ahead. Together with the required reserves target plus the estimate of any excess reserves, this information provides the basis for the benchmark amount of liquidity that needs to be added, or withdrawn, during the period.

In principle, central banks can equally meet net liquidity surpluses and shortages. Several central banks, however, prefer to operate with net deficits, as net creditors rather than debtors in the market. Quite apart from their possible influence on the marginal demand for reserves, reserve requirements can be aimed at raising the average demand, thereby possibly turning an autonomous surplus into a net liquidity deficit. In addition, in a number of systems, the operation(s) setting the tone of policy (signalling operations) can only inject liquidity (as asymmetric systems). In this case, in order to ensure that the operation remains active, the central bank needs to drain any excess liquidity from the system. When reserve requirements are not in place or are insufficient for the purpose, the central bank could then be withdrawing liquidity through some (market) transactions while injecting it through others, possibly even on the same day.

Liquidity can be adjusted either through transactions entered into at the discretion of the central bank or through standing facilities, which are activated on demand by market participants (Box 11.2).¹⁷ Either of these may be the effective marginal source of liquidity equilibrating the market. But by and large, and increasingly so, central banks have preferred to use discretionary operations to make the required adjustments in marginal liquidity. This is indeed the case in the four countries under consideration. Correspondingly, they have tended to use standing facilities primarily as safety valves for end-of-day imbalances, as signposts setting limits to the range of fluctuation of the overnight rate or, in some cases, as sources of subsidised inframarginal liquidity (Figure 11.4, panels A and B).

Box 11.2 A taxonomy of central bank operations

The central bank's mechanisms, other than reserve requirements, for adjusting liquidity (bank reserves) in the market (i.e., making up 'net lending to banks' or the 'net policy position') can be broken down according to several criteria: by the technical form of the instrument, by the degree of discretion exercised by the central bank in its use and by the frequency of its employment.

A possible breakdown *by instrument*, used in what follows, is:

- 1 *Central bank lending*: loans and advances, almost exclusively against collateral, not granted through tenders. Defined here to include also the corresponding discounting of securities.
- 2 *Reversed transactions against domestic currency assets*: purchases (sales) of assets reversed at some point in the future; equivalent in cash-flow terms to collateralised lending (borrowing). From the viewpoint of the central bank, temporary purchases ('repos') inject liquidity, temporary sales ('reverse repos') withdraw it.
- 3 *Reversed transactions against foreign currency assets*: equivalent to the above but against assets denominated in foreign currency. Foreign exchange swaps are the most common. They can be used either to inject liquidity (temporary purchases of foreign currency) or to withdraw it (temporary sales of foreign currency).
- 4 *Outright transactions in the secondary market*: firm purchases/sales of outstanding securities.
- 5 *Issue of short-term paper*: sale of central bank paper in the primary market. Defined also to include issues by the central bank of government paper on its behalf performing a similar function.
- 6 *Operations in the interbank market*: interventions in the interbank cash market via the collection of deposits and (possibly unsecured) lending.
- 7 *Transfers of government deposits*: a transfer from the central bank's books to those of banks injects liquidity; a transfer in the opposite direction reduces it. Operations two to six are referred to as 'market operations'.^a

In terms of *degree of discretion*, a common distinction is between:

- 1 *Standing facilities*: operations activated on demand by market participants (mainly banks).
- 2 *Discretionary operations*: carried out at the discretion of the central bank.

In terms of *frequency*, transactions can be divided into:

- 1 *Regular*: occurring at a regular frequency, known in advance.
- 2 *Irregular*: the complementary case.

Typically, the distinction between regular and irregular operations is applied to market transactions only. Irregular operations (other than in the

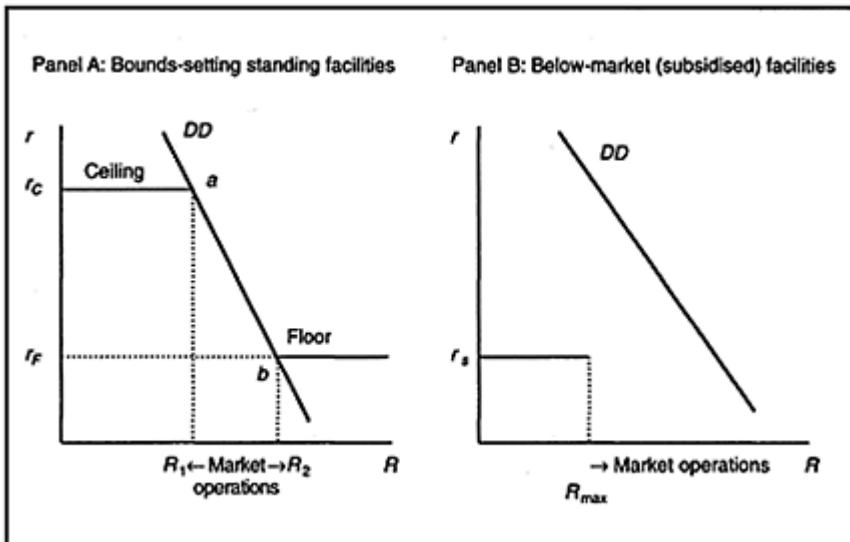
form of central bank lending) are sometimes known as ‘fine-tuning’. Contrary to the common usage of the term, however, not all irregular (fine-tuning) operations are designed to modulate precisely the supply of reserves on a day-to-day basis with a view to balancing the market (see below).

Note

a Sometimes the term ‘open market’ is used even if, strictly speaking, the central bank may restrict the range of counterparties and/or not transact in the established private market.

Discretionary operations typically take the form of either firm purchases/ sales of securities or, more often, reversed transactions in domestic or foreign currency (Box 11.2). Especially in countries with reserve requirements and averaging provisions, a distinction is often made between regular and irregular

Figure 11.4 The supply of bank reserves



Notes

Panel A: The standing facility at r_c sets a ceiling to the interest rate; the one at r_f sets a floor. (Given the presence of the facilities, the demand curve will itself tend to be infinitely elastic at the corresponding rates r_c, r_f .) Market operations can be used to affect the supply between R_1 and R_2 . The points R_1 and R_2 shift with the demand curve.

Panel B: A below-market facility rations credit to the point R_{max} . As long as the demand for reserves exceeds supply at that rate, r_s does not determine market rates; it merely provides inframarginal, comparatively cheap liquidity.

transactions. Regular transactions typically aim at providing the bulk of liquidity needs; their timing and, sometimes, maturity are closely tied to the characteristics of the maintenance period. By contrast, irregular transactions are employed to make the necessary adjustments to the volume of liquidity as dictated by evolving circumstances.

Partly owing to the limited use of standing facilities and the characteristics of the demand for bank reserves, central banks rely on signalling mechanisms to guide market views of very short-term rates and hence to strengthen their influence over these rates. These mechanisms may involve adjustments in quantities, but have increasingly taken the form of explicit references to specific interest rate levels. Such signals are sent through announcements of interest rate targets or bands, through the interest rates at which market, typically regular, operations are executed and/or through the rate posted on standing facilities.

The policy rate and the operating target

The interest rate that is under the direct control of the central bank and that provides the main policy signal is usually referred to as the policy rate. This could be, for instance, the rate on the (regular) market operation that sends the main signal (e.g., a tender rate) or the announcement of a target for a particular market rate. The market rate (which is not directly set by the central bank) that is the main focus of policy is known as the operating target or objective.¹⁸ When the policy rate is the announcement of a specific target for a market rate, that market rate is also the operating target.

Much of the previous discussion was conducted in terms of the behaviour of the overnight rate itself: this is the money market interest rate that is largely determined in the market for bank reserves and that the central bank has the closest control over. Yet the overnight rate need not be the operating target. The authorities may focus on interest rates of a somewhat longer maturity, say one month. In either case, the previous analysis still holds. The main implication is that, all else being equal, greater volatility in the overnight rate would be accepted. In particular, if the central bank focused on somewhat longer rates, it would tend to tolerate unexpected movements in the overnight rate provided they did not undermine the attainment of the operating objective.

ASSESSING THE OPERATING FRAMEWORKS

This section assesses the main similarities and differences among the monetary policy regimes of Indonesia, Korea, Malaysia and Thailand. It considers sequentially the following aspects: the relationship between policy rates and operating targets within the broader spectrum of available signalling mechanisms; the role of standing facilities; the volatility and forecastability of autonomous factors; the characteristics of the demand for reserve balances; and a number of other features of market operations.¹⁹ The particular issues of market segmentation and market development as a policy goal—two issues related to the East Asian crisis—are then examined.

It might be thought that the East Asian crisis and its aftermath would lead to a root-and-branch change in monetary policy in the most affected countries. With respect to the

overall strategy of monetary policy, this expectation is justified. One by one, the Bank of Korea, the Bank of Thailand and Bank Indonesia have embraced inflation targeting, although the second has adopted it 'experimentally' in anticipation of a new legal framework and the third remains in transition a year after the new central bank law of November 1999 (Oh 2000; Alamsyah et al. 2000; Bank of Thailand 2000b). The setting for Bank Negara Malaysia's monetary policymaking was altered significantly by the adoption of limited exchange controls and a fixed exchange rate in September 1998. With respect to the operational aspects of monetary policymaking, however, a Rip Van Winkle who only now awakened from a sleep that started in early 1997 would find many familiar practices. With regard to instruments, for instance, only the Bank of Thailand has changed its main operating instrument (from foreign exchange swaps to repurchase agreements), and even in this case it is not clear that eschewing the old instrument is, in technical respects at least, entirely satisfactory. A servant can serve two masters, at least successively. This observation illustrates the generalisation that monetary strategy and operating procedures are at most loosely linked, both in theory and in practice.

The policy rate, the operating target and signalling mechanisms

As for the choice of policy rate, operating target and signalling mechanisms, the four central banks vary in their practices (Table 11.1). Korea has adopted the approach of Japan and the United States: the policy rate is the announced

Table 11.1 Selected central bank policy rates, around end-July 2000

	<i>Rate</i>	<i>Policy rate instrument</i>	<i>Comment</i>	<i>Operating target instrument/s</i>	<i>Comment</i>
Bank Indonesia	13.52% (2/8)	One-month SBI	Weekly auction result	Overnight, one-month interbank rates (?)	Could interpret base money as operating target
Bank of Korea	5%	Announced overnight interbank rate target	Reaffirmed by monthly MPC, 3/8	Overnight interbank rate	Originally adopted in addition to bank reserves
Bank Negara Malaysia	2.959% (28/7)	Tender for Bank Negara	Three-month intervention rate of 5.5% remains formal policy rate	Overnight, one-month interbank rates	
Bank of Thailand	1.5%	Two-week repurchase	Reaffirmed by Mon. Policy Board, 26/7	Overnight rate (?)	Some concern for overnight rate volatility

Eurosystem	4.25%	Minimum rate on refinancing tenders	Reaffirmed at fortnightly meeting, 3/8	Overnight rate (?)	Overnight rate not an explicit target
Bank of Japan	0%	Target uncollateralised call rate	Reaffirmed at monthly Board meeting, 17/7	Uncollateralised call rate	
Federal Reserve	6.5%	Target federal funds rate	Reaffirmed at 28/6 FOMC meeting	Federal funds rate	

Sources: National central banks.

Notes: MPC refers to the Monetary Policy Committee; FOMC refers to the Federal Open Market Committee.

target level for the overnight rate, which therefore is also the market rate acting as the operating target (more precisely, the uncollateralised call money rate, equivalent to its namesake in Japan or the federal funds rate²⁰ in the United States). The July and August statements of Korea's Monetary Policy Committee did not give a number to the target, referring instead to 'its current level', and there was no mention of bank reserves, cited in 1998 by Bank of Korea officials as sharing operational target status (Kim and Kim 1999).

Thailand has adopted the Bank of England's practice of taking the two-week repurchase rate as its 'key policy rate' (Bank of Thailand 2000b: 26). The central bank's concern for the overnight rate, somewhat like that of the Eurosystem, could be construed to make it the operating target. The Thai framework, however, does not bound the overnight rate from below and from above, and the distribution of eligible collateral has on occasion left the overnight rate quite volatile.

Bank Negara Malaysia's operations have some familiar features and some special features that reflect the recent bank and corporate restructuring. The implicit policy rate can be identified as the announced daily tender rate on deposits with the central bank. The policy rate influences the operating targets—the overnight and one-month interbank rates. Although operating with a different instrument and at a different frequency, the central bank resembles the Eurosystem in choosing between a fixed-rate tender and a variable-rate tender. Much like the practice of the Bundesbank of several years ago, the uncommon fixed rate communicates a strong view, possibly amid market volatility.

Recently a distinction has arisen in Malaysia between the *de facto* policy rate and the designated policy rate. Since September 1998 Bank Negara has announced its designated policy rate, the so-called intervention rate, which currently stands at 5.5 per cent. At first, money market tenders were used to steer interbank rates toward the intervention rate. Since early 1999, however, given the increase in liquidity associated with the trade surplus and relatively subdued loan growth, the central bank's tenders for deposits have not prevented interbank rates from falling to about 3 per cent. Under these circumstances the tender yields, which are announced on Reuters, have taken on some of the character of a policy rate and a series of one-month operations were sufficient to nudge overnight and one-month rates up by about twenty-five basis points in late July.²¹ It is well

understood in the market that the formal policy rate is higher than the market and tender rates to ease sectoral restructuring. Moreover, retention of the intervention rate at the higher level suggests that market rates might easily be guided upward. The intervention rate's link to deposit and loan pricing serves to keep deposit rates higher than wholesale money rates in accordance with the policy of maintaining deposit rates positive in real terms.²² This configuration of policy and market rates is in some ways the obverse of that established by some European central banks in the middle of Exchange Rate Mechanism (ERM) crises: they maintained the policy rate while allowing market rates to rise.

In Indonesia the rates on one- and three-month central bank liabilities, known as SBIs (Sertifikat Bank Indonesia), can be viewed as policy rates, and overnight and one-month interbank rates can be seen as the operating targets. To attain the intermediate target of base money, Bank Indonesia announces the quantity of SBIs that it seeks to auction each week. When the bids are received, the central bank decides the stop-out yield and the amount auctioned is accordingly adjusted. Amounts and yields are announced to the public. In practice, the stop-out rates were chosen in the recent round of rate raising to limit weekly hikes to fifty basis points. In the discussion of the policy rate in a regime of inflation targeting, SBIs are leading contenders.²³

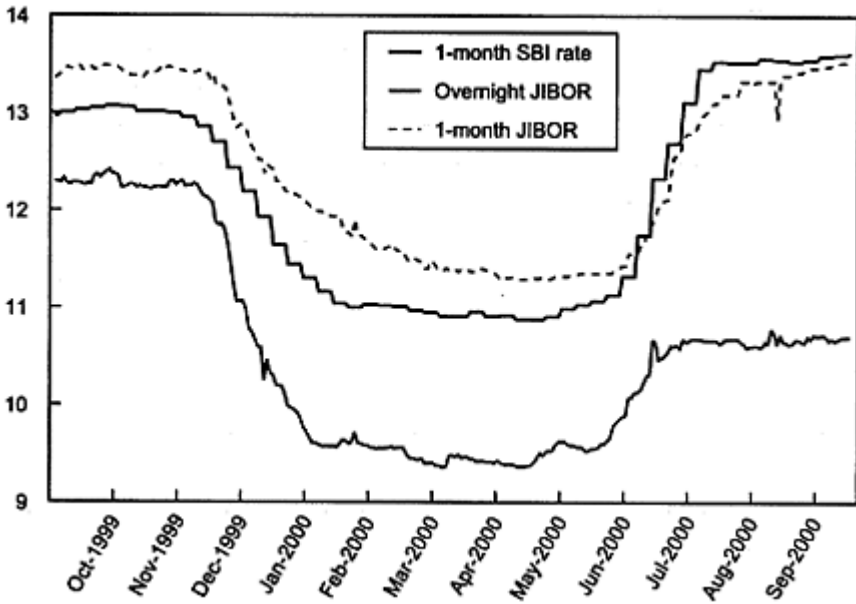
The choice of arrangements in all four countries reflects a combination of practices borrowed from abroad and historical development. While all four cases mix both factors, Korea and Thailand show a heavier recent influence from abroad, while Indonesia and Malaysia have tended to persist with their own approaches.

The choice of procedures has implications for the degree to which deviations of the overnight rate from the policy rate will be tolerated (Figure 11.5a–d). In Korea, where a target for the overnight rate is announced, a persistent deviation in one direction or another risks being seen as inconsistent with the announced policy intentions (although small or short-term deviations may be of little consequence). In Thailand, where the central bank's two-week tender rate is the policy rate, the freedom to allow deviations of the overnight or other short-term rate from the two-week repurchase rate, which provides the key policy signal, is greater. Thus overnight rates can rise to render short positions in the baht more costly. It might be noted in this connection that the somewhat greater openness of the Thai economy in comparison with the Korean economy might help rationalise this difference. At the same time, there is concern in Thailand that volatility in the overnight rate, at times related to exchange rate movements, might communicate through the baht yield curve, skipping over the would-be firebreak at the two-week maturity.

The differences between the choice of an overnight rate and a longer-term rate as the policy rate should not be overstated. The gain in flexibility from the latter choice would be valuable, particularly in circumstances where large movements in the overnight rate are required but the signal concerning the policy stance is unaltered. This tends to occur either in unusual market circumstances or, more typically, if the central bank wishes to resist a currency attack. In more normal conditions, the policy and overnight rates could be expected to be very close.

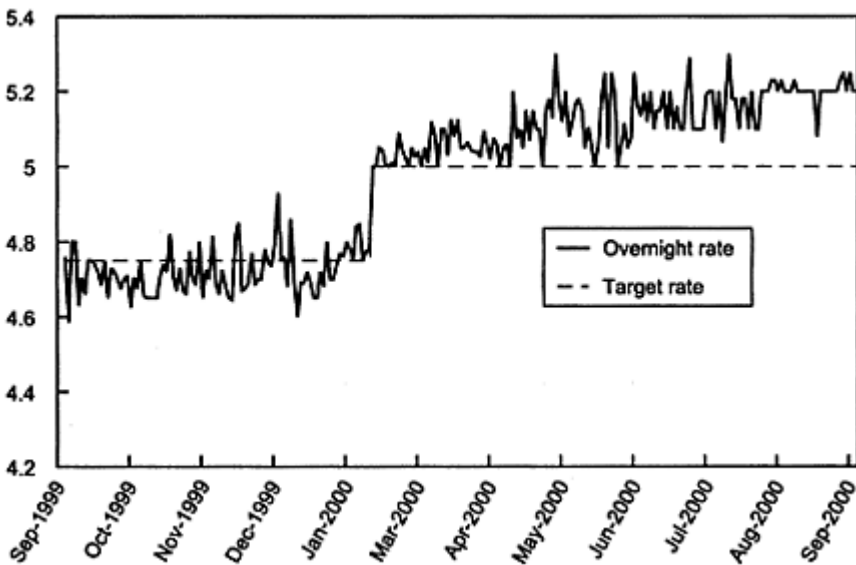
All four frameworks are similar in the clarity and specificity with which the policy signal is provided. In common with current operating frameworks

Figure 11.5a Money market rates in Indonesia (per cent)



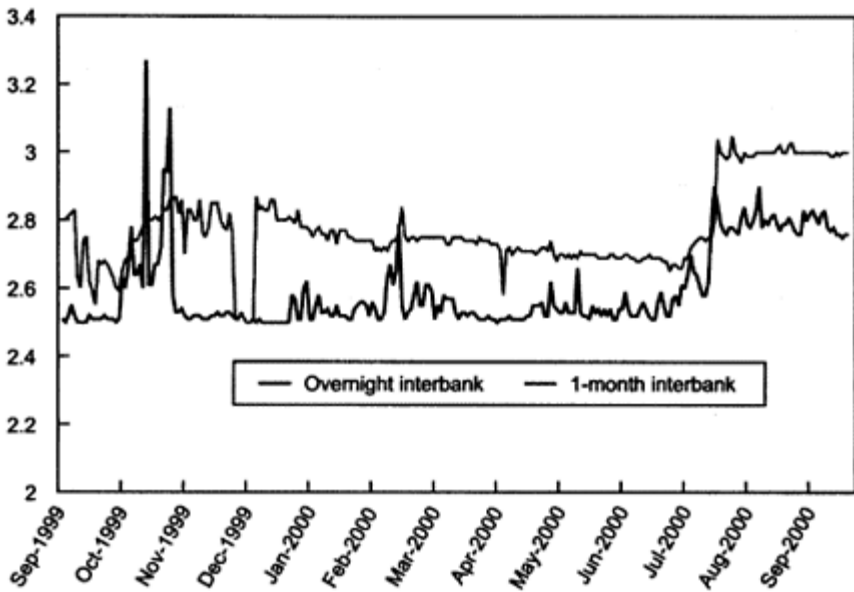
Sources: Bank Indonesia; Bloomberg.

Figure 11.5b Money market rates in Korea (per cent)



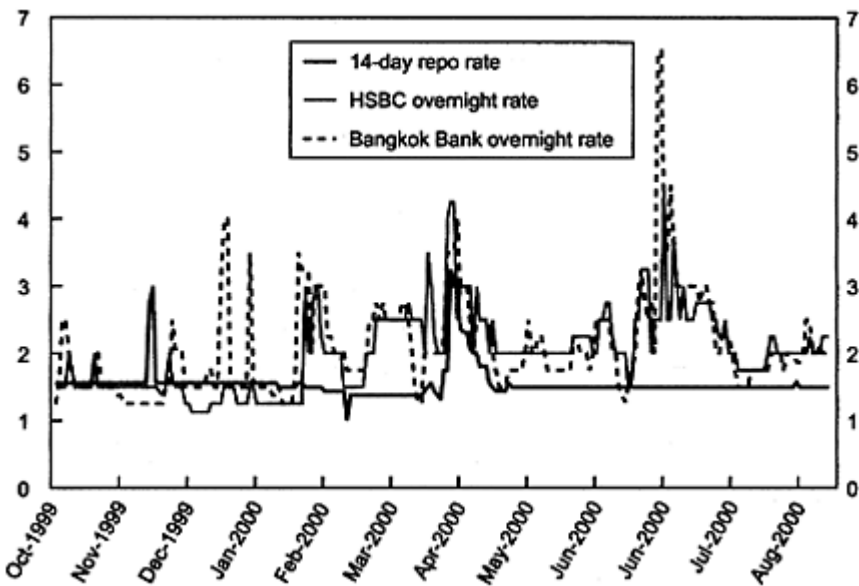
Sources: Bank of Korea; Bloomberg (KWCRIT).

Figure 11.5c Money market rates in Malaysia (per cent)



Sources: Bank Negara Malaysia; Bloomberg.

Figure 11.5d Money market rates in Thailand (per cent)



Source: Bloomberg.

Note: 6/29/00 HSBC rate truncated at 6.5 per cent.

in industrialised countries, an evolution away from opacity toward transparency is evident.

Standing facilities

In relation to the three major monetary areas, the four countries appear to follow the practices of the Federal Reserve and the Bank of Japan in having only a small role for standing facilities. In the Eurosystem two standing facilities available on demand (a marginal lending and deposit facility) form a corridor that sets a maximum and minimum to the overnight rate, given that the maturity of loans and deposits is overnight. On-demand facilities are not available in the United States and Japan, and none exists to deposit funds with the central bank at positive rates.²⁴ In August 2000 the Bank of Korea introduced a Liquidity Adjustment Loan, which permits banks access to funds at a rate below the target rate in exchange for collateral. The funding is for short periods of less than a month—extended use attracts a penalty rate and use is conditional on the Bank of Korea vetting the applicant's liquidity and soundness.

In view of the structural surplus in the money market in the four countries, there is little need for a marginal lending facility. The same structural surplus, in the absence of a deposit facility, threatens to permit interest rates to fall below the levels intended by the central banks. The implication is that fine-tuning operations to drain liquidity are necessary and frequent.

The volatility and forecastability of autonomous factors

Other things being equal, a higher volatility of autonomous factors would tend to increase the frequency and volume of discretionary operations necessary to match the anticipated cash flows. Likewise, the more unpredictable the autonomous cash flows, the greater the need for operations to offset unexpected movements. Among the major currency areas, the extraordinary volatility, although not necessarily the unpredictability, of autonomous changes in Japanese reserves goes far to explain the relatively high frequency of Japanese operations (Table 11.2).

Of the four countries in East Asia, measures of the volatility of the autonomous factors are only available for Korea at this stage (Table 11.3). During the crisis, from January 1997 to May 1998, the standard deviation of monthly changes of net foreign assets jumped and that of net lending to the government fell slightly. Net foreign assets became the most variable item on the Bank of Korea's balance sheet (Kim and Kim 1999:149–51). It is likely that the volatility and the unpredictability of net foreign assets have remained high relative to the pre-crisis period. How well this statement holds for the other three countries is hard to say, but it would not be surprising if capital flows and related intervention are volatile elsewhere. If so, this would favour the frequent operations observed in these countries.

Table 11.2 Daily volatility and forecastability of autonomous factors in 1999

	<i>Volatility</i>		<i>Standard deviation</i>	<i>Forecast error</i>		<i>Memo: Required reserve balances (US\$ bn)</i>
	<i>Average absolute change</i>	<i>Maximum absolute change</i>		<i>Average</i>	<i>Maximum</i>	
<i>(% of required reserve balance)</i>						
<i>Eurosystem</i>						
Bank notes	0.76	3.63	0.96	0.27	1.67	
Treasury funds	3.47	24.39	5.45	0.56	7.89	
Float	0.69	4.91	0.99	0.60	4.35	
Net balance	3.72	24.57	5.80	0.91	8.22	108.30
<i>Bank of Japan</i>						
Bank notes	8.97	42.96	11.83	0.86	4.78	
Treasury funds	23.78	232.15	41.58	1.66	12.48	
Net balance	24.67	217.18	40.96	1.92	13.77	33.80
<i>Federal Reserve</i>						
Bank notes	6.62	39.75	8.26	1.73	10.06	
Treasury funds	6.55	55.02	10.66	4.49	24.27	
Float	5.12	45.94		2.90	31.58	
Net balance	14.38	130.27	18.68	6.49	36.98	13.50

Sources: National central banks.

Table 11.3 Monthly variability of net autonomous position in the Korean money market (billion won; ratio)

	<i>January 1993- December 1996</i>			<i>January 1997- May 1998</i>		
	<i>Mean (A)</i>	<i>Standard deviation (B)</i>	<i>Coefficient variation (B/A)</i>	<i>Mean (A)</i>	<i>deviation (B)</i>	<i>Standard Coefficient variation (B/A)</i>
Net foreign assets	304.6	779.0	2.56	185.6	3,007.3	16.20
Net lending to						

government	-53.9	2,394.4	44.39	716.3	2,265.1	3.16
Other net assets	-58.5	656.1	11.21	-1,789.7	6,825.9	-3.63
Cash	143.0	1,291.7	9.03	-189.1	788.8	4.17

Source: Kim and Kim (1999:151).

The demand for reserve balances

The marginal demand for bank reserves in all four countries is predominantly determined by the reserve requirement, thanks to their size and the presence of averaging provisions. Table 11.4 details the main features of the reserve requirements in the four countries.

Table 11.4 Main features of reserve requirements

	<i>Indonesia</i>	<i>Korea</i>	<i>Malaysia</i>	<i>Thailand</i>
Averaging	Yes	Yes	Yes ^a	Yes
Carry-over				Yes
Type	lagged	semi-lagged	lagged	lagged
Maintenance period		half-month	half-month	half-month
-end (day/s)	daily	7, 22	15, 30/31	7, 22
Calculation period	1 week	half-month	half-month	half-month
-end (day/s)		15, 30/31	15, 30/31	7, 22
Lag	2 weeks	1 week	1 month	half-month
Vault cash	No	Yes	No	Yes
-restricted		Yes ^b		Yes ^c
Remuneration	No	No	No	No ^d
Last change	4/97	2/97		

Sources: National central banks.

Notes

a Daily shortfall or excess limited to 20 per cent of required reserve.

b To less than 35 per cent of required reserves.

c Up to 2.5 per cent of 6 per cent requirement.

d On 1 per cent of required reserves held at Bank of Thailand; 3.5 per cent may be held in eligible public securities.

To some extent Indonesia's reserve requirement is consistent with a quantity-oriented approach to monetary policy implementation, in which the reserve requirement is used as a means of controlling monetary aggregates. The comparatively short, one-week calculation and maintenance periods are consistent with a weekly target for base money. The controllability of this aggregate has been questioned, in view of its large cash component and the concerns for personal security that have at times underlain a shift from bank deposits into cash. Cash withdrawals in preparation for a departure from a

troubled area to somewhere else in the countryside, Bali or Singapore are thought not to be very interest sensitive and, in any case, the link from SBI rates to deposit rates seems weak. Elsewhere, monetary authorities provide cash to meet demand.

The four countries have followed the global trend toward lower reserve requirements, without, however, as in the United States, lowering them so far as to compromise their ability to serve as a buffer (Table 11.5).²⁵ For instance, Korea's reserve requirement fell from an average of 9.4 per cent to 3.1 per cent between March 1996 and February 1997 (Kim and Kim 1999:127–9). Similarly, in Malaysia the statutory reserve requirement was as high as 13.5 per cent on the eve of the crisis (Bank Negara Malaysia 1999:156). As elsewhere, requirements have been reduced in response to domestic and international competitive pressures so as to limit the corresponding implicit tax. In addition, reductions in the midst of the crisis may have been intended

Table 11.5 Reserve requirements

	<i>Percentage of domestic currency</i>	<i>Percentage of foreign currency</i>	<i>Average (per cent.)</i>	<i>Amount</i>	<i>Amount as % of GDP</i>
Bank Indonesia	5	3		28 trn rupiah	2.5
Bank of Korea	1–5	1–5	2.9	11 trn won	2.2
Bank Negara Malaysia	4	4	4	14 bn ringgit	5.0
Bank of Thailand	6	6	6	280 bn baht	6.0
Eurosystem	2	2		117 bn euro	1.8
Bank of Japan (5/00)	0.05–1.3	0.1–0.25	0.5	US\$33.8 bn	0.8
Federal Reserve	0–10			US\$13.5 bn	0.1

Sources: National central banks.

to improve the profitability of the banking system, as with the reduction of US reserve requirements in the early 1990s. While possibly reflecting security risks and transportation costs, allowing cash as a reservable asset (as is done in Korea and Thailand) is also consistent with these basic considerations.²⁶ Another possibility, adopted by the Eurosystem but by none of the four East Asian countries, is to remunerate the reserve requirement, thereby reducing or eliminating its opportunity cost while retaining its buffer role. The exact remuneration formula does matter, and a formula that remunerates in line with the average policy rate during the reserve period may provide incentives to front-load reserve holdings in a period of rising policy rates (Borio 2000:11–12).

Market operations

As mentioned, market operations are by far the most important instrument for liquidity management, as part of a trend away from relying on standing facilities toward mechanisms perceived to be more consistent with a market-oriented approach. While certain common characteristics can be observed across the four countries, differences also exist, reflecting the basic set-up of the framework for managing liquidity and specific historical and institutional factors. The main aspects of market operations are: the structural liquidity position of banks and its implications, the frequency of operations, the spectrum of instruments employed, collateral and the range of counterparties.

In contrast to the Federal Reserve, the Eurosystem and the Bank of Japan, the four central banks typically operate with a surplus of structural liquidity, implying that discretionary operations, on balance, need to withdraw liquidity from the system (Van 't dack 1999:28–9). In part, this reflects the size of international reserves in relation to base money. While central banks in the United States, Europe and Japan hold international reserves equal to half or less of base money, the situation is very different in East Asia (Table 11.6). The ratio of international reserves to base money ranges from 1.6 in Indonesia to 2.8 in Thailand, to 3.0 in Korea and 3.4 in Malaysia. Given that relatively short-term instruments have been used to absorb at least the difference between international reserves and the monetary base, maturing liabilities of the central bank threaten in most periods to leave the market for bank reserves awash in liquidity. So the basic task of monetary operations in East Asia has some of the character of debt management, as maturing liabilities are rolled over with due adjustment for autonomous, seasonal and other factors.

Viewed from one angle, Thailand is an exception to this generalisation. The Bank of Thailand's discretionary operations tend to add liquidity to the system. From the perspective of private parties, however, repos done with the Bank of Thailand absorb liquidity. This seeming inconsistency is resolved once the scale of fund raising by the Financial Institutions Development Fund (FIDF) in the repo market is appreciated. At the end of 1999, for instance, the FIDF raised over 300 billion baht of liquidity in the repo market, while financial institutions provided 122 billion baht of liquidity to the market and the Bank of Thailand another 190 billion baht net (Bank of Thailand 2000a: 38, 116–17). But since the Bank of Thailand is on one side of every deal in the market, the private sector experiences a net drain of liquidity from the net of FIDF and Bank of Thailand operations.

Even given this structure of central bank balance sheets, it would be possible in principle to put the market for bank reserves into deficit. The central bank could increase the outstanding amount of its liabilities and extend their maturity sufficiently so as to create a deficit.²⁷ For a time in the spring of 1999, the Bank of Korea was able to do just that. In doing so it took advantage of a strong bond market to extend the duration of its liabilities. Many central banks take the view that it is preferable to be on the creditor side of the operations, adding rather than withdrawing excess liquidity at the margin. In practice, the desirability of issuing longer-term liabilities to put the central bank in a position to add liquidity at the margin is conditioned by the steepness of yield curves in East Asia: borrowing long and lending short can be costly.

Table 11.6 Selected central bank assets and liabilities, end-June 2000

	<i>Assets</i>	<i>Net claims</i>	<i>Net claims</i>	<i>Liabilities</i>	<i>Other</i>	<i>Memo:</i>
	<i>Foreign</i>	<i>on</i>	<i>on financial</i>	<i>Reserve</i>		<i>Foreign</i>
	<i>exchange</i>	<i>government</i>	<i>institutions</i>	<i>money</i>		<i>exchange</i>
	<i>reserves</i>					<i>reserves to</i>
						<i>reserve</i>
						<i>money</i>
						<i>(ratio)</i>
	<i>(bns of local currency except trs of won and rupiah)</i>					
Bank	145			88		1.6
Indonesia						
Bank of	84			28		3.0
Korea						
(12/99)						
Bank Negara	125	-26		37	67	3.4
Malaysia						
Bank of	1,256	111	73	450		2.8
Thailand						
Eurosystema	400			807		0.50
Bank of	3,336			6,374		0.52
Japan (5/00)						
Federal	16	458	123	618		0.03
Reserve						
(12/99)						

Sources: National central banks.

Note

a Foreign exchange reserves are external assets less May 2000 gross claims on non-euro area central banks through TARGET (Trans-European Real-Time Gross Settlement Express Transfer System).

With respect to the *frequency of market operations*, the four central banks undertake one or more operations each day, resembling the Bank of Japan, with more than one operation a day, or the Federal Reserve, with one a day, rather than the Eurosystem, with one a week (plus an additional one a month, on average). Bank Indonesia has a regular weekly rhythm to the sale of its own paper. While the Bank of Korea directly sells its paper on various days of the week, it tries to auction its one- or two-year paper every Tuesday. But these central banks also engage in shorter-term draining operations on a daily or higher frequency as well. Bank Negara conducts a second stage of operations after its morning tenders, in the form of overnight transactions, while the Bank of Thailand operates twice a day. Bank Indonesia may passively accept deposits and actively bid for them on the same day. This high frequency of operation appears to reflect the need to offset the structural surplus in the money market and the absence of standing deposit facilities that would otherwise limit the downward movement of interbank

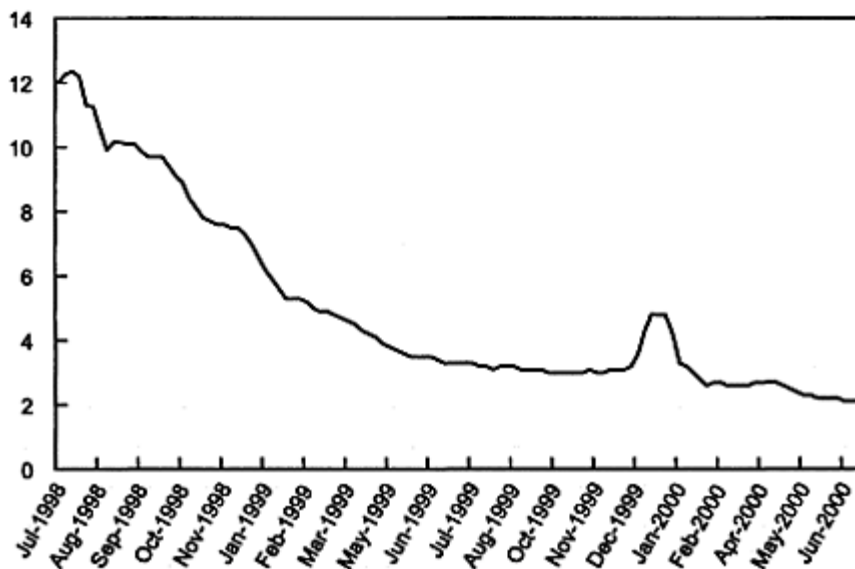
interest rates.

The *spectrum of instruments* at the disposal of the authorities is fairly limited. In Indonesia there are sales of central bank bills and interbank transactions, unfelicitously known as rupiah intervention. The former take the form of very salient weekly auctions of SBIs, while the latter are essentially overnight deposits by banks, either passively accepted by Bank Indonesia at rates it has posted or, in more active operations, bid for by the central bank.²⁸ In Korea the choice between repurchase transactions and sale of monetary stabilisation bonds (MSBs) is governed by the horizon of the liquidity surplus: the former are used to sop up temporary excesses, while the latter are used to deal with more structural excesses (Kim and Kim 1999:141–3). Since capital inflows have displaced the current account surplus as the most important counterpart of the acquisition of net foreign assets, distinguishing between temporary and structural surpluses comes down to the difficult task of judging the staying power of flows into the KOSPI and KOSDAQ. At the shortest of horizons, the liquidity effects of foreign exchange market operations are determined, but the choice between a short-term repo and a long-term MSB entails a longer horizon.²⁹ In Malaysia, every working morning the central bank calls for tenders for interest rates that counterparties would accept on deposits with the bank; in the afternoon it sometimes re-enters the market to take more deposits if interest rates threaten to fall too low. In Thailand the instrument of choice is the two-week repurchase agreement, which has replaced the former instrument of short-term swaps of baht against US dollars. Outstanding swaps have been brought down to a fairly low level of US\$2.1 billion and are being merely rolled over at that level. The reduction was not monotonic, however: swaps saw service to expand baht liquidity in the run-up to the new millennium (Figure 11.6). Segmentation of the money market, however, has raised the question of whether the previous instrument of choice might be employed to limit volatility of the overnight and seven-day rates.

There is some evidence in the Korean and Thai operational frameworks, then, of a shift to repurchase agreements, the most popular form of transaction in the three major currency zones. Reversed transactions such as repos³⁰ are generally preferred to outright open market operations for several reasons: they do not require a liquid underlying securities market;³¹ they essentially have only an indirect impact on the price of the securities transferred, through the injection or withdrawal of liquidity and any associated signalling effects; and they break the link between the maturity of the paper and that of the transaction. The emergence and subsequent rapid growth of private repo markets in recent years, often encouraged by the central banks themselves, has favoured the use of these instruments in industrialised countries (Committee on the Global Financial System 1999). By contrast, the Bank of Korea and the Bank of Thailand have in different ways placed themselves out in front of private market developments. This chapter elaborates on this point below, under the heading of market development.

The issuance of central bank paper of varying maturity poses choices for duration and its management. In Indonesia the choice is fairly restricted, with one-month and three-month SBIs offered. Bank of Korea MSBs, however, range out to two years in maturity. In selling paper of various maturities, the Bank of Korea seeks to act as a price taker. In response to extreme strains in the bond market, however, the Bank of Korea suspended sales of MSBs of one-year or longer maturity between September 1999 and early 2000.

Figure 11.6 Bank of Thailand's net forward position (billions of US dollars sold forward vs baht)



Source: Bank of Thailand.

The spectrum of eligible *collateral* for repo transactions is fairly limited in Korea and Thailand. In this respect practice is closer to that in the United States, where eligible collateral is normally restricted to direct obligations of the government or is fully guaranteed by federal government agencies, than in the Eurosystem and Japan, where a range of both private-sector and public-sector instruments are eligible. In Korea repos involve government securities, government-guaranteed securities and MSBs. In Thailand the set of eligible paper is in principle broader, including government securities, Bank of Thailand bonds and those of state enterprises rated triple-A. At present, however, there are no state enterprises so rated; thus practice in Thailand is for now very close to that in the United States. This basic choice partly reflects the level of development of the various markets and broader historical factors, including evolving views regarding the appropriate role of central bank operations in private-sector and public-sector instruments. A relevant question is whether the availability of collateral may at times complicate the implementation of monetary policy. In normal conditions this is not the case—but in periods of severe market stress, operating frameworks based on a more limited set of collateral could conceivably run into constraints. With the substantial issuance of government debt to finance fiscal deficits and bank recapitalisations in the aftermath of the crisis, however, the policy challenges posed by the lack of government debt in the United States, the United Kingdom, Australia and Sweden are moot in East Asia.

The four operating frameworks differ significantly also with respect to the range of eligible *counterparties*. Before discussing the four frameworks, it is useful to recall the

spectrum defined by practice in the three major currency areas. The Eurosystem represents one end of the spectrum, in which all credit institutions are eligible counterparties in regular tenders as long as some additional minimum operational requirements are fulfilled. At the other end, in the United States, a restricted group of primary dealers who must meet eligibility criteria act as counterparties; in exchange for this privilege, they must fulfil, among other conditions, a series of market-making obligations.³² This spectrum reflects different assessments of the relative merits of alternative arrangements. The framework in the Eurosystem was explicitly designed with a view to ensuring a broad participation, as were some of its predecessor systems, notably Germany's. Accordingly, counterparty status could be considered as the natural quid-pro-quo for being subject to reserve requirements. In the United States, in contrast, perceived benefits in terms of operational efficiency and improved market functioning play more significant roles.³³

The four frameworks tend more toward the US end of the spectrum than to the Eurosystem end, and the crisis and its aftermath have seen some movement toward US practice as government debt has grown. In Malaysia a dozen principal dealers (a number down from sixteen and presumably to drop further) make a two-way market in government paper at a narrow spread, bidding for at least 10 per cent of each auction of government securities. In return only they participate in Bank Negara's tenders. The Bank of Thailand similarly designated primary dealers a year or so ago. In Indonesia primary dealers had been named before the crisis, but the system was abolished in the crisis in favour of universal access, consistent with advice from a former Bundesbank official. Recently, with the issue of the recap bond, there has been discussion between the finance ministry and ten to twelve of the most active interbank players. Their request for access to Bank Indonesia financing for government bond inventories is judged inconsistent with its mandate to buy such bonds only for monetary policy purposes. The exception is Korea, where, in the midst of the crisis, the central bank widened its counterparty list to seventy-five, including merchant banks, securities firms, investment trust companies and insurance companies, owing to the reluctance of banks to deal with shaky non-bank financial firms (Kim and Kim 1999:144). This broad, but not universal, set of dealing relations puts the Bank of Korea midway along the spectrum. Obligations on these counterparties do not extend beyond reporting of their bond holdings, and certainly not to bidding for MSBs.³⁴

Segmentation in the money market

Segmentation in the money market can limit the impact of central bank operations by impeding the flow of liquidity in the money market. A striking measure of credit differences or tiering in the money market is provided by Bank Indonesia data on each transaction in the interbank market. These show 'a narrowing of the differential between the highest and lowest rates, namely from 46.0 per cent at the beginning of the year to 2.9 per cent at the end of 1999' (Bank Indonesia 2000:34). Credit concerns have led to shifts of deposits to foreign banks to such an extent that foreign banks are generally net placers of funds in the interbank market, unlike their position as net takers elsewhere.

In Korea and Thailand, the integration between the strictly domestic money market and

the swap-based money market involving the US dollar, and between the collateralised and uncollateralised domestic money markets, remains imperfect. Operations in the former, dominated by domestic banks, affect the latter, where foreign banks are prominent, but the arbitrage is not always smooth. In Thailand foreign banks have a regular need for baht funding. When, in March and April, domestic banks became reluctant to extend such funding,³⁵ the 'liquidity needs of foreign commercial bank branches in Thailand' (Bank of Thailand 2000:27) pushed up overnight and seven-day rates, while the fourteen-day repo rate remained relatively stable. In principle, foreign banks could have switched to fourteen-day repo funding and thereby avoided paying high shorter-term rates. In practice, however, foreign banks do not have unpledged collateral to use in repos and, in the absence of sufficient interbank advances from Thai banks, short rates can and did spike. Ongoing operations in foreign exchange swaps allow the Bank of Thailand to advance funds against collateral that foreign banks possess, namely US dollars. But an expansion of such operations would recall their association with forward market interventions to support the baht before mid-1997.

A somewhat similar segmentation may explain the tendency for some measures of overnight rates to exceed the target in Korea. If foreign banks have limited collateral for accessing repos, then when their demand for funding is strong, it can push up the uncollateralised call rate. (The excess of the overnight rate over the target rate, shown in Figure 11.5b, may reflect the reporting of the rate by foreign banks to Bloomberg for the series KWCR1T.)

Market development as a policy goal

In general, the instrument and maturity that a central bank chooses will tend to gain depth and liquidity. This is illustrated by the case of Thailand. Since the Bank of Thailand began to do operations in the fourteen-day repo rate, the volume of deals at this maturity has risen. Previously, most of the repos were overnight and only 10–20 per cent of the US\$30 billion daily volume in repos was contracted at fourteen days; now 50–60 per cent is. This kind of outcome suggests that money or bond market developments may be given weight in the choice of operating instrument. Certainly, the early US Federal Reserve operations in bankers' acceptances were motivated by a desire to repatriate the financing of US international trade from London to New York while, more recently, operations in US Treasury bills and later in repos have helped develop the liquidity of those markets.

The possibility of market development is very evident in the case of operations in central bank paper. In all four countries, the central bank has issued its own negotiable liability, but only in Indonesia and Korea has central bank paper become an important node of liquidity in the financial system (as in Taiwan with central bank certificates of deposit). Bank Negara notes a disadvantage of its reliance on direct borrowing that 'Banks [are] unable to transact in [a] secondary market in managing their liquidity' (Bank Negara Malaysia 1999:152). A strong case for developing a more liquid money and/or bond market might suggest the need for raising the legal limits in Malaysia on the issue of central bank paper. Against this, some might argue that a more liquid central bank liability could reduce the demand for reserves and possibly complicate monetary implementation; but if excess reserves are small and reserve requirements with averaging

bind, this is unlikely to be an issue. A more principled objection would be that short-term financing by the government or corporate sectors should not be encouraged—but the negotiable central bank paper could be lengthened to meet this objection. A very different view would accept the presumption that more liquid money and bond markets are desirable, but hold that this end should be pursued by the government rather than the central bank. It might further be argued that it is awkward having two sovereign issuers with separate debt programs to be coordinated.

The tendency for a central bank, having chosen a particular operating instrument, to look to broaden and deepen the market for it so as to make its operations as effective as possible is illustrated in the cases of Korea and Thailand. Thus the authorities in these countries are seeking to broaden private participation and lessen their own predominance in their repo markets. These efforts are perhaps more important in the Korean case if the authorities want to let the announced overnight rate carry the burden of signalling while performing repos as a price taker without sending any further signal. In Korea a withholding tax has limited private transactions to a relatively few deals among banks and between banks and investment trust companies. The tax authorities were persuaded to drop this provision from September 2000 and broader participation in the market, and a tighter relationship between the bond market and the money market, are anticipated. In the case of Thailand, the central bank has for a long time stood as a principal between both sides of each repurchase agreement. It wants to ease out of this hub role to one in which it enters bilateral transactions with primary dealers and then lets them distribute liquidity. By raising its commissions on repo deals, the Bank of Thailand is seeking to shift transactions to a truly private basis.³⁶

CONCLUSION

The monetary policy frameworks operating in Indonesia, Korea, Malaysia and Thailand share some fundamental characteristics. The central banks closely steer very short-term interest rates through a mixture of clear signals and liquidity-management operations. Liquidity management relies on reserve requirements with averaging provisions and very heavily on frequent, discretionary market operations, as in the United States and Japan. The frequency derives less from the low level of reserve requirements, as in the United States, than from the volatility of autonomous factors, as in Japan, especially of net foreign assets. The structure of the central banks' balance sheets, with international reserves larger than needed to back the monetary base, creates a structural surplus that, in the absence of a standing deposit facility like that in the Eurosystem, also leads to frequent operations. In most of these respects, the frameworks resemble those in place in industrialised countries. They reflect a common long-term trend toward greater transparency and a stronger market orientation in policy implementation.

At the same time, certain differences can also be discerned with respect to signalling mechanisms and liquidity-management procedures. The key signals of the Bank of Korea, like those of the Federal Reserve and the Bank of Japan, are announcements of targets for the overnight rate. Bank Indonesia, Bank Negara Malaysia and the Bank of Thailand, like the Eurosystem, signal the desired level of short-term rates through regular

tenders, although Bank Negara's practice should be seen as a temporary deviation from an announced target for the three-month rate. In principle, this should allow these latter three central banks somewhat greater freedom in tolerating deviations of the overnight rate from the policy rate if and when circumstances require. Likewise, favoured instruments differ, with only the Bank of Thailand using repurchase agreements as the primary instrument, as in the three major currency areas. In particular, the importance of the central bank's own paper in Indonesia and Korea has no direct parallel (although there is provision for such paper in the Eurosystem).

As mentioned at the outset of the chapter, the four frameworks allow central banks to convey policy signals with the desired degree of clarity and to influence short-term rates with the desired degree of accuracy. In other words, if the proof of the pudding is in the eating, the four frameworks pass the test. This does not necessarily mean that the systems will not evolve further over time, just as they have in the past, in order to respond to changes in the financial and policy environment or to fine tune the comparatively less effective elements of the arrangements. Indeed, it is certain that this will be the case. Central banks generally have good reasons for their choice of operating frameworks and better reasons for changing them.

NOTES

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1 This section draws heavily on Borio (1997).

2 The partial exception until 1999 was the Swiss National Bank, whose main focus was the quantity of bank reserves.

3 In addition, it is not uncommon for interbank markets to be dominated by relatively few players, especially with regard to interbank settlement flows. This can have a considerable influence on the process through which interest rates, and the quantities and the distribution of reserves are determined in the system. It raises the possibility of strategic interactions between the central bank and market players, and among market players themselves. Moreover, it puts a premium on the role of conventions and non-market mechanisms.

4 This is an adaptation of the framework illustrated in Kneeshaw and Van den Bergh (1989).

5 If the central bank allows banks to overdraw their accounts on rates that are more attractive than market rates, they may even target a negative balance; that is, they may aim to be overdrawn. This was the case in the Netherlands.

6 This statement should be read as reflecting typical situations; the specific characteristics will depend on the factors mentioned in the previous paragraph.

7 This is a simplified analysis, which implicitly assumes that the costs of not meeting the reserve requirement are infinite. When this is not the case and/or carry-over provisions exist, the analysis will be more complicated.

- 8 More correctly, for given expectations about the evolution of the overnight rate, it should not be such as to make considerations regarding the need for working balances influence desired holdings for that day.
- 9 If the remuneration was fixed as a roughly constant margin around the prevailing overnight rate, banks would tend to be indifferent regardless of the expected path of the overnight rate.
- 10 Under the extreme assumptions of risk neutrality and uniform expectations, the demand would be infinitely elastic at the expected rate.
- 11 On the last day of the maintenance period, the amount of reserves demanded would be equal to whatever amount is necessary to meet the reserve requirement plus any excess holdings for settlement purposes. In fact, the speed of convergence would depend on the actual liquidity shocks hitting the system. For instance, in the extreme case in which on the first day of the maintenance period the supply of liquidity was so large as to imply reserve holdings of a size equivalent to working balances for the rest of the period to meet the requirement, any flexibility would be immediately lost.
- 12 Given this convergence, assuming that the demand for working balances is effectively insensitive to interest rates, the rate on the last day of the maintenance period would again be largely indeterminate. This implies a considerable potential for instability in the absence of clear signalling. Given intertemporal arbitrage, once the expected interest rate for the end of the period is determined, the equilibrium expected interest rates for the rest of the period can be derived.
- 13 Strictly speaking, volatile expectations would also occur in the presence of a demand curve for working balances that was completely insensitive to the current overnight rate. If the central bank cared only about longer rates, the overnight rate would be free to adjust through arbitrage to expectations that would only be anchored at those longer maturities.
- 14 Henceforth the terms bank reserves and liquidity will be used interchangeably.
- 15 Standing facilities at below-market rates that are activated on demand by banks could also be added to the list.
- 16 Sometimes a 'structural' surplus/deficit is referred to. However, it would be preferable to restrict such a term to situations where the surplus/deficit from autonomous factors is highly persistent over time.
- 17 The distinction between the two need not map one-to-one onto the type of instrument used. Reversed transactions such as repos, a typically discretionary instrument, may be offered on a standing basis, or discretion may be used in granting credit through a discount window. Similarly, a standing facility may at times be suspended and the volume of finance or other terms be subject to the discretion of the central bank.
- 18 In principle, the operating target could also be a quantity, rather than price, variable, such as the volume of reserve balances. As already mentioned, however, central banks in industrial countries all rely on interest rates as operating targets.
- 19 A detailed similar analysis comparing the arrangements in the United States, Japan and the European Monetary Union can be found in Borio (2000). For an earlier comparison including other industrialised countries, see Borio (1997). For a treatment of some of the same issues for a broader set of countries, reflecting

practice some two years ago, see Van 't dack (1999:5–72).

- 20 This is the rate on unsecured overnight interbank lending (the call rate).
- 21 Bank Negara followed up with an announcement regarding the lifting of deposit rates by twenty-five basis points that noted that the intervention rate remained at 5.5 per cent and hence the base lending rates of banks remained unchanged. See 'Bank Negara statement on interest rates', *Reuters*, 11 August 2000 at 18.15.
- 22 Since 1998 the base lending rate (BLR) has been set by a formula based on the intervention rate, which ensures rapid pass through of changes in the policy rate to the stock of floating rate corporate and mortgage loans. Three-month customer deposit rates are also set at a margin below the intervention rate. The wide gap between market rates and the BLR, along with weak loan demand, has put competitive pressures on spreads over the BLR.
- 23 Along with JIBOR (Jakarta interbank offered rate) and interbank market rates. See Sitorus (2000:6).
- 24 The zero interest rate policy previously pursued in Japan made such a deposit facility largely redundant. But the absence of this instrument reflects a longer-term decision rather than specific circumstances. In the United States, following the deactivation of the temporary special lending facilities introduced to cope with the predicted year-2000 turmoil, the only facility in place is the discount window, which provides funding at below-market (subsidised) rates and on a discretionary basis at various maturities. In Japan, the lending facility is at above-market rates, as in the Eurosystem. Between the first presentation of this chapter and its publication, the Bank of Japan adopted a standing lending facility.
- 25 Compare with Dasri (1990). For trends in the three major currency areas, see Borio (2000). For an earlier comparison including other industrial countries, see Borio (1997) and BIS (1997).
- 26 In Japan the very low level of interest rates in recent years, culminating with the adoption of the zero-interest-rate policy in February 1999, has alleviated pressures to cut the level of (non-remunerated) reserve requirements. It has done so by reducing their opportunity cost to almost zero.
- 27 The Eurosystem has at its disposal instruments to generate a structural deficit should (remunerated) reserve requirements fall short of creating one; for example, through the issuance of debt certificates.
- 28 The balance of SBI auctions and rupiah interventions shifted in 1999 toward the latter. While at the end of 1998, the ratio of outstanding auctioned paper to outstanding interventions was 4.6, by the end of 1999 it had fallen to 2.6 (Bank Indonesia 1999:33).
- 29 Kim and Kim (1999:140) note: 'Since the value dates of a major proportion of transactions in foreign exchange markets were changed from "value today" to either "value tomorrow" or "value spot" as part of the modernisation of the foreign exchange markets in 1994, the Bank's staff now know the scale of intervention at least one day before settlement'.
- 30 Depending on the legal and technical characteristics of the instrument, a distinction is often made between repos and buy-sellback transactions. The terms will be used interchangeably in what follows.

- 31 On the other hand, they help to increase the liquidity of the underlying market.
- 32 The eligibility of counterparties for standing facilities in the United States and the European Monetary Union is essentially based on institutional criteria. In the EMU the set coincides with that for regular tenders, although the operational criteria are somewhat different. Japan falls somewhere in between, with counterparties varying depending on the type of transaction, but with a common requirement that the institution should be recognised as a major player in the relevant market. A question for the future is whether the perspective decline in the stocks of government debt in some countries, such as the United States, could induce a reconsideration of eligibility criteria. Interestingly, in March 2000 the Federal Reserve renewed the temporary extension of expanded eligible collateral until the end of January 2001.
- 33 At the same time, the differences are narrower for fine-tuning operations, for which in the Eurosystem the set of counterparties is restricted in order to secure rapid and smooth execution.
- 34 There is an interesting contrast here to the Ministry of Finance's practice with regard to primary dealers in the primary and secondary government bond market, which is much more in the US style.
- 35 The sudden reluctance of the Thai banks to fund foreign banks is reported to be the result of a dispute over contract language. Thai banks had been lending unsecured interbank funds to foreign banks under contracts that limited the liability of the banks' parent firms to meet the obligations of their Thai affiliates. Then, the Thai banks, as part of their general reassessment of risks, became uncomfortable with such 'ringfencing' of the foreign banks operating in Thailand. The Thai banks refused to roll over funding until the foreign banks eliminated such contractual provisions. Attempts by certain foreign banks to introduce such ringfencing clauses into contracts elsewhere in Asia and the Pacific were reported in 1999.
- 36 According to Srisukkasem (2000), 'Once the central bank's Deposit Insurance Institute is set up, the commercial banks' credit ratings will be estimated according to performance in order to determine the interest rate for each bank in securing money via repurchase'. That the change in the structure of the repo market implies more risk bearing by private firms in the Thai financial sector was suggested by Bank of Thailand Assistant Governor Thirachai Phuvanat-Naranubala, who was quoted as saying: 'As such institutions [commercial banks] start to borrow from others and not from the central bank, they will experience a higher risk weight from the loans tapped from the repurchase market'.

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12

Does a formal common-basket peg in East Asia make economic sense?

Gordon de Brouwer

INTRODUCTION

Before the financial crisis, a number of East Asian economies managed their exchange rates with the aim of stabilising the value of their currency against a basket of key currencies, but overwhelmingly the US dollar (Frankel and Wei 1994). The arrangement suited these economies in the first half of the 1990s as the yen appreciated against the dollar, diverting trade and investment their way and stimulating economic growth. But as the dollar appreciated against the yen from 1995, East Asian countries lost competitiveness against Japan and Europe, and their trading positions deteriorated, leaving them vulnerable to changes in investor sentiment.

This experience has been taken to show the folly of a country tying its currency to that of only one of its several major trading partners: so long as the major currencies move by large amounts against each other, a country that exports to all the major economies but targets stability only in its exchange rate with one major currency will experience variability in its effective exchange rate and its bilateral exchange rates with the other major currencies.

At the same time, trade within East Asia has become steadily more important to countries in the region. To the degree that the weights in an effective exchange rate target differ between countries, intraregional exchange rates will also vary as the major currencies vary between themselves.

These two factors have led commentators, such as Williamson (1999), Dornbusch and Park (1999), Murase (2000) and others, to advocate a common-basket exchange rate peg for the East Asian region, or some subset of it. They argue that targeting such a peg would stabilise overall trade competitiveness. They also argue that countries could eliminate intraregional exchange rate variability by adopting common weights in the basket peg: regional currencies move together so intraregional competitiveness is unchanged. This proposal seems to have engaged some interest at official levels in the region, especially in Japan (Council on Foreign Exchange and Other Transactions 1999; Sakakibara 1999; Kuroda 2000).

This chapter assesses whether a formal common-basket exchange rate peg would be appropriate for East Asia. It first summarises the current debate about common currency arrangements in the region. It then summarises the conceptual arguments for a common-basket exchange rate peg and assesses them with reference to a range of factors. Two factors are particularly relevant. The first is the degree to which trade patterns vary

between countries in the region, as particular countries can be disadvantaged relative to their neighbours under a common-basket peg. The other is the similarity of exports of countries in the region with those of their neighbours and with the major economies. The argument for pegging to a common basket is less strong if the exports of countries within the region are more similar to those of the major economies than to those of their regional neighbours.

Other factors are also relevant to assessing the likely robustness of a common-basket peg. Because a common-basket peg would entail a change in exchange rate regime, it is necessary to show that a peg would be superior to the current regime—floating exchange rates—to which decision-makers have already adapted. Advocacy of a shift to a common-basket peg presumes that exchange rate volatility adversely affects trade and economic performance, and evidence on this for East Asia is examined.

Pegging may also affect the adjustment of the real exchange rate, specifically whether adjustment occurs through the nominal exchange rate or changes in the price level. The robustness of a regional exchange rate system depends not only on whether countries' economic structures are similar, but also whether they pursue common policies and are subject to common internal and external shocks. This is assessed by identifying common factors and long-run or cointegrating relationships in regional real effective exchange rates.

The robustness of a regime also depends on a range of political factors—whether the regime complements or conflicts with domestic policy objectives, whether countries are prepared to make substantive policy decisions collectively rather than preserve policy independence, and whether such a policy suits their strategic interests in the region. To the extent that outcomes under a common-basket peg conflict with national economic and policy interests, the system will be vulnerable to speculative attacks. Accordingly, strong political commitment is essential.

THE CURRENT DEBATE ON COMMON CURRENCY ARRANGEMENTS

Most economists, especially those based in the United States, are highly sceptical about the scope for common currency arrangements in East Asia. Eichengreen and Bayoumi (1999), Bayoumi and Mauro (1999), Bayoumi et al. (2000) and Mussa et al. (2000), for example, are dismissive of such arrangements in East Asia, particularly of the feasibility of monetary union. Japanese economists appear less sceptical (Goto and Hamada 1994; Ito et al. 1998; Murase 2000; Ogawa and Ito 2000; Ogawa 2000; Kawai and Akiyama 2000; Kawai and Takagi 2000; Yoshino et al. 2000). It is probably wise to remember the words Robert Mundell (1961:657) wrote forty years ago about the unlikely event of currency union in Europe:

What is the appropriate domain of a currency area? It might seem at first that the question is purely academic since it hardly appears within the realm of political feasibility that national currencies would ever be abandoned in favour of any other arrangement... [But] certain parts of the world are undergoing

processes of economic integration and disintegration, new experiments are being made.

The debate about common currency arrangements in East Asia has come a long way, even in the past decade. There is a renewed focus on regional integration in trade and investment in East Asia. Under the umbrella of APEC's Bogor goal of an open trading and investment regime by 2010 for industrialised economies and 2020 for developing economies, there have been substantive developments in subregional integration and a number of proposals for free trade areas in East Asia. The ASEAN Free Trade Area (AFTA) has been established and the Australia–New Zealand Closer Economic Relations (CER) Trade Agreement is well advanced. Proposals for new free trade areas range from bilateral agreements—such as between Japan and Korea, Japan and Singapore, and New Zealand and Singapore—to a combination of existing free trade areas such as that between AFTA and CER. There is also policy dialogue on economic cooperation between ASEAN, Japan, Korea and China (the ASEAN-plus-three grouping). It makes sense to review longer-term currency arrangements when trade and investment regimes are being substantially liberalised and the structure of economic relations within the region, and between the region and the rest of the world, is changing.

The actual policy debate on common currency arrangements has also changed substantially. A decade ago commentators noted the reluctance of Japan to take a positive stance toward the formation of a yen bloc in East Asia, partly because of a desire to limit the internationalisation of the yen and partly because of concerns that such a policy might be perceived as a second attempt at an Asian co-prosperity area (Frankel 1991; Goto and Hamada 1994). While the Japanese authorities are wary of reawakening historical antagonisms, they are now substantially more relaxed in promoting wide-ranging and public discussion of new financial and currency arrangements in the region (Council on Foreign Exchange and Other Transactions 1999; Sakakibara 1999; Kuroda 2000). In this, they also seem to have some support from within the region, as shown by the public comments in support of an Asian currency unit by the Hong Kong Monetary Authority's chief executive, Joseph Yam, and the previous Philippine president, Joseph Estrada. Consideration of common currency arrangements has been stimulated by the successful introduction of monetary union in Europe, and a concern that the fluctuation of the yen/dollar rate in the 1990s played some part in causing—or at least triggering—East Asia's financial crisis in 1997. Looking at the debate on the issue in Japan, there is also a sense that Japan's prestige as an economic power is on the line unless it becomes the centre of a regional currency arrangement, in the same way as the United States is to the Western Hemisphere and Germany is to Europe.

The proposals for common currency arrangements are basically of two types. The first is the formation of a currency area, with countries in the region pegging their currencies to a basket of the yen, dollar and euro (Council on Foreign Exchange and Other Transactions 1999; Kuroda 2000). The weights could be based either on their own trade shares with Japan, the United States and the European Union, or on a regional average of trade shares with these three regions (Dornbusch and Park 1999; Williamson 1999; Murase 2000).

In adopting a common-basket peg, each country does not necessarily have to move to a

fixed exchange rate or surrender its own monetary sovereignty, although in practice the formation of a currency area does limit national policy discretion, and probably to a substantial degree (Kenen 1997; Mussa 1997). Proponents of a common-basket peg argue, for example, that the exchange rate could be fixed to the peg or it could move within a specified band around the peg, say 7–10 per cent (Williamson 1999) or 15 per cent (Murase 2000). This system could also be accompanied by a regional fund to support currencies remaining within the band (Kuroda 2000; Murase 2000), perhaps akin to the reserve credits provided by the European Monetary Cooperation Fund to support the exchange rate pegs of the European Monetary System (EMS), established in 1979.

Dornbusch and Park (1999) view a common-basket peg as the end of the process of regional currency cooperation. Murase (2000), however, sees it only as a first step. He argues that the common-basket peg should be converted at some stage to a regional peg, called an Asian currency unit (ACU). This would entail countries in the region pegging their currencies to a weighted average of regional convertible currencies, possibly with some weight given to the dollar and euro but with primary weight given to the yen (see also Sakakibara 1999). The yen would be the *de facto* anchor currency of the region. A common-basket peg is an important first step because it is seen as a way to increase the correlation of regional currencies with the yen (Council on Foreign Exchange and Other Transactions 1999; Murase 2000). From a non-Japanese perspective, Moon et al. (2000) and Moon and Rhee (2001) argue for a regional currency unit in preference to a basket peg because they see the former as more likely to engage a wider set of countries in regional liquidity-support and currency arrangements, and hence more likely to alleviate fears of domination by Japan. Moon et al. (2000) envisage a target zone for an ACU maturing into a regional fixed exchange rate system.

For Murase (2000), the final stage is currency union, which is the second type of common currency arrangement. This is admittedly a long-term objective. Interestingly, the proposal for currency union is not that countries in the region formally adopt the yen, but that a new currency be formed. This mimics European monetary union. Just as Germany was prepared to give up the *deutschmark* for the euro, so too will Japan give up the yen for a regional currency. This would be more acceptable to the rest of East Asia (Moon et al. 2000).

The coverage of the East Asian region varies somewhat in the literature. This chapter treats East Asia as covering fifteen economies: Australia, Cambodia, China, Hong Kong, Indonesia, Japan, Korea, Laos, Malaysia, New Zealand, the Philippines, Singapore, Thailand, Taiwan and Vietnam. It includes three of the four new ASEAN members and, as in the studies of Eichengreen and Bayoumi (1999) and Murase (2000), Australia and New Zealand.

A COMMON-BASKET PEG

As an alternative to floating the exchange rate or pegging it to one major currency, some analysts have recommended that East Asian economies peg to a basket of the dollar, euro and yen. Williamson (1999), Dornbusch and Park (1999) and Murase (2000) argue, for example, that East Asia—or some subset of it—should collectively peg their currencies

to a basket with common trade weights.

This argument is based on two facts. The first is that over 40 per cent of East Asia's trade is with itself, substantially up from about 20 per cent two decades ago. This fact is used to support the argument that intraregional exchange rate stability is important for regional economic stability. The second fact is that non-Japan East Asia has substantial trade not just with Japan (about 14 per cent of trade), but also the United States (about 14 per cent) and the European Union (about 12 per cent). This is used to support the argument that East Asian currencies need to be stabilised against a basket of the three major currencies, and not just one of them.¹

With an emphasis on reducing intraregional exchange rate volatility, proponents of a basket peg argue that the weights for the basket should be the common regional trade shares with Japan, the United States and the European Union. Using a set of common weights eliminates intraregional exchange rate volatility, whereas using unilateral weights does not.

A basket peg needs to be robust to be viable. In the current environment of open, integrated and sophisticated financial markets, and large and variable capital flows, it is imperative that exchange rate regimes be sustainable and robust to shocks and speculation. In the first place, countries will only adopt a common-basket peg if it is in their strategic interests to do so. Moreover, it follows that if a regional system of basket-pegged exchange rates is or becomes inconsistent with a member country's domestic economic structure or policy regime, it will be tested by speculators, whether they be onshore or offshore.

Table 12.1 summarises East Asian merchandise trade shares for 1997. Tables 12.2 and 12.3 show merchandise trade intensities for East Asia and the European Union, respectively. The trade intensity index is the ratio of the share of a country's exports with another country to the share of that other

Table 12.1 Merchandise imports, exports and trade shares, 1997 (per cent)

	<i>Asia</i>			<i>Japan</i>			<i>United States</i>			<i>EU-15</i>			
	<i>M</i>	<i>X</i>	<i>trade</i>	<i>M</i>	<i>X</i>	<i>trade</i>	<i>M</i>	<i>X</i>	<i>trade</i>	<i>M</i>	<i>X</i>	<i>trade</i>	
Australia	42	54		48	14	18	16	22	6	14	24	9	17
Cambodia	91	45		77	5	2	4	1	20	7	7	33	15
China	59	56		57	20	17	19	12	18	15	14	13	13
Hong Kong	70	92		73	14	5	13	8	26	10	11	17	12
Indonesia	54	59		57	20	24	22	13	13	13	20	15	17
Japan	40	43		42	-	-	-	23	28	26	13	16	15
Korea	42	49		45	20	11	16	22	17	19	13	13	13
Laos	92	36		74	5	9	6	1	6	2	6	39	16
Malaysia	61	57		59	23	12	17	17	19	18	14	15	15
New Zealand	52	56		54	12	15	13	18	11	14	19	17	18
Philippines	55	44		51	21	17	19	20	35	26	12	17	14

Singapore	56	56	56	18	7	12	17	19	18	14	14	14
Taiwan	58	51	54	28	10	18	21	26	24	14	15	15
Thailand	54	51	53	26	15	17	14	20	17	14	16	15
Vietnam	78	57	68	13	26	19	3	5	4	13	32	21
Weighted avg.	50	45	48	17	11	14	13	15	14	12	12	12

Source: ANU, International Economic Databank (IEDB).

Notes: The weighted average excludes Japan; trade is the average of exports and imports.

Table 12.2 Trade intensity, East Asia, 1995–97

	Asia	AUS	CAM	CHN	HK	IDN	JPN	KOR	LAO	MYS	NZL	PHL	SGP	THA	TWN	VNM	USA	EU	
AUS	3.2	–	0.7	1.5	0.9	4.0	2.9	2.1	0.6	1.6	22.3	2.4	1.1	1.5	2.3	1.2	0.3	0.3	
CAM	2.6	0.2	–	2.0	1.4	0.8	0.4	0.1	–	2.7	0.0	0.0	5.5	17.0	0.8	–	0.7	1.3	
CHN	1.7	0.9	1.7	–	5.9	1.2	2.8	1.8	2.3	0.6	0.5	1.1	0.9	0.7	1.0	2.8	1.1	0.4	
HK	1.7	0.9	1.3	30.5	–	0.8	0.8	0.4	0.4	0.8	0.3	1.9	1.8	0.9	1.6	1.6	1.6	0.4	
IDN	2.3	2.1	6.1	1.5	0.9	–	3.9	2.4	0.3	1.6	0.8	2.2	3.7	1.3	1.8	3.7	0.9	0.4	
JPN	1.9	1.5	0.6	1.8	1.5	2.7	–	2.4	0.9	2.3	1.3	2.8	1.9	3.2	3.1	1.3	1.6	0.4	
KOR	2.0	1.2	0.6	3.3	2.0	3.1	1.9	–	0.3	1.8	0.6	2.4	1.6	1.9	1.5	4.2	1.1	0.3	
LAO	1.7	0.1	–	1.1	0.1	0.2	1.6	0.2	–	0.0	0.0	0.0	0.9	14.2	1.9	–	0.4	1.1	
MYS	2.2	1.4	4.2	0.9	1.4	1.8	1.9	1.1	0.3	–	1.8	1.9	3.1	3.1	2.0	2.1	1.2	0.4	
NZL	2.4	16.4	0.4	1.0	0.0	2.0	2.4	1.8	0.1	1.6	–	2.0	0.6	1.1	1.5	1.8	0.6	0.4	
PHL	1.3	0.7	0.3	0.5	3.2	0.8	2.7	0.9	0.1	1.9	0.4	–	2.4	2.8	2.0	1.8	2.3	0.5	
SGP	4.4	1.9	16.7	1.0	2.3	–	3.2	1.1	3.9	12.1	1.1	2.9	–	4.2	2.1	7.2	1.1	0.4	
THA	6.9	1.3	16.3	1.2	1.4	2.3	2.6	0.79	3.8	2.7	0.7	1.6	3.1	–	1.4	3.1	1.2	0.4	
TWN	1.8	1.1	1.0	1.8	4.9	1.7	0.8	0.3	1.8	0.9	2.4	1.6	2.8	–	3.1	1.5	0.4	–	
VNM	2.0	3.8	–	1.7	0.8	2.7	4.1	1.1	–	1.4	0.7	3.4	2.6	0.9	1.4	–	0.3	1.0	
USA	0.8	1.4	0.1	0.7	0.3	0.7	1.4	1.3	0.1	0.9	0.9	1.4	0.9	0.8	1.3	0.3	–	0.5	
EU	0.3	0.5	0.2	0.3	0.3	0.5	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	–

Source: ANU, International Economic Databank (IEDB).

Note: The Asia trade intensity is the unweighted average of trade intensities with the rest of East Asia.

Table 12.3 Trade intensity, European Union, 1995–97

	EU-14	AUT	BLX	DEU	DNK	ESP	FIN	FRA	GBR	GRC	IRL	ITA	NLD	PRT	SWE	USA
AUT	1.2	–	0.5	4.2	0.9	0.9	0.9	0.7	0.6	1.0	0.3	2.4	0.9	0.6	1.0	0.2
BLX	1.6	0.8	–	2.2	1.0	1.2	0.9	3.2	0.6	1.2	0.6	1.4	0.0	1.1	1.1	0.3
DEU	1.8	3.9	1.8	–	2.0	1.4	1.4	1.9	0.4	1.4	0.6	1.9	2.1	1.4	1.7	0.4
DNK	1.9	0.7	0.6	2.3	–	0.8	4.2	0.9	0.3	1.3	0.8	1.0	1.3	0.8	0.1	0.2
ESP	2.4	0.6	1.0	1.6	0.8	–	0.6	3.7	0.5	2.1	0.6	2.6	1.1	13.7	0.7	0.3
FIN	1.8	0.7	0.8	1.4	3.6	1.0	–	0.8	0.8	1.2	0.9	0.8	1.3	0.8	0.1	0.5
FRA	1.7	0.8	2.6	1.9	1.0	3.2	0.7	–	1.7	1.7	0.8	2.6	1.4	2.1	1.1	0.4
GBR	1.9	0.5	1.5	1.3	1.4	1.3	1.6	1.7	–	1.3	1.4	1.2	2.3	1.5	1.9	0.7
GRC	1.2	1.2	0.7	2.3	0.9	1.3	1.2	1.1	3.2	–	0.4	2.9	0.9	0.6	1.1	0.3
IRL	1.5	0.4	1.6	1.5	1.5	1.1	1.0	1.7	4.6	1.1	–	1.0	2.3	0.7	1.4	0.6
ITA	1.5	2.0	1.0	2.0	1.0	2.2	0.9	2.4	3.2	3.1	0.3	–	0.9	1.4	0.8	0.5
NLD	1.8	1.1	3.8	2.9	1.9	1.2	1.5	1.9	1.6	2.3	1.3	1.5	–	1.3	1.8	0.2
PRT	2.0	1.1	1.3	2.5	2.4	6.7	1.5	2.8	2.1	0.6	0.7	0.7	1.6	–	1.8	0.3
SWE	2.2	0.8	1.4	1.3	7.2	0.9	0.5	0.9	1.7	1.0	0.9	1.0	1.8	0.8	–	0.5
USA	0.4	0.2	0.6	0.4	0.3	0.3	0.4	0.4	2.8	0.3	0.8	0.4	0.8	0.2	0.4	–

Source: ANU, International Economic Databank (IEDB).

Notes: The EU-14 trade intensity is the unweighted average of trade intensities with the rest of the EU-14; BLX refers to Belgium and Luxembourg.

country in world imports. A number greater than one indicates that a country exports to another country at a greater level than the other is importing from the rest of the world, and therefore a more 'intense' bilateral trading relationship exists.²

The general observations made by Eichengreen and Bayoumi (1999) and Williamson

(1999) are correct. Almost one-half of East Asia's trade is with itself, implying that intraregional currency stability is important. And Japan, the United States and the European Union are all major trading partners for East Asia, implying that countries cannot peg to just one major currency if they are to gain stability in their effective exchange rate.

Moreover, as shown in Table 12.2, East Asian trade intensities are mostly above one, and the average intensity for each country is greater than one (with Thailand, Singapore and Australia having the highest scores, and the Philippines, Laos and China the lowest).³ There are also pockets of particularly high trade intensity in the region, notably between Thailand and Cambodia, Thailand and Laos, Australia and New Zealand, Hong Kong and China, Singapore and Malaysia, and Singapore and Cambodia. The average of the trade intensities for East Asia is 2.6, which is higher than the EU-14 average from Table 12.3 of 1.7.⁴ In addition, the trade intensities of East Asian countries with other countries in the region are generally higher than with the United States or the European Union, although the Philippines is an important exception. Eichengreen and Bayoumi (1999) agree with Williamson that, in terms of regional trading patterns, East Asia is as good a candidate for common currency arrangements as Western Europe.

It is not clear, however, that the weights in a peg should be based on trade shares. If the authorities target the exchange rate for the purpose of stabilising trade, then it is the exchange rate elasticities of imports and exports that matter rather than simple trade shares (Turnovsky 1982), possibly also taking into account different structures in firms and markets (Ito et al. 1998).⁵ The problem with constructing basket pegs this way is that estimates of trade elasticities are highly imprecise—see, for example, the wide range of estimates in Ito et al. (1998)—and there is no consensus on the 'right' numbers.

It is also not clear that the objective of stabilising the trade balance is the best one for policymakers: the trade balance is endogenous and insulates the real economy from a variety of domestic and foreign shocks, with the optimal policy usually being to let the trade account widen or narrow depending on the type and duration of the shock. The widening of the US current account deficit during the East Asian financial crisis, for example, was an important stabilising mechanism in both the East Asian and the US economies.

Others argue that the weights in a basket peg should be constructed with the aim of stabilising output, and hence weights should be biased to the currencies of key similar economies that are less likely to be subject to major shocks (Argy et al. 1989; Yoshino et al. 2000). The problem with constructing basket pegs this way is that there is no consensus on the 'right' model.

Even if countries target a peg based on trade weights, it is not clear that common weights would suit the region. If a country is to target a basket of currencies, it may do better to target a basket peg based on its own, rather than common, trade weights. This argument has two strands. The first is that trade patterns vary sufficiently between some countries in East Asia as to disadvantage them relative to others under a common-basket peg when the yen or euro fluctuates against the US dollar. The second is that a common peg implicitly assumes that reducing intraregional exchange rate variability is more important than reducing exchange rate variability between East Asia and its main export markets of Japan, the United States and the European Union. Consider these two issues in

turn.

Divergent trade weights

The first three columns of Table 12.4 set out currency-basket weights for East Asia with respect to the yen, dollar and euro that are proportional to the trade shares with Japan, the United States and the European Union shown in Table 12.1. The rounded currency weights for the region as a whole are 0.35 for Japan, 0.35 for the United States and 0.30 for the European Union. These are very similar to the currency weights proposed by Williamson (1999).

There is, however, substantial variation around this average (see also Pisani-Ferry 1999). It is most striking in the case of the new ASEAN members—Cambodia, Laos and Vietnam.⁶ Trade patterns for these countries are highly

Table 12.4 G-3 Currency weights and exchange rate effects

	<i>Trade-based G-3 currency weights</i>			<i>Common regional G-3 trade-basket peg</i>			
				<i>yen depreciates 10% (and local currency depreciates 5.4% against the dollar and euro)</i>	<i>euro depreciates 10% (and local currency depreciates 4.3% against the dollar and yen)</i>		
	<i>Yen</i>	<i>US dollar</i>	<i>Euro</i>	<i>Divergence from own G-3 tradebasket peg</i>	<i>Loss (+) of com- petitiveness to rest of Asia</i>	<i>Divergence from own G-3 tradebasket peg</i>	<i>Loss(+) of com- petitiveness to rest of Asia</i>
Australia	0.34	0.30	0.36	-0.2	-0.3	0.9	1.0
Cambodia	0.15	0.27	0.57	-3.0	-3.1	3.9	4.0
China	0.40	0.32	0.28	0.7	0.7	-0.3	-0.1
Hong Kong	0.37	0.29	0.34	0.3	0.6	0.6	0.4
Indonesia	0.42	0.25	0.33	1.0	0.7	0.4	0.5
Korea	0.33	0.40	0.27	-0.3	-0.1	-0.4	-0.3
Laos	0.26	0.9	0.65	-1.4	-0.9	5.0	4.9
Malaysia	0.35	0.36	0.29	0.0	-0.4	-0.1	-0.1
New Zealand	0.29	0.31	0.39	-0.9	-1.0	1.3	1.7
Philippines	0.32	0.44	0.24	-0.4	-0.5	-0.9	-0.8
Singapore	0.28	0.40	0.32	-1.1	-0.9	0.3	0.3
Taiwan	0.31	0.43	0.26	-0.5	-0.4	-0.6	-0.5
Thailand	0.39	0.32	0.28	0.7	0.5	-0.2	-0.1
Vietnam	0.43	0.9	0.49	1.2	1.1	2.7	2.7

Weighted 0.35 0.35 0.30
 avg

Note: Competitiveness for each country is estimated as the sum of the divergences weighted by the trade share of that country.

skewed to other countries in the region, especially Thailand and Singapore. They have little trade with the United States, but the European Union accounts for about one-third of their exports (Table 12.1). Vietnam is the only one of the three to have a trading relationship of any significance with Japan. The fact that the Indochinese countries are such outliers and that they are less developed economically has meant that they have been excluded from analyses of common currency arrangements in East Asia. Since 1999, however, they have been part of ASEAN, and given ASEAN's desire to be treated as a group, they cannot simply be ignored.

It is not just Indochina that is an outlier in the region—there are also substantial differences between particular countries. Indonesia and Singapore are two good cases in point. On the one hand, 22 per cent of Indonesia's trade is with Japan and only 13 per cent is with the United States. On the other hand, 18 per cent of Singapore's trade is with the United States and only 12 per cent is with Japan. A common-basket peg with the weights outlined above would be less stabilising than a basket with each country's own weights. Consider, for example, a generalised 10 per cent depreciation of the yen. To keep the nominal effective exchange rate constant under a common-basket weight, each country's currency would need to depreciate by about 5.4 per cent against the US dollar and euro. Since regional currencies have moved by the same amount, intraregional exchange rates would be unchanged.

But the countries' relative competitiveness has altered (Pisani-Ferry 1999). If Indonesia seeks to keep its own effective exchange rate constant in the face of a 10 per cent appreciation against the yen then, since Japan is such a large trading partner, it needs to depreciate by 7.2 per cent against the dollar and euro. By only depreciating 5.4 per cent against these currencies, its own effective exchange rate appreciates by 1 per cent. Because Singapore trades more with the United States, however, its own effective exchange rate depreciates by 1.1 per cent if the Singapore dollar depreciates by 5.4 per cent against the dollar and euro. It would only need to depreciate by 3.9 per cent, not 5.4 per cent, against the dollar and euro to keep its own effective exchange rate unchanged. If both countries target a common-basket peg then, in this particular case, Indonesia suffers a loss of competitiveness against Singapore of over 2 per cent. This matters because Indonesia and Singapore are important trading partners.

The issue is shown more generally in the last four columns of Table 12.4, which set out the differences in exchange rates and relative competitiveness between common- and own-basket weights for a 10 per cent depreciation in the yen or the euro. In both cases, the home currency depreciates against the US dollar and the other major currency (the euro and yen respectively) to keep the effective exchange rate unchanged. Column 5 shows the difference in the effective exchange rate after a depreciation of the yen when the country targets a common-basket peg rather than its own basket. The divergence in the effective exchange rate is greatest for the Indochinese countries. The sign also varies

between countries. Column 6 shows the effect on competitiveness with the rest of the region in this case. Wedges in competitiveness arise between countries that trade relatively more with Japan, such as China, Hong Kong and Indonesia, and those that trade relatively more with the United States, such as the Philippines, Singapore and Taiwan. In terms of movements in the euro, wedges in competitiveness arise between countries that trade relatively more with the European Union, such as Australia, Hong Kong, Indonesia and New Zealand, and those that trade relatively more with the United States, such as Korea, the Philippines and Taiwan (columns 7 and 8). Depending on which major currency moves, some countries in the region will be disadvantaged under a common-basket peg.

Export similarity

The other reason why it may not be in a country's interests to peg its currency to a basket with common weights is that a common-basket peg implicitly assumes that reducing intraregional exchange rate variability is more important than reducing exchange rate variability with the world's largest exporters—Japan, the United States and the European Union. Williamson (1999) uses 1992 trade data to argue that East Asia's intraregional exports are more similar than those of East Asia with Japan, the United States and Europe.⁷ This warrants some scrutiny, and Table 12.5 shows an export similarity index for East Asia that uses annual merchandise export data, averaged over 1995 to 1997, to the 3-digit SITC level. The numbers range between zero and one.

On the evidence provided by these data, it is no longer possible to accept Williamson's assessment that exports in non-Japan East Asia are more similar than the region's exports to Japan, the United States and the European Union, and hence that intraregional exchange rate stability is more important for maintaining export competitiveness than stability against the yen, dollar or euro.

Japan, the United States and/or the European Union are among the four most similar export markets for Australia, China, Korea, New Zealand, Singapore and Taiwan. In all of these cases except Korea, the export similarity is with the United States or the European Union, not Japan.⁸ Moreover the exports of Australia, China, Korea, Malaysia, New Zealand, Singapore, Taiwan and Thailand are more similar, on average, to those of Japan, the United States and the European Union, than to the exports of the rest of non-Japan East Asia. The exports of less-developed countries of Indonesia, the Philippines, Cambodia, Laos and Vietnam are the least similar to those of the major industrialised countries.

The exports of the more industrialised countries in the region (that is, Australia, China, Korea, Malaysia, New Zealand, Singapore, Taiwan and Thailand) account for about 15 per cent of world exports. The major industrialised countries with whose exports they compete account for 57 per cent of world exports. It matters that the more industrialised countries in the region remain competitive in world markets.

The structure of export similarity in the region has changed substantially in the past decade. In 1988–90 only Australia included the United States in the list of the top four countries with export structures most similar to its own. For the region as whole, the average similarity of exports with those of the United States has risen from 0.31 in 1988–

90 to 0.37 in 1995–97, with the rise greatest for Thailand (0.24 to 0.46), Korea (0.34 to 0.51), Malaysia (0.27 to 0.41) and Taiwan (0.39 to 0.48). Intraregional trade may be becoming more important, but the region's export structure is also becoming more similar to that of the industrialised countries of the world, not less. Williamson is right that the rest of the region is an important competitor to East Asian countries, but it is not necessarily the most important. His argument that the intraregional trade of non-Japan East Asia is more similar than its extraregional trade only appears now to apply to the less-developed economies in the region.

Table 12.5 Export similarity index for total merchandise trade, 1995–97

	AUS	CAM	CHN	HKG	IDN	KOR	LAO	MYS	NZL	PHE	SGP	TWN	THA	VNM	JPN	USA	EU	Asia
AUS	—	0.27	0.24	0.30	0.21	0.16	0.27	0.15	0.30	0.23	0.26	0.17	0.20	0.14	0.36	0.28	0.32	0.22
CAM		—	0.38	0.49	0.31	0.09	0.74	0.17	0.24	0.24	0.09	0.11	0.23	0.10	0.64	0.12	0.13	0.28
CHN			—	0.43	0.50	0.40	0.35	0.37	0.21	0.49	0.39	0.49	0.58	0.48	0.33	0.45	0.49	0.40
HKG				—	0.34	0.26	0.48	0.30	0.14	0.41	0.32	0.32	0.41	0.19	0.28	0.34	0.30	0.36
IDN					—	0.29	0.38	0.40	0.15	0.46	0.29	0.33	0.49	0.46	0.29	0.32	0.34	0.36
KOR						—	0.11	0.43	0.18	0.35	0.48	0.34	0.38	0.25	0.66	0.31	0.46	0.30
LAO							—	0.16	0.15	0.30	0.12	0.15	0.30	0.47	0.07	0.17	0.20	0.32
MYS								—	0.13	0.53	0.62	0.46	0.47	0.21	0.40	0.41	0.37	0.34
NZL									—	0.13	0.18	0.13	0.21	0.21	0.14	0.23	0.23	0.28
PHE										—	0.45	0.45	0.54	0.37	0.33	0.36	0.31	0.38
SGP											—	0.63	0.46	0.19	0.47	0.30	0.30	0.34
TWN												—	0.40	0.25	0.47	0.48	0.47	0.35
THA													—	0.46	0.36	0.46	0.46	0.41
VNM														—	0.15	0.21	0.25	0.32

Source. ANU, International Economic Databank (IEDB).

Note: The Asia figure is an unweighted average and excludes Japan.

There are also a number of other, more general, factors that are relevant in assessing whether East Asia would be better off adopting a common-basket exchange rate peg.

Initial conditions

First, starting points matter. While many countries in the region largely targeted the US dollar before the financial crisis, most shifted to independently floating exchange rates during the crisis. Malaysia was the exception, fixing its exchange rate to the US dollar in September 1998, while Indonesia, Korea, the Philippines and Thailand have now floated their currencies (Table 12.6). This seems to be part of a more general phenomenon (Obstfeld and Rogoff 1995; Eichengreen et al. 1999; Mussa et al. 2000). The case for a common basket, therefore, has to be made against the current alternative—floating exchange rates—and not what countries did a few years ago.

Williamson (1999) and Murase (2000) argue that the change to floating exchange rates does not matter, since their proposals for a common-basket peg would allow countries to target the peg around a band, of plus or minus 15 per cent, if they prefer. This is difficult to accept. In the first place, to the extent that countries target a peg but let their exchange rates move around it in a very wide band, the proposal simply lacks content. The idea that countries can in practice retain substantial domestic policy autonomy (including over the exchange rate) when they adopt even a limited peg is not supported in the literature (Kenen 1997; Mussa 1997). Even if countries do not fix tightly to a peg, they tend to be substantially constrained in how much currency movement around it they can

accommodate. A putative shift to a common-basket peg may mean substantial change to the exchange rate regime. It is not surprising, then, that Frenkel and Goldstein (1986) refer to a target peg as a hybrid between a floating and fixed exchange rate.

Table 12.6 Currency arrangements in East Asia

	1980	1990	2000
Australia	crawling peg	independently floating	independently floating
Cambodia	n.a.	composite peg	composite peg
China	n.a.	composite peg	managed float
Hong Kong	float	US dollar peg	US dollar peg
Indonesia	managed float	managed float	independently floating
Japan	independently floating	independently floating	independently floating
Korea	managed float	managed float	independently floating
Laos	US dollar peg	US dollar peg	US dollar peg
Malaysia	composite peg	managed float	US dollar peg
New Zealand	crawling peg	independently floating	independently floating
Philippines	managed float	independently floating	independently floating
Singapore	composite peg	composite peg	composite peg
Taiwan	managed float	managed float	independently floating
Thailand	composite peg	composite peg	independently floating
Vietnam	composite peg	composite peg	composite peg

Sources: IMF, Exchange Arrangements and Exchange Restrictions Annual Report, various; and author's assessment.

Having shifted to a floating exchange rate, why should countries move back to a system of fixed parities, especially when this was part of the problem in the first place? Ogawa and Ito (2000:5) argue that a floating exchange rate regime will not protect countries from contagion and is not viable since 'the worst of the Asian crisis, say November 1997 to January 1998, came long after the Asian economies moved to a flexible exchange rate regime'. While it is foolish to argue that a floating regime is a panacea, their criticism is overstated. In the first place, Korea did not float its currency until much later, in December 1997. In the cases of Indonesia, Malaysia and Thailand, exchange rates may have become more flexible in the latter part of 1997, but many of the problems that existed were the product of the previous fixed exchange rate regimes, namely the implicit guarantee that substantial devaluation would not occur and the effect this had on economic decision-making.

Exchange rate realignments occur under both regimes. The advantage of a floating rate regime is that decision-makers learn how to cope with this risk. The origin of the recent crisis lay, in part, in the combination of relatively high local interest rates, semi-fixed exchange rates and limits on long-term capital flows (such as foreign direct investment). This provided a powerful incentive for local firms to take out short-term and unhedged loans in foreign currencies, and left them exceptionally vulnerable to movements in the

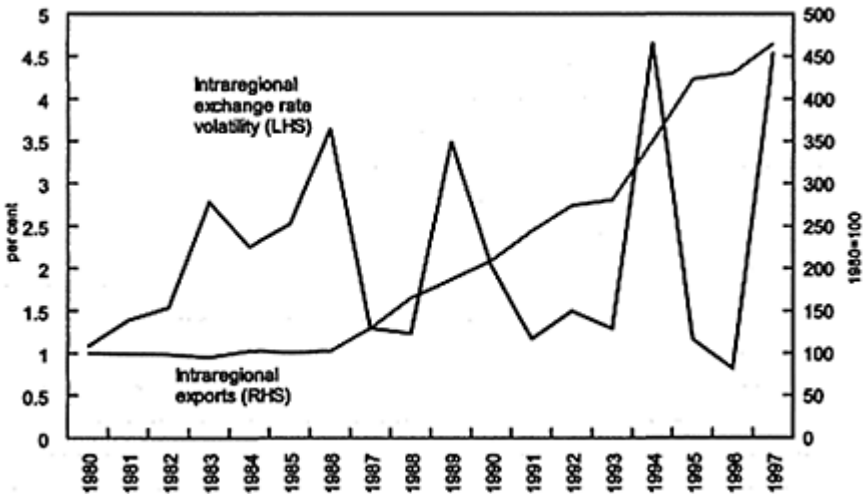
exchange rate (Alba et al. 1999). This lesson has been learnt. Because individuals, businesses and governments now know that foreign exchange markets can be volatile, they will modify their actions accordingly to reduce the vulnerabilities to the economy from exchange rate variability.⁹ All else given, the need to shift to a pegged regime is less when decision-makers have started to learn to deal with flexible and variable exchange rates.

Exchange rate volatility and trade

An underlying argument for a common-basket peg is that exchange rate volatility creates uncertainty and adversely affects trade and economic performance. The evidence that currency volatility adversely affects trade is mixed and inconclusive, with some studies even showing that exchange rate volatility may stimulate trade because it gives firms the opportunity to buy imports at low prices and sell exports at high prices (Gagnon 1993; Isard 1995; Wei 1999). The argument is not persuasive without evidence that currency variability does adversely affect trade. For East Asia this may be difficult to show, since intraregional trade increased in the 1990s despite relatively volatile currency markets.

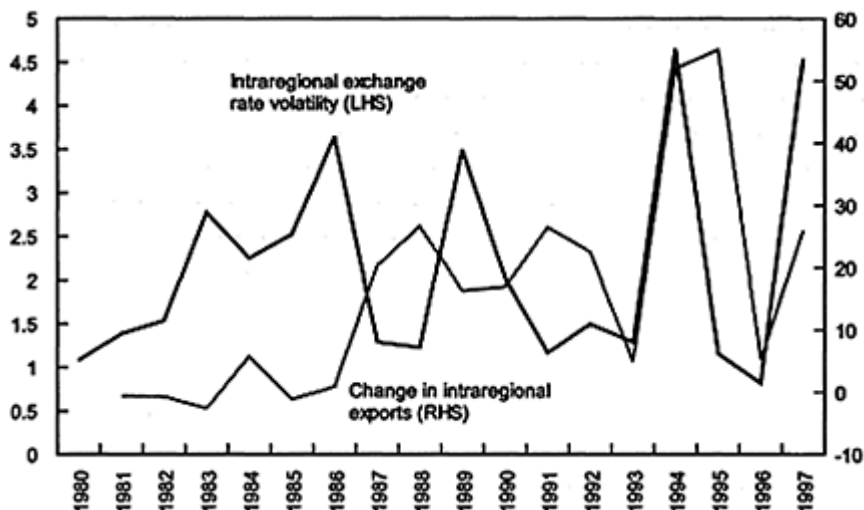
Figure 12.1 plots intraregional exports in non-Japan East Asia in real US dollars (1995 prices) and a measure of intraregional exchange rate variability.¹⁰ Intraregional exports steadily increased from US\$41 billion in 1980 to

Figure 12.1 Intraregional exchange rate volatility and exports



Source: IEDB and author's calculations.

Figure 12.2 Intraregional exchange rate volatility and change in East Asian exports (per cent)



Source: IEDB and author's calculations.

US\$368 billion in 1997, against a backdrop of substantial regional currency variability. As Figure 12.2 shows, changes in real intraregional exports and exchange rate variability are positively correlated—the contemporaneous correlation is 0.15 and the correlation of the change in intraregional trade and exchange rate volatility in the previous period is 0.29.

The evidence that currency volatility adversely affects economic performance is also mixed. On the one hand, while it is exceedingly obvious that the currency volatility associated with the East Asian financial crisis was costly, it is important to remember that the crisis was largely initiated in economies with fixed exchange rates. Flexible exchange rates provide financial markets with a powerful discipline on public and private policymakers to implement policies that support stable non-inflationary economic growth. They also provide governments with an excuse or shield, behind which they can implement unpopular but beneficial policies.

Real exchange rate adjustment

To the extent that pegging to a common basket entails a loss of flexibility in the nominal exchange rate, countries that peg are in fact shifting the adjustment of the real exchange rate from the nominal exchange rate to domestic inflation. This may be costly since changes in the nominal exchange rate can be an efficient way to generate movements in the real exchange rate, particularly when domestic inflation is relatively persistent.

Movements in the real exchange rate are an important mechanism for achieving internal and external balance in an economy, and they will occur irrespective of the nominal exchange rate regime, although the speed and structure of adjustment will vary

depending on whether it occurs through the nominal exchange rate or through domestic inflation (Dornbusch 1976; Mussa 1990; Dornbusch and Park 1999). A country with a fixed exchange rate wishing to boost competitiveness can only achieve a real depreciation through lowering inflation. The less flexible are domestic prices and wages and the greater is the persistence in inflation, the larger will be the output gap needed to reduce inflation. The cost of relying on inflation to generate real exchange rate adjustments is increased if high or variable inflation is itself costly to economic efficiency. Forcing the real exchange rate to adjust to inflation is likely to be incompatible with using an inflation target as the nominal anchor for monetary policy.

As shown in the first section of Table 12.7, inflation generally seems to be more persistent than changes in the exchange rate in East Asia, although the Philippines and Singapore appear to be the main exceptions to this generalisation. Changes in the real exchange rate seem to be effected through changes in the nominal exchange rate in those countries that have floating exchange rates (Australia, New Zealand and Singapore) and through the domestic inflation rate in countries with fixed exchange rates (Hong Kong). The substantial nominal depreciations experienced in recent years in non-Japan East Asia have uniformly been largely converted to real depreciations as well. To the extent that a basket peg involves fixing the exchange rate,

Table 12.7 Autocorrelation, inflation and exchange rate changes in East Asia and nominal and real depreciation

	<i>Autocorrelation</i>		<i>Exchange rate depreciation</i>					
	<i>1995-99</i>		<i>1990-96</i>		<i>1997-99</i>		<i>1990-99</i>	
	<i>Inflation</i>	<i>Exchange rate change</i>	<i>Nominal</i>	<i>Real</i>	<i>Nominal</i>	<i>Real</i>	<i>Nominal</i>	<i>Real</i>
Australia	0.71	0.10	0.5	-3.1	-17.9	-19.0	-17.5	-21.6
Hong Kong	0.30	-0.30	0.9	45.7	-0.5	-6.9	0.5	35.6
Indonesia	0.74	0.03	-24.7	1.2	-66.4	-36.9	-74.7	-36.2
Japan	0.21	0.08	23.6	7.3	13.6	8.3	40.5	16.3
Korea	0.44	0.16	-19.5	-2.1	-26.3	-21.4	-40.7	-23.1
Malaysia	0.13	0.10	6.8	8.5	-33.5	-30.5	-29.0	-24.6
New Zealand	0.29	0.00	19.2	13.3	-26.4	-29.1	-12.2	-19.7
Philippines	0.12	0.20	-14.6	30.0	-34.8	-25.0	-44.3	-2.5
Singapore	0.06	0.09	35.3	26.2	-16.0	-19.5	13.7	1.6
Taiwan	-0.21	0.05	-4.8	-2.7	-12.4	-15.5	-16.7	-17.8
Thailand	0.36	0.13	0.7	12.2	-33.1	-28.8	-32.6	-20.1

Notes: Autocorrelations are monthly except for the Australian and New Zealand consumer price indices; depreciation is relative to the US dollar; real exchange rate is calculated using the consumer price index; a minus sign indicates a depreciation, and a positive sign indicates an appreciation.

one apparently effective tool may be lost in generating real exchange rate flexibility.

Common economic structure and policies

It is well known that the robustness of any common exchange rate policy, including a common-basket peg, depends on the similarity of the members' economies and policies (Mundell 1961). To the extent that economic structures and policies differ among the countries participating in the peg, the exchange rate will be less supportive of economic adjustment in particular countries. Moreover, the more different economic structures and policies are, the more likely that realignments will be necessary as external conditions change.

Goto and Hamada (1994) examine and estimate the principal components driving changes in a range of macroeconomic and trade variables in East Asia. They find a relatively high degree of synchronisation between shocks, and conclude that the 'degree of interdependence among Asian nations is high, even higher in some respects than among EC countries' (p. 354). Eichengreen and Bayoumi (1999) use a Blanchard-Quah decomposition on East Asian output and prices to identify supply and demand shocks. They find that supply shocks are correlated for different sets of countries in the region. They also look at the history of economic integration in East Asia, and conclude that political and institutional cohesion remains weak. Bayoumi and Mauro (1999) and Bayoumi et al. (2000) examine whether ASEAN is an optimal currency area, and reach conclusions similar to those of Eichengreen and Bayoumi (1999).

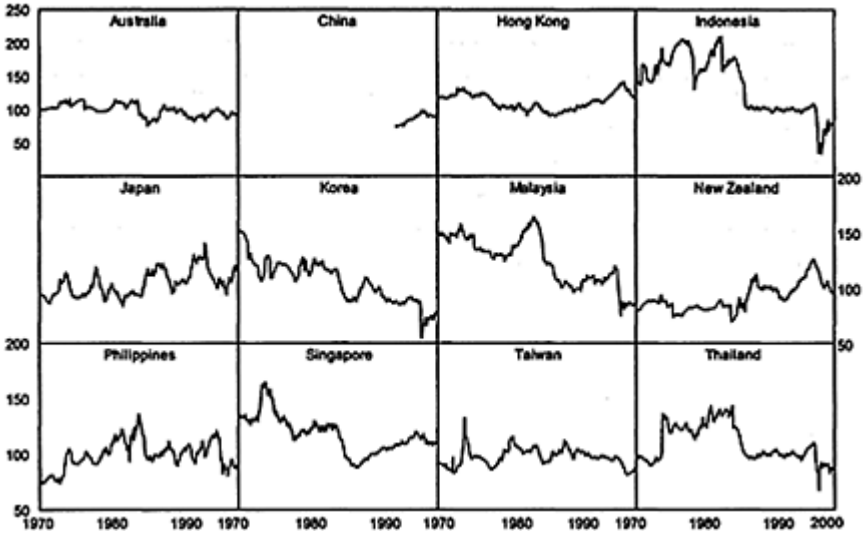
One way to identify the need for realignments of the nominal exchange rate is to see whether real effective exchange rates in the region move together. Real effective exchange rates are the outcome of the interaction of domestic economic structures and policy, given the impact of internal shocks (such as productivity and real-wage shocks) and external shocks (such as terms-of-trade and portfolio-preference shocks). Other things being equal, similarity or co-movement in countries' real effective exchange rates suggests similarity in the structure of their economies and policies, and in the shocks to their economies. Figure 12.3 shows J.P.Morgan estimates of monthly real effective exchange rates for twelve economies in East Asia. There appears to be substantial variation in real effective exchange rate movements.

To assess whether there are similar movements in regional real effective exchange rates, common factor analysis was applied to first differences of the series.¹¹ Factor analysis is concerned with finding a small number, q , of common but orthogonal factors that linearly reconstruct the original p variables,

$$x_{ii} = z_{i1}b_{1i} + z_{i2}b_{2i} + \dots + z_{ik}b_{ki} + e_{ii}$$

where x_{ij} is observation i of variable j (standardised to have unit variance), z_{ik} is observation i of the common factor k , b_{kj} is the set of linear factor

Figure 12.3 Real broad effective exchange rate indices in East Asia (1995=100)



Source: J.P.Morgan data.

loadings, and e_{ij} is variable fs unique factor (that is, a factor uncorrelated with the common factors). The factor loading is the weight for each factor, and measures the contribution of that factor to the common variance of the data series. The aim here is to identify and name the common factors in regional real exchange rates by particular country groupings. This is admittedly a subjective process.

Table 12.8 reports the results, listing the eigenvalue for each factor in the first column and the loading for that factor for each country in subsequent columns.¹² When a common factor seems to exist, the results are bolded. Results for four periods are reported—the total sample period of 1970 to 1999, and the subperiods of the 1970s, 1980s and 1990s. For each period the ‘uniqueness’ for each country is also reported. A variable’s uniqueness is the percentage of its variance that is not explained by common factors.

The main common factor influencing real effective exchange rates in the region is not common to the whole region, only to a part of it. While its composition varies somewhat in different periods, it includes only Korea, Indonesia, Malaysia, the Philippines and Thailand. While these were the economies mainly affected by the financial crisis in 1997 and 1998, the common factor also tends to be present in other periods. There is no overall general regional common factor driving real effective exchange rates. The regional factor loading for Japan is opposite in sign in all periods (and especially in the 1980s), indicating that Japan’s real effective exchange rate—and implicitly

Table 12.8 Common factors in East Asian regional real effective exchange rates

<i>Eigenvalue</i>	<i>JPN</i>	<i>KOR</i>	<i>TWN</i>	<i>HKG</i>	<i>IDN</i>	<i>MYS</i>	<i>PHL</i>	<i>SGP</i>	<i>THA</i>	<i>AUS</i>	<i>NZL</i>
<i>1970–99</i>											
1. 2.15	-0.17	0.51	0.07	-0.10	0.65	0.45	0.34	0.04	0.63	-0.03	-0.04
2. 0.45	-0.15	0.10	-0.04	0.10	-0.04	0.05	0.05	-0.08	-0.08	0.44	0.49
3. 0.31	0.16	-0.21	-0.42	-0.18	0.14	0.17	-0.22	-0.09	-0.29	-0.07	0.13
4. 0.25	-0.12	-0.15	0.06	0.29	0.07	0.30	0.12	0.45	-0.03	0.04	-0.08
uniqueness	0.82	0.65	0.79	0.85	0.58	0.61	0.70	0.77	0.48	0.78	0.80
<i>1970s</i>											
1. 1.37	-0.04	0.35	0.55	0.20	0.16	-0.15	0.25	0.08	0.69	0.20	-0.05
2. 0.78	-0.09	-0.18	0.01	0.31	0.11	0.50	-0.04	0.48	0.00	0.03	0.06
3. 0.44	-0.08	0.05	-0.01	0.00	-0.11	0.35	0.03	-0.10	-0.06	0.31	0.63
4. 0.31	0.45	-0.14	0.20	0.15	-0.25	-0.04	-0.25	-0.12	-0.08	0.03	-0.05
uniqueness	0.79	0.80	0.72	0.84	0.85	0.58	0.83	0.74	0.46	0.89	0.58
<i>1980s</i>											
1. 3–05	-0.46	0.91	0.68	0.25	0.19	0.06	0.47	-0.13	0.68	0.20	0.12
2. 0.47	-0.15	-0.09	0.03	0.15	0.27	0.61	0.18	0.69	-0.08	0.10	-0.17
3. 0.35	-0.10	0.17	0.00	0.02	-0.05	-0.02	-0.06	0.10	-0.22	0.47	0.25
uniqueness	0.67	0.26	0.51	0.87	0.81	0.57	0.63	0.64	0.56	0.72	0.91
<i>1990s</i>											
1. 3.17	-0.10	0.52	-0.09	-0.10	0.78	0.77	0.58	0.36	0.81	-0.04	0.00
2. 1.22	0.06	0.16	0.19	0.06	-0.08	-0.11	0.15	0.09	0.03	0.70	0.66
3. 0.34	0.58	-0.08	-0.13	-0.56	0.08	0.03	-0.01	-0.07	-0.05	0.00	0.05
4. 0.21	-0.04	-0.22	0.34	0.00	-0.02	0.15	0.31	0.19	-0.09	0.10	-0.01
uniqueness	0.63	0.63	0.74	0.67	0.49	0.42	0.40	0.73	0.31	0.47	0.61

Source: Author's calculations using J.P.Morgan real effective rate indices.

Note: Bolding indicates the existence of a common factor.

its economic structure and policies—is fundamentally different from the rest of the region. This assessment is robust to changes in data frequency: the loadings are similar when quarterly or annual, rather than monthly, observations are used for analysis. The result that the loading of the regional factor on Japan is negative even at very low frequencies suggests that this outcome is fundamental and is not simply the product of some regional currencies largely pegging to the US dollar.

There are also other, minor common factors. The second common factor is an Australia and New Zealand factor, which is present in all periods (but drops out when annual data is used over the full sample period). This holds more generally for Australian and New Zealand interest rates, stock prices and exchange rates (de Brouwer 2001). Other, considerably smaller common factors are also present, but these are less stable over time.

As an alternative to the common factor analysis above, tests for long-run or

cointegrating relationships between regional real effective exchange rates were also conducted, using J.P.Morgan data from 1990 to 1999. The results are reported in the appendix. The tests indicate that there are eight separate long-run relationships between the eleven real effective exchange rates of Australia, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, Taiwan, Thailand and the United States (Appendix Table A12.1). The cointegrating vectors are not readily interpretable. In the first place, there is a mix of positive and negative signs in each of the eight cointegrating vectors (Appendix Table A12.2). There is also no readily interpretable set of country groupings evident from the marginal significance of the eight error-correction terms when they are included in the error-correction representation of each country's real effective exchange rate (Appendix Table A12.3).

Broader political and policy issues

The final problem countries face in deciding whether to adopt a common-basket peg is essentially political. This cannot be overstated: it is a 'fundamental and indisputable fact that political considerations, rather than purely economic concerns, are the predominant practical determinants of the domain of operation of currency regimes' (Mussa 1997:217). The political considerations are multi-dimensional and complex.

The first obstacle is that countries will only agree to a formal common-basket peg if it is clear that it will be in their own interests to do so. Consider, for example, the sorts of issues Singapore would have to face in considering the adoption of a common-basket peg. Singapore is likely to be one of the countries in the region that would be most disadvantaged. Not only is its own trade structure with Japan, the United States and the European Union unlike the average, but its exports are also more similar to those of the United States and Europe than to those of the rest of the region. Hence, it has less to gain from focusing on intraregional exchange rate stability at the expense of exchange rate stability with the United States and European Union. Of all the members of the ASEAN-5, its real effective exchange rate has the least in common with the rates of the other members.

The adoption of a common-basket peg would also limit Singapore's long-established use of the exchange rate as the instrument in inflation control (Eichengreen and Bayoumi 1999). It may also impede Singapore's role as a regional financial centre—a policy objective that has been given particular prominence in recent years—since it would mean that the Singaporean authorities would have to take a direct and active interest in what was happening in the Singapore-based offshore currency markets of its neighbours. The attraction of Singapore to international banks and securities companies is that while the authorities firmly limit speculative activity in the Singapore dollar, they have a totally hands-off approach to trading in other regional currencies. Considering all these factors, it is unlikely that Singapore would want to support a common-basket peg policy.

The adoption of a common-basket peg would also require substantial deepening of regional institutional structures and policymaking. Greater policy coordination within the region and the development of a regional coordination mechanism would be required. This would demand the resolution of some practical problems. Given the importance that ASEAN members place on a common regional stance, the expansion of ASEAN's

membership in 1998 to include Burma, Cambodia, Laos and Vietnam creates a particular problem for involving ASEAN in a regional currency peg. On economic grounds, the new ASEAN members are not primary candidates for inclusion in such an arrangement, but it would be hard to exclude them on political grounds.

There has been renewed focus in recent years on developing regional structures to support greater financial cooperation. The creation of the ASEAN-plus-three grouping in 1999 and the agreement to extend central-bank repurchase arrangements within this group in May 2000 suggest greater political willingness to address regional financial issues. But the group would also need to decide on Taiwan's involvement, as well as whether Australia and New Zealand can become members, if it is to be truly representative of the region.¹³ As well as the issue of country membership, there is also the substantive question of what institutional arrangements would be needed to support greater cooperation. Possible institutions are an Asian Monetary Fund or an expansion of the Asian Development Bank.

A group committing to a common-basket peg could not simply be symbolic but would need to agree on some hard issues of economic policy. These include the need to form a fund to support the peg, designing intervention rules for such a fund, agreeing to surveillance by other countries in the region, having a workable system for the extension of credit between central banks, agreeing on the weights for the peg, and establishing terms of reference for realignments between regional currencies as national circumstances change.

Given the diversity in trade patterns and real effective exchange rates within the region, occasional realignment is very likely to occur but this is a very difficult political process to manage since it affects bilateral competitiveness. A well-known difficulty with negotiating currency realignments is that agreement to realign is seldom timely and speculative pressures are likely to take over (Frenkel and Goldstein 1986; Mussa 1997). The prospect of Korean unification poses particular challenges to future regional currency arrangements, much as German unification did in the early 1990s, and the capital demands of unification imply substantial pressures for higher domestic real interest rates and real exchange rates.

Not only is internal realignment necessary, but so is realignment against the three basket currencies as regional shocks and structural changes occur. These are substantive issues, and the ability of the region to deal with them is not well established. The ASEAN-5, for example, have had a system of repurchase agreements in place between central banks for several decades, but it has not been used since at least the early 1980s. While symbolism is important, a peg will only be viable if there is clear agreement on hard policy issues.

A wider political issue is how the formation of a regional currency group would affect the balance of political influence in the region. The formation of a regional currency group may be perceived as shifting the regional balance of power in favour of Japan. Support for a regional common-basket peg seems to be strongest in Japan, although it is evident elsewhere in the region. Japanese commentators, such as Murase (2000), see such a peg as the first step in a common regional currency arrangement, to be followed in the next decade or so by the creation of an Asian currency unit, based on convertible currencies in the region with the yen as the *de facto* anchor currency, and culminating in

actual currency union. Even if policies converge, it is unclear whether countries would be willing for Japan to be the focus. To quote Dornbusch and Park (1999:14) on Japan: 'Over the past few years the country has mismanaged the response to dramatic balance sheet problems and deflation. The lack of pragmatism, the institutional inflexibility and possibly incompetence make it unsuitable as a centre country'.

It is also unclear how countries such as China and Korea would respond to a program that provided a substantial political profile for Japan, especially if membership involved costly adjustments to the domestic economy. There is the added complication that if participation in the peg is initially limited, such that Taiwan is included but China is not, cross-strait tensions may be exacerbated if the move is seen as some sort of demonstration—or encouragement—of independence by Taiwan. These questions would have to be resolved for the program to move forward.

Another precondition for success of a formal common-basket peg is that member countries have to be fully politically committed to the system (Frenkel and Goldstein 1986). Perceptions of relatively weak political commitment of some European governments to the EMS in the early 1990s gave rise to substantial, and mostly irresistible, speculative pressures in European foreign exchange markets at that time (Mussa 1997). Capital is highly mobile, and despite some limits on funding the speculative short foreign currency positions of non-residents, regional financial systems are relatively open. All exchange rate systems are subject to speculative pressures, but fixed exchange rate systems are typically the most vulnerable since they are less easy to adjust when they become misaligned with fundamentals and since monetary authorities essentially guarantee speculators the liquidity to exit their positions with a profit if the value of the currency is changed. To the extent that national policy and economic objectives become inconsistent with the common-basket peg, the system will be tested. These inconsistencies can readily arise.

Pisani-Ferry (1999) argues that a strong political-economy argument in favour of a common-basket peg is that it would increase the transparency of exchange rate policies in the region. But this also makes a formal common-basket peg more vulnerable. When the weights for a peg are well known, any deviation of the actual exchange rate from its predicted pegged value can provide easy profits for speculators. This occurred with the baht in early 1997 and the New Zealand dollar relative to the Reserve Bank of New Zealand's monetary conditions index in 1997 and 1998. Conversely, one reason why speculation against the Singapore dollar is difficult is that the weights in the Monetary Authority of Singapore's effective exchange rate target are not known with precision.

CONCLUSION

There have been various proposals that East Asia, or some subgroup within the region, could adopt a formal common currency arrangement. The most prominent proposal at this stage is that countries peg their currencies to a common basket of the yen, dollar and euro (Williamson 1999; Dornbusch and Park 1999; Murase 2000). A common-basket peg would stabilise countries' average exchange rates against the major currencies and would reduce intraregional exchange rate variability, even eliminating it if countries fixed

their currencies to the peg.

A common-basket peg needs to be robust to be viable. In the current environment of open, integrated and sophisticated financial markets, and large and variable capital flows, it is imperative that exchange rate regimes be sustainable and robust to shocks and speculation. In the first place, countries will only adopt a common-basket peg if it is clearly in their interests to do so. Moreover, if a regional system of pegged exchange rates is or becomes inconsistent with a member country's domestic economic structure or policy regime, it will be tested by speculators, whether they be onshore or offshore.

It is not yet clear that the adoption of a common-basket peg would be in the interests of many countries in the region. In the first place, trade patterns vary substantially within the region, and some countries would be disadvantaged relative to their neighbours under a common-basket peg. The exports of the more industrialised countries in the region are more similar to those of the major economies than to their regional neighbours, and so it does not make sense to reduce intraregional exchange rate volatility at the expense of shifts in competitiveness against the world's major exporters.

There are other, more general, factors that raise questions about whether a formal common-basket peg would be feasible or deliverable. To the extent that a common-basket peg entails a change in exchange rate regime, it is necessary to show that a peg is superior to the current regime—floating exchange rates—to which decision-makers have already adapted. A shift to a common-basket peg also presumes that exchange rate volatility adversely affects trade and economic performance, and there is no evidence of this in East Asia. Pegging also affects the adjustment of the real exchange rate, forcing adjustment to occur through the price level rather than the nominal exchange rate. This is relatively inefficient when inflation is persistent and when variable inflation is itself costly to economic efficiency.

The robustness of a regional exchange rate system depends on the similarity of members' economic structures, policies, and internal and external shocks. Evidence from an analysis of common factors affecting real effective exchange rates in the region and from cointegration analysis suggests that economic structures, policies and shocks are heterogeneous. Of course, the adoption of common currency arrangements may move economies closer together. The robustness of such a regime also depends on political commitment, which at the moment is lacking: a common-basket peg appears to conflict with other domestic policy objectives, countries still make most major policy decisions individually rather than collectively, and such an arrangement may not suit the strategic interests of some countries. Without very firm political commitment, a common-basket peg will not be viable as it will become vulnerable to speculative attack. East Asia does not appear to be an obvious candidate for a formal common-basket peg arrangement at this stage.

Alternative exchange rate regimes need to be compared to the system that is currently in place. During the East Asian financial crisis, most countries in the region abandoned implicit pegs to the dollar and moved to greater exchange rate flexibility, typically to floating rate systems. As economies have recovered, monetary authorities in some countries have attempted to contain the appreciation of their currencies relative to the dollar. To the extent that this marks a return to implicit dollar pegging, these countries may be re-creating the very conditions that led to the financial crisis in 1997. While

formal pegging to a common basket does not seem a good idea for countries in East Asia, nor does implicit dollar pegging. Williamson's critique of implicit dollar pegging by East Asian countries is right, even though his remedy needs to be subject to careful scrutiny.

APPENDIX: COINTEGRATION OF J.P. MORGAN REAL EFFECTIVE EXCHANGE RATES, 1990-99

Table A12.1 Number of cointegrating vectors

<i>Null</i>	<i>Alternative</i>	<i>Max. eigenvalue</i>	<i>Trace statistic</i>
r=0	r=1	170.26**	618.07**
r ≤ 1	r=2	94.88**	447.81**
r ≤ 2	r=3	86.80**	352.93**
r ≤ 3	r=4	68.53**	266.13**
r ≤ 4	r=5	56.70**	197.60**
r ≤ 5	r=6	21.20**	140.90**
r ≤ 6	r=7	36.70*	99.70**
r ≤ 7	r=8	23.96	63.00**
r ≤ 8	r=9	20.31	39.04*
r ≤ 9	r=10	10.69	18.73
r ≤ 10	r=11	8.04	8.04

Notes: ** and * indicate significant at the 5 and 10 per cent levels, respectively; estimated using Microfit 4.0.

Table A12.2 Eight cointegrating vectors, standardised on the yen real effective exchange rate

	<i>No. 1</i>	<i>No. 2</i>	<i>No. 3</i>	<i>No. 4</i>	<i>No. 5</i>	<i>No. 6</i>	<i>No. 7</i>	<i>No. 8</i>
Japan	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
Korea	2.67	3.40	3.48	-4.10	-56.41	0.29	0.00	-0.42
Taiwan	2.71	1.13	0.59	2.61	-7.07	0.83	-1.28	0.14
Indonesia	1.03	0.03	-1.70	1.69	7.43	-0.34	-0.50	0.30
Malaysia	0.73	-3.02	4.46	-3.56	-17.80	0.55	0.20	0.46
Philippines	-1.80	1.18	-2.14	0.51	5.89	-1.77	1.59	0.39
Singapore	6.42	3.81	-1.18	-2.82	-66.35	5.52	-4.21	-1.33
Thailand	-6.39	-0.05	-2.97	2.71	57.54	-0.13	-0.32	0.51
Australia	-0.28	-5.78	-0.08	-2.32	17.13	2.20	0.01	-0.87
New Zealand	0.30	1.14	-0.29	1.55	-9.04	-3.25	-0.70	-0.06
United States	2.95	3.70	-0.92	-0.70	-13.00	-3.84	-0.96	-0.76

Table A12.3 Marginal significance of the eight cointegrating vectors in individual country error-correction terms

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
Japan	0.62	0.98	0.02	0.87	0.24	0.37	0.18	0.57
Korea	0.00	0.22	0.00	0.00	0.58	0.38	0.99	0.98
Taiwan	0.38	0.00	0.03	0.82	0.05	0.29	0.36	0.11
Indonesia	0.00	0.04	0.58	0.41	0.81	0.33	0.25	0.65
Malaysia	0.04	0.00	0.11	0.00	0.95	0.11	0.43	0.81
Philippines	0.38	0.17	0.11	0.00	0.58	0.13	0.01	0.29
Singapore	0.16	0.58	0.33	0.16	0.97	0.02	0.47	0.15
Thailand	0.00	0.67	0.03	0.01	0.11	0.02	0.26	0.77
Australia	0.44	0.02	0.05	0.15	0.00	0.07	0.64	0.13
New Zealand	0.08	0.21	0.91	0.82	0.33	0.74	0.43	0.08
United States	0.05	0.31	0.01	0.49	0.74	0.75	0.51	0.00

Note: Bolding indicates marginal significance of the error-correction term

NOTES

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- 1 To ensure the weights sum to one, the share of trade with the rest of the world is allocated proportionately to these three regions.
- 2 The intensity of trade index between country i and country j is:

$$I_{ij} = \frac{X_{ij}/X_w}{M_{iw}/(M_{iw} - M_{iw})}$$

where X is exports, M is imports, and subscripts i , j and w indicate country i , country j and the world, respectively.

- 3 Thailand's trade intensity is especially high because it is a key trading partner for Cambodia and Laos. If these countries are excluded, the average intensity for Thailand falls to 1.8.
- 4 This is still the case when the countries with particularly high trade intensities are excluded. If country pairs with trade intensities over 10.0 are excluded, the average intensity is 1.7, which is still greater than the average intensity for Europe.
- 5 Using a microeconomic model, they argue that the optimal weights in a currency peg depend on the degree of market power of firms in product and input markets, the degree of import penetration of production and the currency denomination of

product and input markets.

6 Myanmar is not examined in this paper since it is even less integrated than Laos.

7 The export similarity index was devised by Finger and Kreinen (1979). It can be written as:

$$s_{ab} = 1 - \frac{1}{2} \sum_i \left| \frac{X_a^i}{X_a} - \frac{X_b^i}{X_b} \right|$$

where X_a^i is country a 's exports of commodity i to the rest of the world and X_a is country a 's total exports to the rest of the world.

8 This has an important implication. Based on a three-country intertemporal model, Argy et al. (1989) conclude that the weights in a currency basket should be biased toward the currency of the economy that is more likely to be subject to fewer and smaller shocks, rather than being based on trade shares. To the extent that export similarity indicates that economic structures are similar, the dollar and euro should have higher weights than the yen in a basket peg.

9 Australia's experience in the mid-1980s is relevant. Australia removed capital controls and floated its currency in December 1983- It had also fully deregulated its financial system by the mid-1980s. Liberalisation and deregulation created major challenges for risk management by banks, firms and households. Encouraged by some local banks, some firms and households took low-interest Swiss franc loans without taking forward cover. When the Australian dollar depreciated by about 30 per cent, in response to deteriorating terms of trade, their Australian dollar interest costs rose substantially. Similarly, a number of manufacturing, energy and other firms took open speculative positions in foreign exchange, and subsequently recorded substantial losses. These experiences had a cathartic effect on the way foreign exchange rate risk was managed in Australia. Firms now make extensive use of hedging instruments, and non-financial firms pay attention to limits and internal governance processes when undertaking financial activities. Commercial banks in Australia are also risk averse in managing foreign exchange risks and do not hold large open positions (de Brouwer 1999).

10 Intraregional exchange rate variability is estimated as the weighted sum of each country's annual exchange volatility, where the weight is the country's share in regional exports. Each country's annual exchange rate volatility is the weighted sum of the annual standard deviation of changes in its end-month bilateral exchange rate against each country in the region, where the weight is the share in the country's exports. Weights are estimated using 1997 trade data.

11 First differences are used because augmented Dickey-Fuller tests indicate that all real effective exchange rates in the region over the full sample period have a single unit root.

12 The common factors are estimated using the software Stata 6. The factors are estimated from the principal factor solution; that is, they are based on the prediction of the original covariance matrix. The factor loadings are rotated using an oblique rotation method, promax with power 3 (Rummel 1970). The rotation has a relatively small effect on the size of the factor loadings but does increase clustering.

13 Australia and New Zealand are well-established and active members of the East Asian central bank grouping, EMEAP.

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Subregional currency union—Japan and Korea

Eisuke Sakakibara

INTRODUCTION

It is now commonly understood that what can be called a dual mismatch, of currency and of maturity, was one of the main causes of the East Asian crisis of 1997–99. As early as December 1997, Donald Tsang, the financial secretary of Hong Kong, stated that ‘the Asian currency problem is essentially a funding mismatch compounded by ineffective intermediation’ (Tsang 1997). The de facto dollar peg maintained by the crisis-hit countries had resulted in huge euphoria-driven capital inflows, which in 1996–97 reversed direction, resulting in the free fall of exchange rates and, in some cases, the collapse of financial systems. The combination of a volatile yen/dollar rate and the de facto dollar peg accelerated the boom-and-bust cycle, although the exchange rate regime and yen/dollar fluctuations were not the only causes of the crisis.

The analyses of this currency crisis led to two different views about foreign exchange rate regimes. On the one hand, traditional neoclassical economists, mainly from the International Monetary Fund (IMF) and the US Treasury, came to espouse the so-called two-corner solution for exchange rate management (Eichengreen 1999). According to this view, free floating, the ultimate flexibility, and currency boards, the ultimate inflexibility, are the only stable regimes in the long run. Any intermediate regime, such as a crawling peg, wider band or target zone, are claimed to be unstable or vulnerable to speculative attacks. This two-corner solution is a simple extension of the well-known ‘impossible trinity’ proposition that a fixed exchange rate, free capital mobility and independent monetary policy cannot be pursued simultaneously and thus one of the three needs to be abandoned. Under a free float, control over the exchange rate is given up, while independent monetary policy is sacrificed in a currency board regime.

Advocates of the two-corner solution cite the currency boards of Hong Kong and Argentina as successfully avoiding the contagion of crises from neighbouring countries during the second half of the 1990s. However, it is well known that the Hong Kong Monetary Authority took extraordinary steps to intervene in the Hong Kong stock market in August 1998 to fend off speculation. Because of this strong action and subsequent events including the Russian crisis and the collapse of Long-Term Capital Management (LTCM), a major US hedge fund, speculation was successfully blocked. It was not the non-action of the monetary authority under the currency board regime but their very activism that stopped speculation. Luck also favoured Hong Kong. Had it not been for the Russian crisis and the damage a number of major hedge funds consequently suffered,

Hong Kong, as well as Australia and Japan, might have fallen to the attacks of speculators.

Fischer (1999) has argued that countries with floating rate regimes, such as Mexico, South Africa and Turkey, escaped the contagion effects of the crisis. However, it is extremely difficult to define a free float. All countries, including Japan and the United States, manage their foreign exchange rate to some degree, and the dividing line between a free or clean float and a managed float is very fine. According to Williamson (2000), none of the three countries cited by Fischer could be said to have had a free float based on Calvo-Reinhart tests. Moreover, countries in East Asia that had moved to a free float during or right before the crisis, as the IMF recommended, did experience the collapse of their currencies and, in some cases, of their financial markets. Of course, having a free float during a normal period is a different matter from moving to a free float during a crisis.

Against the two-corner approach, economists such as Williamson (2000) and Ogawa and Ito (2000) argue that an intermediate regime such as a managed float, crawling peg or target zone, in combination with a basket of currencies, may be desirable under some circumstances. Ito et al. (1998) argue that Asian countries should choose a currency basket including currencies other than US dollar, and found in their duopoly model that the optimal basket weight for the US dollar was significantly lower than the actual weight. Instead of maintaining a de facto dollar peg, these countries should adopt a currency basket including the yen and other currencies.

In an extension of a duopoly model where neighbouring Asian countries are included as importers in addition to Japan and the United States, Ogawa and Ito (2000) show that the solution is a Nash equilibrium where coordination is crucial. In the extreme case, if country A adopts a dollar peg, country B should adopt the peg and vice versa. However, if country A is using a currency basket that mirrors export shares, then country B should adopt a similar currency basket and vice versa. If the two countries can coordinate, then they should choose the best option among various Nash equilibria. The process of choosing an optimal Nash equilibrium can be regarded as a regional currency arrangement. These discussions point to the need for regional cooperation on exchange rate regimes, and possibly for establishing a common currency basket such as an Asian currency unit.

ASIA AND THE IMPOSSIBLE TRINITY

Although there has been support for the two-corner solution in Latin America, the reaction in Asia to this new orthodoxy has been quite negative. One of the most enthusiastic proponents of this position, US Treasury Secretary Lawrence Summers, was reported to have encountered strong resistance at the inaugural meeting of the G-20 (Group of Twenty) in Berlin in December 1999 when he urged the assembled ministers to join him in ruling out IMF lending to countries that refuse to polarise to one of the two extremes. His strong position has been echoed, for example by a task force sponsored by the US Council on Foreign Relations, which called on countries not to peg exchange rates and recommended funds from the IMF or the G-7 (Group of Seven) not be used to

support an ‘unsustainable peg’ (IIE 1999). It is true that there have been cases, such as Thailand, where the exchange rate was overvalued and foreign exchange intervention to support the peg led to a depletion of foreign exchange reserves, triggering crisis. Some argue that if Thailand had floated its currency at the time when foreign capital was flowing in during 1994–96, the situation would have been different. Is that really the case? During this period there was complete euphoria about Asia, including Thailand, and the Washington consensus on market liberalisation enhanced this euphoria. It is likely that the Thai baht would have appreciated by more if the Thai authorities had not intervened in the market. True, if the market were rational, capital flows to Thailand would have declined, taking exchange risks into consideration. I believe it would *not* have happened that way.

For many economists, particularly those educated in the neoclassical tradition, it comes naturally to assume that market participants will be rational. In reality, it turned out to be more profitable to ride with the herd and try to skilfully manage the boom-and-bust cycle. Enjoy the boom, but jump ship before the other market participants do. In the global economy, where interdependence has become intense and where uncertainty driven by the fast flow of information is formidable, any assumption of a stable equilibrium is unwarranted. The world economy has multiple equilibria, and once a country leaves one equilibrium, it is likely to be thrown into a very unstable area. Excessive flexibility in exchange rates, in this kind of situation, is not necessarily a blessing. Under euphoric expectations for the future of the economy, freely floating exchange rates may have accelerated, not moderated, the boom, resulting in a bubble and the even more serious consequences when the bubble burst.

Flexibility is not necessarily bad, but price flexibility alone does not, under ordinary circumstances, solve the boom-and-bust cycles that characterise today’s global market. We need to recognise that some boom-and-bust phases are inevitable, and that a proper mechanism has to be established to minimise the risk of a bust developing into a systemic collapse of the market.

Some Asian countries have charted different courses. Given the impossible trinity, two-corner solutions abandon either the fixed exchange rate or independent monetary policy, taking free capital mobility as a prerequisite. Malaysia decided to restrict capital flows while retaining both a fixed exchange rate and independent monetary policy. Neoclassical economists have a built-in bias against capital controls, but Malaysia’s choice was a logically sound one, satisfying the theorem of the impossible trinity. The IMF, which has espoused the two-corner solution, gave the reluctant but non-negative assessment ‘that controls gave the Malaysian authorities some breathing space to address macroeconomic imbalances and implement banking system reforms’ (IMF 2000). It is true that Malaysia had a national economic rehabilitation plan compiled by its National Economic Action Council in early August 1998, a month before the imposition of capital and exchange controls on 2 September 1998. The key elements of the plan included stabilising its currency, the ringgit; recovering market credibility; maintaining stability in the financial market; improving economic infrastructure; placing priority on social security policies; and rehabilitating each sector of the economy. The aim was to establish a social safety net and increase the transparency of the economy, while avoiding cronyism, in order to achieve economic efficiency and a healthy recovery of the financial

system.

The plans differed from IMF orthodoxy in two respects. First, they rejected the shock therapy prescribed by the IMF but took international criticism of cronyism and the lack of transparency seriously. Second, Keynesian rather than monetarist policies were chosen, which in the midst of the strong deflationary pressure of the East Asian financial crisis, were quite appropriate. Realistic but aggressively implemented structural reforms of the financial system also helped. And, as the IMF report pointed out, the success of Malaysia's policy crucially depended on the effectiveness of currency controls. The competence of Bank Negara and the existence of the monitoring mechanisms were necessary conditions to ensure effective control.

Not all Asian countries have the infrastructure necessary to be able to erect effective capital and exchange controls without the spread of corruption. Malaysia had this infrastructure in place, and improving international conditions, as the global financial crisis ended in 1999, also helped. However, the fact remains that defensive capital and exchange controls worked successfully in the midst of the financial crisis. For many years Singapore has insulated its domestic currency from the rest of the world. As the experiences of Singapore and Malaysia show, countries imposing controls do not have to completely close their doors to the rest of the world. Trade, direct investment and portfolio investment in those countries have been extensive, and it is not accurate to categorise Singapore or Malaysia as closed economies.

Of course, the use of capital controls is just one of many defensive policies that could be implemented by small open economies, but what this example shows is that emerging economies can opt to insulate their economies in some cases and still reap the benefits from the free flow of goods and services. Believers in free markets often preach that an all-or-nothing situation exists. That is certainly not the case. Countries could, or perhaps should, opt for partial liberalisation depending on their size, stage of development and their particular social and political conditions.

REGIONAL GROUPINGS

After the crisis the foreign exchange policies of Asian countries have been quite varied. Hong Kong is determined to retain its currency board, while China has a dollar peg. Thailand and the Philippines have not intervened in the foreign exchange market in any significant manner, although their currencies have depreciated markedly since January 1999. (Figures 13.1 and 13.2) On the other hand, Korea intervened heavily during 1999 and 2000 when the won appreciated significantly against the US dollar. Korean foreign exchange reserves that stood around US\$50 billion in January 1999 increased to more than US\$85 billion by the end of May 2000 (Figure 13.3). Despite heavy buying of US dollars, Korea's currency appreciated more than 10 per cent against the US dollar from its peak of 1,242 won in early March 1999 to 1,107 won by mid-April 2000 (Figure 13.4).

However, if we look at the yen/won rate, a somewhat different picture emerges. (Figure 13.4). Although fluctuations have been significant, the yen/ won rate in early August 2000 was where it had been in early January 1999, implying that Korea has been

more concerned about the won's stability against the yen than against the US dollar. In areas such as steel, shipbuilding and semiconductors, Korea engages in cut-throat competition against Japan and therefore has a huge interest in maintaining exchange rate parity. Although the United States is Korea's biggest trading partner, far surpassing the importance of Japan, its second-biggest trading partner, Korea competes much more with Japan than with the United States.

Figure 13.1 Thai baht/US\$ exchange rate



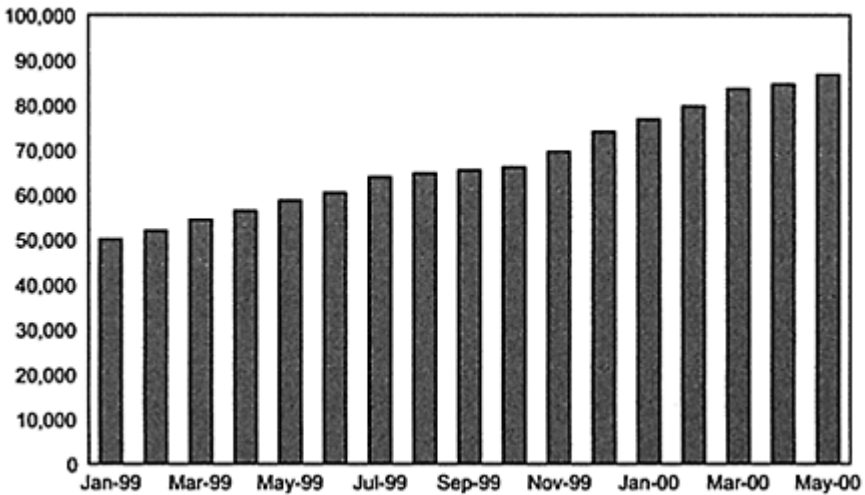
Source: Bloomberg.

Figure 13.2 Philippine peso/US\$ exchange rate



Source: Bloomberg.

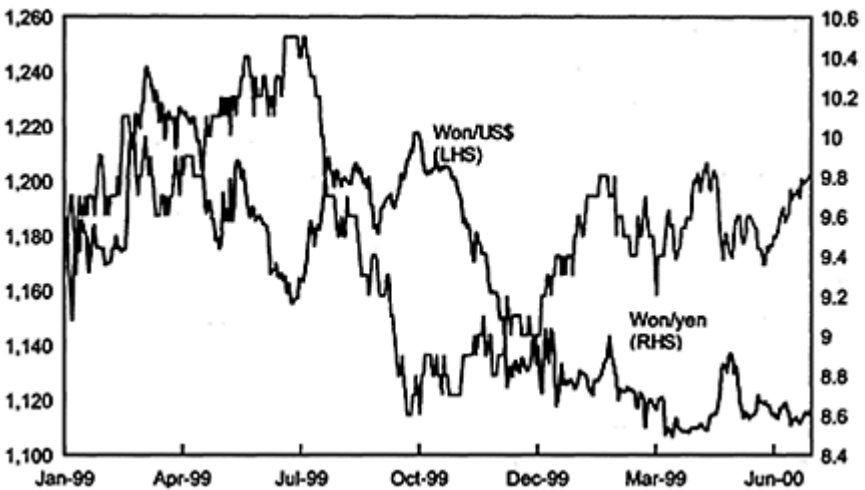
Figure 13.3 Korean foreign exchange reserves (US\$ million)



Source: Bloomberg.

Given the present diversity of Asia’s foreign exchange policies, the Ogawa-Ito-type common-basket approach may not be feasible in the short run with a large number of countries. However, it may be possible and desirable for the Association of South East Asian Nations (ASEAN) or a subset of ASEAN counties to adopt a common basket including the US dollar, Japanese yen

Figure 13.4 Won/US\$ and won/yen exchange rates



Source: Bloomberg.

and euro. Asia Pacific regional cooperation on a grand scale would be very difficult, given the size of the region and the enormous diversities of the countries within it. Asia Pacific Economic Cooperation (APEC) is fine in general terms, but when it comes to cooperation on trade, investment or foreign exchange, then if agreement can be reached with all APEC countries, it should be able to be achieved globally, including Europe, for example. The same holds for Asia without the 'Pacific' qualifier. The Asia region has long been a counter-concept to Europe—the area east of the Bosphorus Strait was named Asia by the Europeans. This is not a criticism of APEC. This loose regional grouping is an effective forum for discussion, but it is too big and diversified to be a meaningful regional arrangement.

Could such regional cooperation be successfully achieved by a subset or number of subsets of APEC countries? Each subset could then interact with other subsets to enlarge groupings as necessary and as possible.

The ASEAN and ASEAN-plus-three (Japan, China and Korea) groupings are possible candidates for achieving greater regional cooperation. However, even the ASEAN-plus-three group may be too large to reach a meaningful and practical agreement in the near future. A gradual approach on two fronts seems appropriate at this juncture. One front would be to increase the substance of cooperation; for example, expanding from agreements on trade to discuss investment, foreign exchange or financial market reform. The other front could be to expand from smaller subsets to larger ones. Compared with Europe and the Western Hemisphere, the Asia Pacific region lags substantially behind in regional integration, but gradual and steady progress needs to be made before any grandiose idea is adopted.

CURRENCY UNION—JAPAN AND KOREA

If countries in the region decide to enhance cooperation on exchange rate policy, such cooperation could only be successful between a subset of countries that are at a similar stage of development. Korea and Japan could be candidates for currency union (the recent behaviour of the Korean monetary authority suggests this may be an implicit policy, although Japan did not have any part in Korea's actions).

In this case it makes very good sense to form a currency union, possibly using some form of peg and a moving target zone with not too narrow a band. Korean and Japanese authorities will probably prefer not to explicitly announce the zone. Such a stabilisation scheme would be mutually beneficial because of the competitiveness between the two countries in the iron and steel, shipbuilding and semiconductor industries. Wild swings in the yen/dollar rate and the yen/won rate have caused repeated and damaging boom-and-bust cycles in these industries in both countries. A stable and mutually acceptable yen/won rate would boost industry performance and could encourage mutually beneficial joint ventures and mergers and acquisitions. There has been a proposal to establish a free trade agreement (FTA) between the two countries and a yen/won agreement could take place in tandem. Although the benefits of an FTA are likely to be greater for Japan, both countries would benefit. Any bias could be at least partially compensated for by establishing a yen/won rate slightly favourable to Korean exports.

An important element of any currency arrangement is to create a foreign exchange market. A yen/won market does not exist: the exchange rate is determined indirectly by the yen/dollar rate and the won/dollar rate. In order to establish a direct rate, Japan and Korea need to hold some portion of their foreign reserves in won and yen, respectively. Moreover, they need to encourage their firms to hold and deal in the other partner's currency. A yen/won market needs to be liquid and resilient enough not to inconvenience traders and investors. It may take some time to change the behaviour of market participants, but once sufficient infrastructure is in place, there is no reason to think that the creation of a new market is impossible. At the outset a very firm commitment of the authorities to back up the market is necessary, and some official market making may even become essential. Fortunately, Korea and Japan have similar exchange rate regimes. In both countries, the Ministry of Finance has the authority to manage foreign reserves and to intervene in the market, and the central bank acts as its agent. Both countries have a similar experience in intervening in markets and seem to share a desire for stable foreign exchange rates.

They could start the process by disclosing all foreign exchange information to each other and by coordinating their current foreign exchange intervention in the dollar/yen and dollar/won markets. Such an arrangement will introduce additional constraints on the foreign exchange policies of both countries. The constraint may be more bothersome for Japan, as the larger country, but Japan could bear these costs as the pay-offs from a stable exchange rate are quite substantial. Moreover, if the arrangement is implemented along with an FTA, which would favour Japan in the short run, a good balance in the yen/ won rate could be struck.

A decision on a suitable band may be difficult, but Japan has not objected to Korea's targeting of rates of around 9.5–10 won to the yen and so the agreement may not be that difficult in reality. Of course, both authorities need to consult with each other regularly, and the issue should not be excessively politicised.

If a currency arrangement and an FTA could be pursued simultaneously, other transactions would grow, such as direct and portfolio investment, thereby further strengthening economic ties. With the rapprochement between North and South Korea, economic integration in Northeast Asia would pick up speedily, particularly with an FTA and currency cooperation in place. Given China's interest in rapprochement between North and South Korea, the gradual enlargement of Korean-Japanese regional cooperation is a distinct possibility. With the rapid spread of the information technology (IT) revolution within Asia, a new division of labour could quickly develop and three-country (Japan, China and Korea) regional cooperation could be a possibility. North Asian regional cooperation could proceed simultaneously with Southeast Asian and South Asian and Oceania-Pacific cooperation, and various subsets of regional cooperation could eventually develop into a larger set. The current priority should be to proceed in the areas and among the countries where cooperation is feasible and practical.

The rapid recovery in the Asia Pacific region since the crisis has been aided by the IT revolution. The strongest demand component in many countries has been exports, of semiconductors and computers in particular. As the region accelerates its transition from industrial capitalism toward information capitalism and cyber-capitalism, IT-related intraregional trade and investment is likely to increase dramatically. The transition will

be quite different from that of 1980s, when Japan led the so-called flying geese pattern of export-led manufacturing growth. Intra-regional trade among ASEAN and Northeast Asian countries has already increased quite significantly, reflecting a new regional division of labour in the manufacturing of computers and household appliances. Governments need to foster intra-regional trade by agreeing to form free trade arrangements wherever possible. Current FTAs between Japan and Singapore and Japan and Korea should be strongly endorsed and opened up to other countries in Asia. A regional trade round could be initiated to accelerate liberalisation of intra-regional trade.

Not only strong in the production of computers and semiconductors, the Asia Pacific region has also been moving quickly into other IT areas. Digital cellular phone technology has been spreading rapidly, with Chinese users recently reaching 60 million, surpassing the number in Japan. Internet usage is also rising rapidly. Broadband infrastructure has been constructed very quickly. The undersea fibre-optic cable network is being completed in the Asia and Oceania region, removing the need to connect through the United States. Throughout the region a broadband network is being extended onshore.

Thus, it seems increasingly likely that the Asia Pacific region will move into the 'new economy' at an unprecedented speed, dramatically increasing productivity and transforming the regional division of labour in a fundamental way. A new Asian 'miracle' may be achieved, but the pattern of growth this time will be quite different from that of 1980s. Japan will not necessarily lead the process—the new pattern is likely to be multi-centred. Of course, faster economic recovery and structural changes in Japan will help enormously, and may even hold the key to achieving the next 'miracle'. However, complementarity among ASEAN, China, India, Australia, New Zealand, Japan and Korea will be far greater this time than during the 1980s.

CONCLUSION

The future of the Asia Pacific region is promising, particularly with the rapid spread of the IT revolution and if countries quickly proceed to enhance regional cooperation wherever feasible and practical. Exchange rate cooperation between Korea and Japan would be one such useful strategy toward larger, more extensive regional cooperation.

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An Australia–New Zealand currency union

Mark Crosby and Glenn Otto

INTRODUCTION

Until the 1930s Australia and New Zealand enjoyed what amounted to a currency union with Britain and most other Commonwealth countries. Exchange rates were fixed, and the British pound and gold were held by private banks as reserves and to back domestic note issue. This arrangement was abandoned during the Depression, when both Australia and New Zealand devalued their currencies, and in 1934 the Reserve Bank of New Zealand (RBNZ) was formed. These changes effectively ended the primacy of the link to the pound and ended what could be thought of as a form of currency union between Australia and New Zealand.

In the 1990s there has been renewed attention to the benefits of currency unions, and New Zealand has recently expressed interest in the formation of some type of Australia–New Zealand (ANZ) currency union. This interest seems to have been the result of several recent events. First, the lead-up to and successful launch of the euro seems to have spurred interest in other potential currency unions, including a North American currency union, Asian currency unions and an ANZ currency union.¹ Second, the East Asian crisis has led to a perception that small countries' currencies are particularly vulnerable to speculative attacks and that 'mergers' with larger countries might prevent such attacks. Third, the poor performance of the New Zealand economy in the late 1990s, especially in comparison to Australia's, has fuelled criticism of the RBNZ's economic management and has led to questions about alternative monetary policy arrangements.

Interest in a currency union has gained some momentum since New Zealand's prime minister, Helen Clark, made a speech to the United Nations in September 2000, in which she stated that such a union might be inevitable. The New Zealand government had previously been opposed to such an idea, and with no discussion from Australian politicians, a currency union seemed unlikely to get off the ground. Since Prime Minister Clark's speech, the issue has been raised in the Australian press and by Australian politicians. However, in Australia there appears to be a widespread feeling that 'dollarisation' would be the best option for New Zealand—whereby New Zealand would adopt the Australian dollar—but comparatively little acceptance for a currency union. For example, the governor of Australia's Reserve Bank has said that the bank would assist with dollarisation, although it was chiefly a decision for New Zealand. While dollarisation would clearly be a decision for New Zealand, a currency union is a decision only both countries can make. Furthermore, given the much larger size of the Australian economy, the decision is chiefly one for the Australian public and politicians. An editorial of the *Australian Financial Review* (18 September 2000) was more forthright on

this issue, stating that 'it is only a matter of time before [New Zealand] faces reality on this point' and accepts dollarisation rather than a full currency union, possibly with an agreement to share seigniorage revenues. Similarly, Australia's treasurer stated 'we are not interested in any new currency...we are happy with our monetary arrangements' (*Australian Financial Review*, 16–17 September: 9).

The relevant issues are similar whether it is a currency union or dollarisation that is being considered. The differences are that dollarisation would be politically more acceptable to Australia, but less acceptable to New Zealand. With the Reserve Bank of Australia continuing to conduct monetary policy according to the Reserve Bank of Australia Act, dollarisation would have a minimal effect on the Australian economy, apart from an increase in trade and a reduction in transactions costs between Australia and New Zealand. A currency union would affect both countries, and the issue is whether Australia and New Zealand form an 'optimal currency area'—a region within which it is optimal to have only one currency.

The economics of optimal currency areas is based on Mundell (1961). In short, the extent to which any set of countries forms an optimal currency area, and could therefore be considered candidates for a currency union, depends on the extent of the synchronisation of their business cycles and the extent to which factors are mobile between countries. If business cycles are highly synchronised, there is little need for independent monetary policies, and countries could share the same currency unit with little cost. In such a case, the main benefit of a currency union is the reduction in transactions costs from having a single currency rather than multiple currencies. If business cycles are not synchronised but factors are mobile between countries, then factors should migrate from low-growth regions to high-growth regions, obviating the need for independent monetary policy.

The theory is simple and intuitive, but making it operational is not straightforward. How much synchronisation and factor mobility is necessary to justify a currency union? Bayoumi and Eichengreen (1997) have ranked countries in terms of their suitability to form a currency union with any other country, which is about as close as any analysts have come to answering whether two countries should issue a single currency. This chapter documents the economic costs and benefits of a currency union, without attempting any formal cost-benefit analysis. It also compares the Australian and New Zealand economies with the United States and two euro-area economies. This should give some idea of the suitability of an ANZ currency union and enable the relative merits of such a union to be compared with those from some form of currency union with the United States.

The chapter examines output and trade variables to assess the degree of synchronisation between the Australian and New Zealand economies. Then the question of factor mobility between the two countries and other economic factors important in considering a currency union are looked at. Some non-economic considerations are also examined.

SYNCHRONISATION OF THE AUSTRALIAN AND NEW ZEALAND ECONOMIES

There are a number of different ways to study the extent of synchronisation between two economies. This chapter focuses on similarities in GDP and trade and discusses the properties of exchange rates and terms-of-trade movements. Macroeconomists have expended considerable effort over the past decade or so on discussing how to detrend variables so that robust stylised facts can be presented. This work has led to some debate, and in general it has been found that correlations may not stand up to different methods of detrending.² For this reason a number of different methods for computing correlations between business cycles are used. First, the correlations between the quarterly changes in the variables are presented. The correlations between filtered data series are then examined using the filter proposed by Baxter and King (1999). This filter removes the high-frequency noise in any series, and also removes trends. The components that remain can be thought of as the movements in the variables that correspond to movements over the business cycle.³ Hence the correlations between the differenced data highlight the high-frequency relations between the variables, while the correlations between the filtered data represent the relationship between the business-cycle movements in the variables.

Finally, the correlations between movements in real GDP that can be thought of as being driven by fluctuations in aggregate demand are looked at, as are movements that respond to fluctuations in aggregate supply. In order to decompose GDP fluctuations into these two components, we estimate the model proposed by Blanchard and Quah (1989) for five countries. The Blanchard and Quah procedure involves estimating a bivariate structural VAR (vector autoregressive model) in the price level (inflation) and real GDP, where the identifying assumption is that price movements have no long-run impact on real GDP.⁴ This procedure is very useful when considering whether or not the synchronisation is sufficient to warrant a currency union. The synchronisation of supply shocks is more important than that of GDP when considering the desirability of entry into a currency union. Imagine that two countries have negatively correlated demand shocks but positively correlated supply shocks. It is likely that GDP movements will be relatively uncorrelated between the two countries, but the positive correlation between supply shocks makes them good candidates for a currency union. Alternately, a currency union will force demand shocks to be more positively correlated, raising the correlation between the GDPs of the member countries.

Table 14.1 presents GDP correlations for a number of countries over the 1970s, 1980s and 1990s. The correlations between New Zealand's quarterly growth rates and those of other countries have been generally quite low, and were negative in the 1980s. This suggests that quarter-to-quarter movements in real GDP are quite unrelated to those in Australia or the United States. The correlation between Australian and US growth rates was positive and quite large in the 1980s and 1990s. When the data are filtered, the correlations were much larger and always positive, with the exception of the New Zealand–Australia correlation in the 1980s, which was zero. In other words, the cyclical movements in real GDP in Australia, New Zealand and the United States are broadly

similar. This is especially true of Australia and the United States.

The Blanchard and Quah decomposition finds that demand shocks in Australia and New Zealand are positively correlated, although the correlation is low. Supply shocks between Australia and New Zealand had a correlation of 0.29 in the 1990s, but otherwise the correlations between supply shocks in Australia, New Zealand and the United States were close to zero or negative. Table 14.1 also shows correlations in the demand and supply shocks of France and Germany, both members of the European Monetary Union (EMU). Supply shocks in these two countries have a large positive correlation. Demand shocks were also positively correlated in the 1970s and 1980s, but negatively correlated in the 1990s. This negative correlation perhaps reflects the stimulus to the German economy after reunification in the early 1990s and the relatively tight fiscal and monetary policy in France after the Maastricht Treaty conditions were implemented.

Table 14.1 Correlations between real GDP movements

	1970s				1980s				1990s			
	Ds	BP	D	S	Ds	BP	D	S	Ds	BP	D	S
NZ-US	n.a.	n.a.	n.a.	n.a.	-0.25	0.42	-0.02	-0.16	0.22	0.42	-0.02	0.03
NZ- Aus	n.a.	n.a.	n.a.	n.a.	-0.20	0.01	0.38	-0.02	0.19	0.53	0.24	0.29
Aus- US	0.07	0.22	0.23	0.06	0.39	0.88	0.28	0.02	0.40	0.91	0.03	-0.13
Fr-Ger	n.a.	n.a.	0.27	0.27	n.a.	n.a.	0.44	0.55	n.a.	n.a.	-0.11	0.42

Source: DX database.

Notes: Ds refers to the differenced data and BP refers to data that has been filtered as described in the text using the Baxter-King (1999) filter. D is the correlation between demand shocks and S is the correlation between supply shocks, where the shocks are identified using the Blanchard and Quah (1989) procedure.

The results of the GDP correlations in Table 14.1 might be misleading for a number of reasons. First, it is possible that the contemporaneous relationships miss important lagging or leading relationships between movements in GDP. Hall et al. (1998) use a different detrending method, and find that New Zealand GDP is most closely related to movements in US GDP two quarters previously, and to contemporaneous movements in Australian GDP. Hargreaves and McDermott (1999) find that New Zealand's business cycle is in the same phase as Australia's cycle 80 per cent of the time, and in line with the US business cycle 75 per cent of the time.

These results do not present a uniform picture of business-cycle synchronisation, but business cycles do not seem to be sufficiently synchronised between either New Zealand and Australia or New Zealand and the United States for a currency union to be desirable. The low correlation between supply shocks identified using the Blanchard and Quah (1989) model supports this conclusion.⁵ While it is true that the formation of a currency union will tend to synchronise demand shocks within the union, and so synchronise GDP,

supply shocks are less likely to change. It is these differences in supply shocks that are likely to make independence of monetary policy desirable. It is also interesting to note that the introduction of the Closer Economic Relations (CER) agreement between Australia and New Zealand in 1983, which led to a fall in tariff and trade barriers between the two countries over the following five years, did not seem to lead to greater synchronisation in the 1990s. This is contrary to the predictions of Frankel and Rose (1998), who find that closer trade relations increase synchronisation and are likely to make a currency union more desirable.

Tables 14.2 and 14.3 give some indication of the extent to which trade is similar in Australia, New Zealand and the United States. Table 14.2 presents export and import shares by commodity group in 1980 and 1997. Export and import patterns clearly differ. Food and live animals are a large share of New Zealand's exports, while in Australia this share has declined from 32.5 per cent to 19.6 per cent of exports since 1980, and in the United States the share is quite small. Australia is a large net exporter of mineral fuels, while New Zealand and the United States are net importers. Finally, the United States is a net exporter of machinery, transport and equipment, while Australia and New Zealand are large net importers of this commodity group. This diversification suggests that shocks to prices of different commodity groups will have quite different effects on the three economies and will require different policy responses.

Table 14.3 shows the bilateral trade shares for Australia, New Zealand and the United States in 1997. Australia is an important export market for New Zealand, but taking less than 19 per cent of its exports, is far less important than the US market is to Canada, for example. On this point it should be noted that there is considerable resistance in Canada to a currency union with the United States despite the United States receiving 80 per cent of

Table 14.2 Trade structure for Australia, New Zealand and the United States, single-digit commodity share of exports and imports (per cent)

<i>Commodity group</i>	<i>Australia</i>		<i>New Zealand</i>				<i>United States</i>					
	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>		
	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997
Food and live animals	32.5	19.6	3.8	3.8	46.7	45.2	4.5	6.2	13.0	6.3	6.8	3.9
Beverages and tobacco	0.2	1.2	0.9	0.7	0.2	0.7	0.9	1.1	1.3	1.2	1.2	0.9
Crude materials	26.4	19.6	4.3	1.9	27.1	16.2	4.2	1.8	10.9	4.8	4.2	2.5
Mineral fuels	14.2	20.8	13–8	6.1	1.1	2.2	22.5	6.6	3.7	1.9	32.8	9.2
Animal and vegetable oil	0.5	0.4	0.4	0.3	1.0	0.8	0.4	0.4	0.9	0.3	0.2	0.2

Chemical products	7.5	7.0	9.1	11.1	4.0	7.9	12.2	13-2	9.9	10.8	4.0	5.9
Basic manufacturing	12.3	14.7	17.6	14.0	13.7	14.6	18.4	15.1	10.7	9.4	13.7	11.9
Machinery, transport and equipment	4.4	11.9	36.1	46.1	3.7	7.6	29.7	40.4	41.0	51.2	25.0	43.9
Miscellaneous manufacturing	1.4	3.5	12.4	15.6	2.5	3.8	6.7	15.2	6.3	10.6	10.5	18.4
Goods not by kind	0.6	1.3	1.4	0.4	0.0	1.0	0.5	0.1	2.2	3.4	1.7	3.3

Source: National Asia Pacific Economic and Scientific Database, Trade Profiles, Commodity Share, at <<http://napes.anu.edu.au>>.

Table 14.3 Bilateral export shares of Australia, New Zealand and the United States, 1997 (per cent of GDP)

<i>Australia</i>	<i>New Zealand</i>	<i>United States</i>	
Japan	24.0 Australia	18.7 Canada	21.0
Korea	6.99 Japan	14.9 Mexico	10.7
New Zealand	6.12 Korea	4.67 Japan	9.74
China	5.46 China	2.86 Korea	3.79
Indonesia	4.08 Hong Kong	2.79 Germany	3.62
Hong Kong	3.66 Germany	2.60 Netherlands	2.84
Malaysia	2.99 Malaysia	2.47 France	2.44
Italy	1.97 Belgium-Luxembourg	1.70 Hong Kong	2.12
Philippines	1.88 Indonesia	1.67 Belgium-Luxembourg	2.06
Germany	1.76 Philippines	1.64 Australia	1.82
Exports/GDP	16.6 Exports/GDP	21.2 Exports/GDP	11.3

Source: National Asia Pacific Economic and Scientific Database, Trade Profiles, Bilateral Trade Share and Economic Indicators at <<http://napes.anu.edu.au>>.

Note: The list shows the ten largest trading partners for each country in terms of exports; exports/GDP is taken as the ratio of merchandise exports to real GDP.

Canada's exports. The trade share data are relevant for two reasons. First, the benefit of reduced transactions costs will depend directly on the level of trade between the countries in a currency union. The data suggest that any form of currency union between Australia, New Zealand and the United States would yield modest benefits to New Zealand and negligible benefits to Australia and the United States. As a counterpoint to this, however, Rose (2000) has found that currency unions significantly increase trade between countries, so that the benefits of forming a currency union may be much greater than

suggested by calculations based on current trade shares.

Second, the reduction in real exchange rate volatility will depend on the size of the trade shares between countries inside the currency union. If bilateral trade shares are not large, then fixing bilateral exchange rates may have little effect on real exchange rate volatility. For example, Crosby (2000) has found that Hong Kong's currency board regime, which has fixed the Hong Kong dollar to the US dollar, has led to only a small fall in real exchange rate volatility in Hong Kong. Work by Grimes et al. (2000) has calculated that the volatility of the TWI (trade-weighted exchange rate index) in New Zealand would fall by approximately 14 per cent if a currency union is formed with Australia, and 57 per cent if a currency union is formed with Australia and the United States (these are reductions in quarterly volatility). Because trade shares with New Zealand are much smaller for Australia and the United States, similar calculations would lead to much smaller falls in volatility for these two countries.

The other issue that is especially relevant to New Zealand is the extent to which a fixed exchange rate causes departures from the fundamental exchange rate. The average annual volatility in the A\$/NZ\$ exchange rate since January 1986 has been 8.5 per cent. It can reasonably be argued that some of this fluctuation could be because of 'noise trading' or other non-fundamental forces, but presumably a reasonable amount reflects movements in fundamentals. Grimes et al. (2000) argue that in New Zealand house prices are more important than the terms of trade in driving short-term movements in the exchange rate, while in Australia the usual finding is that changes in the terms of trade drive movements in the TWI and in the real exchange rate. The correlation between the NZ\$/A\$ exchange rate and Australia's TWI is 0.44, while the correlation between Australia's terms of trade and New Zealand's TWI is 0.27. These correlations suggest that a substantial part of the exchange rate variability is driven by divergences in fundamentals. Since this is the case, a currency union would result in too little exchange rate flexibility. As a final point, it should be noted that divergences in monetary fundamentals (inflation rates) have been very modest over this period, and would likely remain so under a currency union.

FACTOR MOBILITY AND OTHER ECONOMIC CONSIDERATIONS

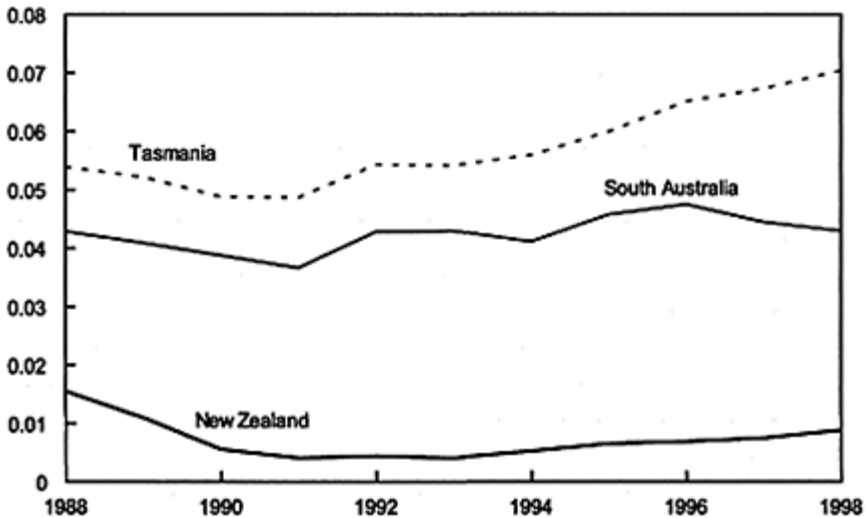
If two countries' economies are not synchronised, then it is still possible that a currency union would be beneficial, as long as there is sufficient factor mobility between countries. The intuition behind this idea is straightforward. If one country is experiencing high unemployment while the other is not, then labour migration from the high-unemployment country to the low-unemployment country can reduce the severity of fluctuations in unemployment in both countries. This in turn lessens the need for independent monetary policy. The benefit to factor mobility is likely to be much greater for New Zealand than for Australia, as Australia will find it much easier to absorb labour than New Zealand.

Figure 14.1 compares labour flows from Tasmania and South Australia to the rest of Australia, and from New Zealand to Australia. The figure shows that migration from New Zealand to Australia as a percentage of Australia's labour force is much smaller than migration out of the high-unemployment states in Australia. This was true even in

1991–92 when unemployment in New Zealand was at a similar level to unemployment in South Australia and Tasmania. While a more detailed analysis of migration behaviour from New Zealand to Australia would be desirable before making firm conclusions, these data support the belief that New Zealand differs from Australian states in the extent to which the unemployed are willing to migrate to lower unemployment regions of Australia and New Zealand.⁶

There are very few barriers to factor mobility between Australia and New Zealand. Restrictions to labour and capital flows are now negligible, both in

Figure 14.1 Migration to (rest of) Australia as a percentage of the labour force



Source: Australian Bureau of Statistics.

terms of legal and institutional restrictions and in terms of other barriers, such as language, that can restrict labour flows between many other pairs of countries.

There are a number of other economic factors that are relevant to a decision to form a currency union. First, a currency union will result in a loss of monetary independence. Presumably, a currency union between Australia and New Zealand will lead to monetary policy being dominated by Australian considerations, while a currency union with the United States will lead to little antipodean input to monetary policy. This raises two issues. One that has already been discussed is the inability to use monetary policy to stabilise the economy. Another is how to set the monetary policy framework. Should an inflation target be a somewhat rigid 0–3 per cent as in New Zealand, or a more flexible target of 2–3 per cent over the cycle as in Australia, or a less well specified target as in the United States? While this might seem to be a problem, the actual implementation of monetary policy in the three economies has been quite similar in the 1990s, as have inflation outcomes, so that a monetary policy framework should not be hard to agree.⁷

A related issue is how to share seigniorage revenues. In Australia Reserve Bank profits repatriated to the government have averaged 1.5 per cent of government revenues over

the past five years, as compared to about 0.4 per cent for New Zealand. It should be simple to decide the allocation, since there is no reason to suspect that aggregate seigniorage revenues would fall after a currency union was formed.

A final issue is the extent to which a currency union would reduce exchange rate volatility. Grimes et al. (2000) make much of the fact that New Zealand is one of the smallest countries to issue its own currency, and they emphasise that this leads to excessively volatile exchange rates relative to economic fundamentals. However, Brash (2000) argues that the New Zealand dollar has not been excessively volatile relative to other currencies in the 1990s. The relationship between economic size and exchange rate volatility is relatively unexplored and so is considered in this chapter to be an unresolved empirical issue. However, it should be noted that the establishment of a single currency for Australia and New Zealand is not likely to affect the size of Australia's economy very much and so would not significantly affect the volatility of its exchange rate. If this argument is correct, then a currency union with the United States would be much more desirable from Australia's perspective and would lead to even greater reductions in exchange rate volatility for New Zealand.

NON-ECONOMIC ISSUES

The main obstacle to a currency union between Australia and New Zealand would appear to be a lack of political will on Australia's side. This reflects the fact that the benefits to Australia of such a union would appear to be very small. The lack of political will can be measured by the fact that all of the references to a Australia–New Zealand currency union in this chapter are from New Zealand-based authors. A similar problem afflicts Canada in the debate in that country over a currency union with the United States. Murray (1999) cites seven papers on North American currency union by Canadian-based authors and none by American-based authors. On the other hand, economic cooperation between Australia and New Zealand has proceeded quite smoothly, and there is no reason to believe that a currency union could not form the next step in the CER.

CONCLUSION

This chapter has considered the costs and benefits to Australia and New Zealand of a currency union. A number of factors would seem to point against the formation of such a union. First, the Australian and New Zealand economies are not as closely synchronised as Australia and the United States, or as synchronised as the two large EMU countries, France and Germany. Second, trade structures in the two countries are quite different, and trade linkages are not as large as geographical proximity might suggest. These facts lead to the conclusion that the loss of monetary independence after the formation of a currency union might be undesirable. This is likely to be especially true for New Zealand, as it is likely to be the less-dominant member of any union. Relatedly, labour flows do not appear to be large enough to offset the need for independent monetary policy. However, it is worthwhile noting that while these considerations suggest that monetary policy in

Australia and New Zealand should look quite different, actual monetary policy outcomes have been quite similar in the 1990s. The major period where policy could be thought of as having diverged was between 1996 and 1998, when New Zealand monetary policy was considerably tighter than in Australia.

Given what are arguably small differences in monetary policy over the past decade, the potential benefits of moving to one currency, including increased trade and reduced transactions costs, should not be ignored. Grimes et al. (2000) present the results of a survey that suggested a large number of New Zealand manufacturing firms perceive these benefits to be potentially large. The challenge would be to convince Australian businesses of these benefits so that firms in both countries could force the political will to such a union.

Is an Australia–New Zealand currency union really a Kemu—a flightless cross between the Kiwi and the Emu? The bottom line would seem to be that the benefits to Australia from such a currency union would appear to be too small for such a proposal to generate the political will needed to get it off the ground.

NOTES

- 1 Grimes et al. (2000) have suggested calling a new currency the ANZAC dollar. This chapter offers the Kemu as an alternative name for the new currency—a cross between a Kiwi and an Emu, and just as likely to take off.
- 2 See Canova (1994), who discusses these issues at length.
- 3 The filter is similar to the Hodrick-Prescott filter. The filter chosen eliminates movements in the series that persist for less than eighteen months and more than eight years. See Baxter and King (2000) for further details.
- 4 Further details on the methods and results are available from the authors.
- 5 Consistent with our results, Warwick McKibbin's larger structural model found low correlations between supply shocks in Australia and the United States in the 1990s.
- 6 There is a problem with the New Zealand migration data that might bias these results. The results refer to settlers who state on arrival in Australia that they intend to migrate to Australia for more than twelve months in order to work. Those who arrive in Australia and intend working for less than twelve months, or who remain in Australia to work longer than intended, are not included. Anyone who has been to Bondi Beach would surmise that this bias is large.
- 7 In addition there are a number of important transitional issues in setting up a currency union, such as the exchange rate at which countries should enter the union. While these issues are important, and would no doubt lead to some debate, we do not feel that they are very difficult to overcome.

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