Introduction

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1 ABOUT THIS BOOK

This volume has been assembled to focus on specific analytical as well as policy-related issues pertaining to recent financial crises, most notably the Asian Financial Crisis of 1997–98 and the ripple effects that translated into uncomfortably close calls in Russia, Brazil and, somewhat later, full-blown crises in Turkey and Argentina. Of course, much has been said and written about the various aspects of these recent crises. However, motivated by the belief that the issues raised by and surrounding these recent crises (in fact, financial crises in general) are of ongoing importance, and despite a perspective gained by scholarly analyses of these crises, there are important lessons to be learned and analytical issues that can be explored even further.

It may be noted that the papers included in this volume have been specifically prepared for it and thus have the distinction of being original and not reprints, affording an analysis that the respective authors are sharing for the first time.

Thematically, we have divided the chapters into three parts. Besides providing an introduction, Part I addresses the issues of predictability of currency crises; Part II consists of chapters that focus on a set of reforms or ‘cures’ for preventing and/or ameliorating the after-effects of a crisis and, finally, Part III consists of a set of econometric studies that address several issues of analytical interest pertaining to labor market behavior, investment and productivity, exchange rate adjustments and estimation of China’s core inflation rate, as well as the ‘true’ cost of living index for China over the twenty-year period that spans the Asian Financial Crisis.

A brief guided tour of the contents of the specific chapters is given in section 3, while in section 2 below we note the important questions raised by the recent financial or currency crises.

2 QUESTIONS OF IMPORTANCE RAISED BY THE RECENT FINANCIAL CRISES

The last decade or so has been marked by a significant number of major financial crises including the Mexican ('Tequila') Crisis (1994–95), the Asian Financial Crisis (1997–98), the Russian Bond Market Default (1998), the Turkish Banking Crisis (2000) and the Currency Crisis that followed (2001) and the Argentinean Financial Crisis (2002). While most of the affected countries, to a lesser or a greater degree, have apparently recovered from the immediate negative consequences of these crises, the outcome could have been much worse in terms of the time to recover and sustainability of crisis-free development. In any event, there exist the relatively longer-run effects of these recent crises, which are still in the process of unwinding. These secular after-effects are relevant, both for practical as well as analytical or academic reasons. In practical terms, several of the affected countries are still grappling with the secular aftermath of these crises. In addition to the adoption of country-specific economic and financial sector reforms, these countries are still facing social sector issues, such as income distributional effects and setbacks to trends towards poverty alleviation that so strongly characterized the 1980s and the early 1990s. On the other hand, in analytical terms or broad-based academic terms, we still need to make sure that the appropriate lessons from these crises have been learned, and more importantly are being instituted, regarding the workings and reform of the global financial system. While much scholarly work focused both on the analytical and policy-oriented issues has already been undertaken, we believe that there are still very important issues that need to be addressed regarding the nature of these crises. The following is a selective list of some of these important issues that are of special interest to us.

2.1 Nature and Dynamics of the Crises

How much have we learned about the nature and the dynamics of these crises? In particular, are these crises predictable to any appreciable or practical extent – say, enough to be able to allow us to develop an early warning system? What are the factors that make economies vulnerable to financial crises? (Chapter 1 by Klein and Shabbir as well as Chapter 2 by Tinakorn.) Again, can the policy-makers recommend policies that will soften the impact of, if not eliminate such crises? (Chapter 3 by Eichengreen.)

2.2 Lessons Learned

What kinds of specific lessons have we learned, if any, from these episodes? What kinds of economic, fiscal, monetary and perhaps even political reforms will be necessary in order to ameliorate the vulnerability of a country to a financial crisis? In this respect, it is heartening to note that considerable progress has already been made in instituting certain reforms of the global financial system that have evidently been inspired by the recent financial crises. Prodded by the IMF and the Bank for International Settlements (BIS), increasingly countries now report the value of non-performing loans (NPLs) as a way of monitoring the commercial banking sector. In addition, there has been a consistent trend towards emphasizing the importance of maintaining transparency and prudent risk management by private financial institutions (such as the hedge funds) as well as the central banks of the respective countries. The latter are now routinely expected to furnish prompt and regular reports regarding the amount as well as the disposition of the international reserves they manage. The occurrences of these recent financial crises have taught us the importance of continuing to strengthen these trends.

Since the affected countries have mostly recovered, at least economically, from the recent crises, there is a real danger that, for practical purposes, a significant complacency may set in. Obviously, we must guard against this possibility – revisiting the question of the lessons learned and how best to implement them to minimize recurrence and/or to mitigate the severity of future crises. The description of one very important way to do just that can be found in Chapter 3 by Eichengreen.

2.3 ‘Cures’ for the Crises

The next set of issues is often presented under the rubric of ‘cures’ for financial crises – actually they are the generally recommended reforms apparently motivated by the experience of financial crises. We will discuss three such broad categories of the so-called ‘cures’: appropriate exchange rate policy, capital market reforms and private business governance.

2.3.1 Appropriate exchange rate policy

Regarding the question of the appropriate exchange rate policy, to many, the appropriate policy is simply to have no deliberate policy at all! ‘Let the market take care of the issue completely’, they declare. While it is true that, in retrospect, the 1997–98 Asian Crisis marked a watershed ‘event’ that has convinced many of the desirability of a completely flexible exchange rate, many subtleties still need attention and the question of the appropriate

choice of an exchange rate system is not an open and shut case, as it is sometimes made out to be. There are questions regarding the desirability and/or feasibility of a single world or wide-area currency, or in general, the extent and the mechanism for managing exchange rates in the context of the new global financial architecture. Increasingly, private capital flows have come to dominate trade flows and have thus lent a historically high level of volatility in price behavior in this important market. The capital mix has changed – there is, for example, more foreign direct investment (FDI) and less capital flow on official account.

Again, there are important unresolved issues concerning how best to deal with chronic current account imbalances (surpluses as well as deficits), management of international reserves by the central banks, possibilities of currency contagion, current account-induced flows and debt flows. A particularly vexing question is the appropriate policy response to a trade surplus in the case of a large, fast-growing creditor country such as China. It turns out that an often-recommended solution – appreciation of the yuan relative to the US dollar – may do little to rectify the problem if the underlying cause of the hugely favorable trade surplus for China is to be found in international wage differentials estimated to be in the range of 20 or 30:1 in favor of China, even though the differential has been narrowing lately (Chapter 8 by McKinnon).

2.3.2 Capital market reforms

Besides currency reforms, capital market reforms are also critical for the emerging economies. In this regard, there are two dominant issues and we will refer to them as (a) optimal degree of liberalization and (b) relative completeness of the scope of capital market instruments or institutions.

Capital market liberalization is desirable because it increases efficiency through better allocation of resources. However, such efficiency gains may come at a price since liberalization, *inter alia*, makes the economy more vulnerable to contagion and a host of other external shocks. Obviously, these two opposing effects need to be balanced, leading naturally to the notion of the ‘optimal capital market liberalization’. There is a related question of what is the ‘safe’ rate at which transition should take place? Such a determination of optimality would depend, in part, on having on hand analyses of the various policies that can be used to mitigate the downside of capital market liberalization. One such policy, to contain the potential vulnerability due to openness on account of capital market liberalization, can be the adoption of capital controls. However, such policy needs to be designed precisely and thoughtfully, with assessment of relevant side-effects. There are relatively few studies that undertake such an assessment. However, Klein, Mariano and Özmucur (Chapter 4) introduce an econometric case

study of Malaysia, which assesses the effects of capital controls, to help manage the financial crisis of 1997–98 in that country and finds that the capital controls there had many positive and desired effects in terms of economic stabilization.

Regarding the other issue that we have termed ‘relative completeness of the scope of capital market’, it has been noted that the emerging economies lack well-functioning bond markets, even when they have fairly well developed equity markets. This is as if one leg is missing, and it makes the country less resilient in the face of a potential financial crisis. However, the study of bond markets in emerging economies is starting to receive increasingly greater attention. There is a burgeoning interest in the study of questions such as the role of a viable bond market in improving the efficacy of financial intermediation in these countries as well as how a robust bond market may be a useful buffer to prevent or soften a future crisis. (Chapter 5 by Herring and Chatusripitak is a case study of the Thai bond market in relation to the 1997–98 Asian Financial Crisis; a related, yet independently arrived at, analysis of the importance of a bond market may be found in Chapter 3 by Eichengreen.)

2.3.3 Private business governance

Finally, regarding the third aspect of the capital market reforms, we want to note that corporate governance is an important issue in this respect. Indeed, it is one of the host of other emerging issues that pertain (albeit indirectly at times) to the possibility of future financial crises in emerging economies. The question of corporate governance, in part, encompasses concerns about the role of minority shareholders, full disclosure and transparency, prudent risk management and the role of the board of directors as independent overseers. It also takes up behavioral issues such as conflict of interest and use of inside information (Chapter 3 by Eichengreen).

2.4 Secular Aftermath of the Asian Financial Crisis 1997–98

While the various economic indicators have shown sustainable and solid improvement in the majority of the affected countries, their respective social indicators are definitely still lagging relative to the pre-crisis trends. The financial crisis in Asia left a deep mark in terms of social upheaval in these countries, many of which were unprepared for such an eventuality. We need to evaluate the income distributional impact in the medium- to the long-run sense as well as to assess the state of the present and future adequacy of the social safety nets in emerging economies that may be especially prone to financial crises (Chapter 1 by Klein and Shabbir). One particularly important question pertains to the behavior of the real wage rate

in the affected countries pre- versus post-Asian Crisis. (Chapter 7 presents a case study of Thailand regarding real wage rate behavior pre- versus post-Asian Crisis.)

2.5 Focus on New Developments in the Asian Region

We feel that in any discussion of the recent financial crises, in addition to reflecting on the past, we ought to be forward-looking as well. In this spirit, we want to note the emerging developments in East Asia/or Greater Asia as a region. Our primary interest in this region lies in particularly focusing on countries that were directly affected by the Asian Crisis of 1997–98, such as South Korea and Thailand, as well as China and Japan, which were only indirectly involved in one or the other aspect of the above crisis because they are important actors in the region. Finally, we also want to indulge in a prospective look at India as an emergent regional economic powerhouse and thus see how the future may look in the wake of post-crisis Asia, where China and India have emerged as the relatively fastest-growing dynamic and open economies (at least in the aspects of trade flows), which may be the dominant part of the ‘New Asian Miracle’ going forward and thus may stand to gain the most from any valuable lessons that the recent financial crises can teach us. We will, thus, divide the relevant region into three groups: East Asian directly affected countries China and Japan and India (South Asia).

2.5.1 East Asian directly affected countries

An important question is, how will the experience of the last crisis transform the affected countries? It seems that each of the affected countries has been responding in unique fashion when it comes to the speed of recovery, depth of the commitment to reforms and adoption of longer-run reforms to prevent or mitigate the effect of the ‘next crisis’. There are some initial hints that these countries may no longer represent a monolithic group that seemingly followed a nearly uniform mantra for growth. Also, these countries, albeit in varying degrees, each maintained a peg of their respective currency to the US dollar. Instead, it seems that many of these countries will be following fairly differentiated paths from now on. These idiosyncrasies in the chosen development strategies are important both from a policy perspective as well as their theoretical perceptions of growth and development. Is a new paradigm of growth emerging that may lessen the future possibility of financial contagion?

2.5.2 China and Japan

China’s case is important from many points of view. China of course, has been growing tremendously fast since reform in 1978. It is poised to be a

dominant part of future economic prosperity of the region – a ‘New Asian Miracle’, if you will. Its openness in terms of trade flows makes it vulnerable to crises. However, it has a longstanding policy of minimal variations in the exchange rate in the face of persistent current account surpluses. This is just the opposite of what Thailand faced on the eve of the crisis in 1997–98, and decidedly is a relatively better situation to be in than Thailand was when it faced shortages of international reserves rather than having to worry about disposal of surplus. However, an imbalance is an imbalance, all the same. Thus, China is also at the center of the debate about the appropriate exchange rate and the capital controls policies to adopt. These are issues that have been an intimate part of the financial crisis experience. China is also an obviously important player through its trade and direct investment links to the region. Thus focusing on China is only natural.

However, we know that some people have expressed a degree of skepticism about the veracity of China’s growth statistics. This is an aspect of the Chinese economy that is of interest to us. Besides addressing the question of China’s ‘true’ growth rate, we are also interested in exploring what role China may have played – a stabilizing or a destabilizing one – during the 1997–98 Asian Crisis.

Of course, China is a major regional power and thus very strategic. However, the debate about China’s exchange rate posture has captured wide attention. Its policy of nearly fixed parity of yuan per dollar and capital controls in the face of burgeoning current account surpluses has exposed the currency to potentially destabilizing speculative and political pressure because vested interests feel effects of large competition from many countries. While these pressures are of a different nature in comparison with those that Thailand had to face in the weeks and months preceding the bhat devaluation of 2 July 1997, still, in a fundamental sense, both kinds of such pressures represent essentially two sides of the same coin if the fundamental goal is to avoid exchange rate instability. The major question, of course, is whether we have learned enough from the previous crises so that we can more confidently determine the optimal degree of openness of a country’s capital and exchange rate markets.

The other important regional power, Japan, is currently showing some signs of a nascent recovery from a long slump. However, the question still remains whether Japan has recovered enough to lend a strong helping hand in the event of the next crisis erupting.

2.5.3 India (South Asia)

There are historic changes afoot in South Asia as well. India, in particular, has started to emerge as an Asian ‘giant’, side by side with China. Both these countries have enjoyed strong growth in the real sector (GDP)

although they reached high growth in unique fashion – China’s has been a case of growth led now by exports of manufactured goods, while India’s growth has been fueled by growth of service sector activity (especially in the information technology [IT], financial and health sectors). While each of these countries have exhibited impressive rates of GDP growth in recent years, there are significant financial sector issues such as stock and bond market reform, greater transparency and better corporate governance that still need attention. It is clear that going forward, financial sector and capital market reforms will be necessary for the continued success of these countries while keeping in mind some of the important ways – political and structural – in which these countries differ from each other. However, the important point is that, as the new players on the growth playing field so to speak, these countries’ reliance on open trade and foreign direct investment flows makes them vulnerable to financial crises. It is worth watching to see whether lessons from the recent crises were learned well. During the crisis period, neighbors and other competitors blamed China for stealing their export markets. Now they enjoy China’s import appetite. As for India, advanced countries blame ‘white collar’ unemployment problems on India’s burgeoning service sector, but should be benefiting from reduced operating costs in the near future.

3 SALIENT POINTS OF THE CONTRIBUTIONS TO THE VOLUME

The following is a brief guided tour of the contents and the themes explored in the various chapters in this volume.

Chapter 1: ‘Asia Before and After the Financial Crisis of 1997–98: A Retrospective Essay’ by Lawrence R. Klein and Tayyeb Shabbir

Since financial crises can be costly both in economic, as well as, societal terms, it is only natural to inquire whether such crises are predictable. Besides providing a brief introduction, this chapter reviews the various approaches to prediction of currency crises. In this respect, the authors conclude that while econometric predictive models can be very useful in identifying various indicators of ‘vulnerability’, such exercises are not a cure-all. Therefore, exploring the various aspects of the aftermath of a financial crisis is also quite important. In this regard, the authors focus on the income distributional consequences of the Asian Financial Crisis of 1997–98 as well as its impact on the poverty alleviation trends in the affected countries.

Chapter 2: 'Indicators and Analysis of Vulnerability to Currency Crisis: Thailand' by Pranee Tinakorn

This chapter by Professor Tinakorn is a case study of Thailand, a country that has the dubious distinction of being the first country in Asia whose currency succumbed to speculative pressures on 2 July 1997, setting off well-known ripple effects, which impacted not only some of the neighbors, but also Russia and Brazil. This series of currency crises (and, in many instances, follow-up banking crises) prompted anew many efforts to 'predict' currency crises so as to pre-empt them or, more realistically, decrease the vulnerability to such harmful episodes. In this spirit, Tinakorn's study is an important attempt to identify an early warning system.

Tinakorn uses time-series monthly data from January 1992 to December 2000 for Thailand to estimate a probit model as well as a 'signals' model à la Kaminsky et al.¹ (1998) to analyze the indicators of a currency crisis in Thailand. Tinakorn defines a currency crisis as when 'there is an accumulated three month depreciation in exchange rate of 15 percent or more; or there is an accumulated three-month depletion in net international reserves, of 15 percent or more'. It is important to consider net international reserves, which are gross reserves adjusted for swap obligations of the Bank of Thailand (BOT) – a decidedly better measure than just the equating of currency crises to (realized) currency depreciation, since the monetary authority may successfully ward off speculative attacks by depleting international reserves. (This is an interesting point since anyone focusing only on gross reserves would have missed the fact that swap obligations had skyrocketed for BOT in 1996–97 during this [ex post] 'window of vulnerability' for the country.)

This study's main finding is that, in the case of Thailand, there are several early warning indicators of a currency crisis that are worth watching. The following seven are supported simultaneously by the 'signals' analysis as well as the estimated probit model for the country: export growth, ratio of current account to GDP, real exchange rate misalignment, growth of M2/international reserves, ratio of fiscal balance to GDP, real GDP growth rate and change in stock prices. Further, the signals analysis identifies the following four indicators in addition to the above seven: terms-of-trade growth, ratio of short-term external debt to international reserves, growth of domestic credit/GDP and inflation rate.

Thus, in hindsight, an awareness of the above set of early warning indicators by the policy-makers in Thailand would have been helpful in either handling the management of the international reserves better and/or it might have enabled them to negotiate a less contractionary package with

the IMF, thus possibly ameliorating some of the extreme effects of an unanticipated devaluation and the contraction of the economic activity that necessarily followed. However, there is an important issue of transparency. A former IMF official has indicated in a lecture at the University of Pennsylvania that Thailand's international reserve accounts were in trouble prior to the crisis outbreak, but the international institution would not have made that known to the public on its own authority in advance, for an obvious fear of panic in the financial markets.

Chapter 3: 'The Next Financial Crisis' by Barry Eichengreen

In this chapter, Barry Eichengreen contends that, as of spring 2005, the 'next' financial crisis for emerging economies may already be brewing but it may or may not materialize since, as a result of some of the lessons learned from the East Asia Crisis of 1997–98, we have a more stable global financial system as well as improved country-specific financial sectors rendering emerging economies less vulnerable to any impending crisis. However, lest we feel tempted to rest on our laurels, the author lists an agenda for future reforms, in addition to providing an excellent assessment of the reforms that have already been put in place.

Eichengreen maintains that, as of spring 2005, the following factors constitute a 'potentially fatal cocktail' that may foretell a crisis in emerging economies:

1. Rising US interest rates as a result of the FED's (Federal Reserve's) reversal of its easy monetary policy it had adopted as of spring 2001. In the past, US domestic interest rate increases have been harbingers of financial problems in emerging markets.
2. The ever-increasing US 'twin deficits' – the current account deficit as well as the budget deficit.
3. The international oil price increases, which may lead to a significant slowdown in China's growth momentum, which will mean a negative ripple effect throughout the emerging economies since China has lately emerged as a significant engine of regional as well as global economic growth.

While the above factors may appear to be clouding the horizon for the emerging economies, Eichengreen stresses that 'no ill effects are evident yet' perhaps due to the reforms instituted since the last crisis in 1997–98. He singles out ten reforms already instituted as noteworthy, namely, lengthening the maturity structure of emerging economies' debt, their smaller current account deficits, larger foreign reserve stockpiles, relatively greater flexibility

of the exchange rate mechanisms, greater fiscal ‘responsibility’ as well as reduced leverage in international financial systems, greater multilateral surveillance of the financial systems, greater financial sector transparency, incorporation of collective action clauses in sovereign debt instruments, and, finally, comparatively greater transparency of the IMF itself.

Besides noting the already instituted reforms that have been motivated by the lessons learned from the recent financial crises, Eichengreen also stresses that we need to continue on this path. He stresses five such future reform targets in emerging economies: continuity of earlier reforms, improved credit and bond markets, enhanced exchange rate flexibility, feasibility to borrow in own currency on the world capital markets and continued governance reforms at the Bretton Woods Institutions.

One unique feature of Eichengreen’s chapter is that while assessing the reforms put in place in the last few years, he also sheds light on the ‘costs’ of such reforms – a hitherto neglected area of research and analysis. In this regard, if one were to add a ‘sixth’ item to the above agenda for future reforms, it could be the goal of maximizing the ‘net [of costs] benefits’ of these reforms that are inspired by a desire to learn from the past crises.

Chapter 4: ‘Capital Controls, Financial Crises and Cures: Simulations with an Econometric Model for Malaysia’ by Lawrence R. Klein, Roberto S. Mariano and Süleyman Özmucur

Liberalization of capital account is generally favored as a desirable policy as it can lead to greater availability of capital and increased efficiency. These ‘pro-growth’ effects, however, may be tempered by the fact that liberalization of capital account can render a country more vulnerable to financial crises due to an enhanced exposure to external shocks.

In the face of a financial crisis when the domestic policy-makers often experience the feeling of a loss of control of their economy, an imposition of capital controls (at least temporarily) is often advocated as a solution. Such controls, it is argued, can help to bring under control the possibility of panic-driven flight of capital and uncontrolled depletion of international reserves in the wake of a crisis. However, such controls are generally disfavored by those who hold the relatively orthodox view that considers any interference whatsoever with the ‘market mechanism’ as counterproductive.

On the eve of the 1997–98 crisis, Malaysia imposed capital controls to manage the financial crisis. This chapter by Klein–Mariano–Özmucur is a description of use of a simultaneous equation macroeconometric model – a method to study the possible impact of capital controls while taking account of the various feedback effects. Such a model is estimated for Malaysia. The model is a fairly detailed one with 438 equations and 607

variables. Such detail allows the authors to supplement a traditional macroeconomic model by incorporating a very thorough specification of the external sector; in particular, the authors specify capital account, foreign direct investment as well as portfolio investment, as endogenous to the model.

The major conclusion of this chapter is that capital controls in Malaysia had a number of desirable effects on important macroeconomic indicators such as the real GDP growth rate (the net effect was an increase of 0.07 percent over the post-crisis period, 1998–2001). The GDP deflator (whose rate of change, of course, measures inflation rate) would also have been higher in the absence of capital controls. Thus, generally speaking, in the case of Malaysia, the capital controls helped the policy-makers manage the crisis better and the economy enjoyed many positive stabilization benefits with minimal negative effect on foreign direct investment inflows. It is, however, important to recognize that the success of capital controls seems to be contingent on the particular ‘context’ in which they are imposed, quality of policy intervention and the initial conditions in the economy.

Chapter 5: ‘The Case of the Missing Market: The Bond Market and Why It Matters for Financial Development’ by Richard J. Herring and Nathporn Chatusripitak

Over the last decade, there has been an increased interest in analyzing the role of financial institutions and financial markets in economic growth and development. However, the main focus has been on equity markets, and bond markets have been almost entirely overlooked. This chapter by Herring–Chatusripitak, concentrating particularly on Asian economies, tries to redress this situation by seeking to explain how the absence of a well-functioning bond market may adversely affect other markets, savers, investors and banks, and, in particular, how it may render the economy more vulnerable to a financial crisis. It concludes with an analysis of recent financial development in Thailand to illustrate both the problems associated with the absence of bond markets and the proposed solutions.

The authors assert that absence of well-functioning bond markets can make an otherwise vibrant economy more vulnerable to a financial crisis (as was the case in East Asia during the mid-1990s). One major implication of the absence of a bond market is that the economy lacks a market-determined term structure of interest rates that accurately reflects the opportunity cost of funds. This deficiency can make firms under- or over-invest relative to the societal efficient allocation on whether the firm’s internal rate of discount is too high or too low (the latter was the case in the early to mid-1990s in East Asia). Also, lack of ‘true’ term structure will impede accurate pricing of equity in the stock market as well as pricing of credit risk. Again, in the

absence of a well-functioning bond market, hedging in the derivatives (including foreign exchange) market will be relatively more expensive, if it is possible at all. As a result, market participants may end up assuming more financial risk than they would choose if there were efficient derivatives markets, just as the Asian Financial Crisis in 1997 showed that many market participants had accepted excessive exposure to foreign exchange risk. The greater risk obviously increases the vulnerability to a financial crisis.

Perhaps the most worrisome implication of an underdeveloped bond market is that, in such economies, the banking sector is more vulnerable to inefficiencies, liquidity shocks and falling prey to 'moral hazards' of the kind often referred to as 'crony capitalism'. Lack of competition from the bond market makes banks 'too big', leads them to prefer short-term credit, which in turn, leads to biases in firms' investment policies in favor of short-term assets and away from longer gestation ventures. Also, lack of opportunity for the banks to rely on the bond market to spread their own portfolio risk makes these highly leveraged institutions more vulnerable to a liquidity shock with obvious and often immediate repercussions for the rest of the economy.

In Thailand, prior to the 1997 Financial Crisis, the bond market was severely underdeveloped. As a result, Thai firms tended to over-invest, the efficiency of investment was declining and the economy was heavily reliant on bank lending. Consequently, when the banks suffered heavy losses, new lending ceased and firms had to halt investment projects, resulting in prolonged and painful economic contraction. Since then, the Thai government has begun to implement a number of reforms to stimulate development of both primary and secondary bond markets. These include developing a yield curve for government bonds, efforts to promote risk management and market liquidity, centralizing the clearing and settlement of bonds, upgrading accounting and disclosure standards, and active participation in regional initiatives to strengthen Asian bond markets. These changes have markedly improved the liquidity of the government bond market, and the Thai bond market is more than four times larger, relative to GDP, than before the crisis. The Thai example shows that bond markets do matter for financial development, and that an expanded role for the bond market may be used to rebuild financial systems after the crisis.

Chapter 6: 'Investment, Growth and Productivity during the East Asian Financial Crisis' by F. Gerard Adams and Tayyeb Shabbir

In this chapter, Adams–Shabbir examine the impact of the 1997 East Asian Financial Crisis on real GDP growth and total factor productivity (TFP) of the East Asian countries during and after the crisis. Rather than taking

the more typical approach to analyzing the crisis and its impact in terms of such factors as financial flows, exchange rate misalignment and contagion, the authors approach the crisis from a production input/factor productivity perspective.

In the first place, the authors look at the financial crisis and its impact on the growth record of East Asian countries, by comparing a number of growth characteristics pre- and post-crisis. The impact was uneven with apparently minimal effect on China yet with serious recessionary effect on the economies of Thailand, South Korea and Indonesia. In general, real GDP growth rates fell sharply in 1997–98 due to the crisis, and although the post-crisis period shows renewed growth, it is at substantially lower growth rates than in the pre-crisis period. Also, post-crisis relative to pre-crisis, there was a downward trend in labor productivity growth. In addition, compared with the exceptionally high values for the investment/GDP ratio, there was a sharp drop in this investment share, and post-crisis recovery was of a relatively smaller magnitude. In fact, the downward swing in investment was not matched by a similar swing in domestic saving, hence foreign inflows turned to outflows. Finally, though exports recovered in the post-crisis period, and somewhat offset the lower investment share, the export growth for this period was also lower than its pre-crisis rate.

The authors then seek to disentangle growth of output into that attributable to increased inputs and the residual factor, or total factor productivity. This residual represents the difference between the growth of total output and the weighted sum of labor and capital input and includes all elements not taken into account in the computation of growth inputs, including technological change, economies of scale, the composition of output, the role of exports and the cyclical position of the economy. The authors define unexplained TFP as the change in TFP less the business cycle effect less the industrial/export effect. Statistics show that total labor and capital input growth remain lower post-crisis than pre-crisis.

They next undertake a statistical analysis of the factors associated with the growth of TFP. To measure the effect of the 1997 Financial Crisis on TFP, during which there were severe declines in production, they perform regressions linking TFP to a series of dummy variables covering the 1998–2001 periods. They find that declines in production, particularly in 1997 and 1998, have clear impacts on TFP, that the loss in productivity growth associated with this period was not made up in later years, and that the coefficient of a time-trend variable was significantly negative. They also perform regressions linking TFP to other variables such as increasing exports, share of investment, and industrialization, and find that change in industrial output and change in exports make significant contributions to TFP change. Other measured factors, including foreign direct investment,

did not show up with statistical significance. Unexplained TFP growth is relatively small. Thus the ultimate equation explaining TFP growth indicates that productivity growth in East Asia varies considerably with cycles in business activity and depends greatly on the expansion of industrial production and exports.

Chapter 7: ‘What Really Happened to Thai Wage Rates during the East Asian Financial Crisis?’ by Jere R. Behrman, Anil B. Deolalikar and Pranee Tinakorn

In their chapter, Behrman, Deolalikar and Tinakorn (BDT) explore what happened to real wage rates during the Asian Financial Crisis of the late 1990s. The most important earning asset of most members of developing countries is their labor, therefore what happens to real wage rates is important because of (a) the implications for the purchasing power of workers’ income and the design of effective anti-poverty and social safety net policies, (b) the impact on time allocations of workers, and (c) the implications for the extent to which labor market adjustments occur through price rather than quantity effects.

Conventional wisdom and most of the claims in previous literature indicate that real wage rates fell considerably in Thailand due to the crisis. This chapter uses as its benchmark a World Bank (2000) study of the behavior of the aggregate Thai wage rates as a result of the crisis. This World Bank study estimates that the Thai real wage rate fell by 4.6 percent during the crisis. The methodology used was to subtract the percentage change in the number of employed workers between the pre- and post-crisis period from the percentage change in the aggregated real wage earnings between the pre- and post-crisis period. However, BDT argue that the methodology used in the World Bank and other studies is subject to at least four possibly important limitations that may make a considerable difference in understanding what really happened to real wage rates and what the implications are for policy. The chapter then examines these four limitations in detail.

First, the World Bank assumes that the number of wage recipients is a fixed share of total employment. But the composition of employment shifted from wage to non-wage workers, and this *by itself* creates a bias of 2.5 percentage points in World Bank estimates (implying ‘true’ change of $-4.6\% + 2.5\% = -2.1\%$). Second, it assumes that hours worked are constant, but, in fact, hours worked did change, which, again *by itself*, creates a bias of 5.5 percentage points (implying a ‘true’ change of $-4.6\% + 5.5\% = 0.9\%$). Third, the World Bank weights wage recipients proportionately to their hours worked to obtain the mean wage rates across wage recipients; whereas BDT feel that it is more appropriate to weight individuals equally

and estimate that this aspect of the World Bank methodology by itself causes a bias of 1.4 percentage points (implying a ‘true’ change of $-4.6\% - 1.4\% = -6.0\%$). If *all of these first three biases were corrected*, the World Bank estimate would change to an *increase* of 2 percent in Thai real wage rates during the crisis.

However, more importantly, BDT contend a fourth issue related to the above World Bank methodology. This issue concerns the World Bank study’s assumption that no change took place in the composition of wage recipients between the pre- and post-crisis periods. Instead the BDT study looks at data for all workers and for subcategories defined by the three observed characteristics of gender, age and schooling and finds that as a result of the crisis, wage employment shifted relatively from females to males, from younger to older workers, and from lower-schooled to higher-schooled individuals – all shifts from lower to higher real wage categories. The failure to account for these important compositional changes in World Bank estimates means that the estimated overall average real wage rate change is biased *upwards*. The authors’ best estimate of how much real hourly wage rates declined due to the crisis is 7.8 percent (due to the methodology used by BDT, their estimate is free from the first three biases that the World Bank study had to contend with).

The major conclusion of the study was that the methodology used by the World Bank presents a misleading picture of what happened to Thai real wage rates during the Asian Financial Crisis. Although the biases in the World Bank study are partially offsetting, the severity of the impact of the crisis on declines in the real wage rate is underestimated by 3.2 percentage points or about 40 percent (comparing a World Bank estimate of a 4.6 percent decline with this study’s preferred estimate of a 7.8 percent decline). This study notes that even the decline of 7.8 percent is probably an underestimate of the true decline because of the probable compositional changes that occur because of unobserved characteristics such as ability and motivation. The authors feel that the best solution would be for longitudinal labor force data to be collected as a matter of routine so that comparisons could be made for the wage rates for the same individuals over time. If these longitudinal surveys are not available, then a second-best solution is to follow the methods in this chapter, in particular controlling for compositional changes with respect to observed characteristics such as gender, age and schooling.

Besides the above question of computing the ‘true’ magnitude of the decline in the Thai real wage during the 1997 crisis, the BDT study also examined the claim that the poorer and more vulnerable suffered most in the crisis and found some, but limited, support for that claim. Regression estimates showed that youths fared worse than prime-age adults, but that

some other groups typically characterized as more vulnerable fared relatively well: those with primary or less schooling, females and older adults.

Chapter 8: ‘Exchange Rate or Wage Changes in International Adjustment? Japan and China versus the United States’ by Ronald I. McKinnon

In this chapter, McKinnon puts forth an analysis that concludes that, under the world dollar standard, a discrete appreciation by a dollar creditor country of the United States, such as China or Japan, has no predictable effect on its trade surplus. Currency appreciation by the creditor country will slow its economic growth and eventually cause deflation but cannot compensate for a saving–investment imbalance in the United States. Under a fixed exchange rate, however, differential adjustment in the rate of growth of money wages will more accurately reflect international differences in productivity growth. International competitiveness will be better balanced between high-growth and low-growth economies, as between Japan and the US from 1950 to 1971 and China and the US from 1994 to 2005, when the peripheral country’s dollar exchange rate is fixed so that its wage growth better reflects its higher productivity growth. Also discussed is the qualified case for China moving toward greater flexibility in the form of a very narrow band for the yuan/dollar exchange rate, as a way of decentralizing foreign exchange transacting.

One important implication of the McKinnon hypothesis as articulated in this chapter is that even if we made some desirable changes in the yuan/dollar exchange rate, the hope of narrowing the China–US trade surplus may not materialize since the more important determinant of the Chinese advantage is its relatively lower wage rate. According to available data, anecdotal evidence indicates that it may be as high as 20 to 30:1 in China’s favor compared with about 5 to 10:1 in India’s favor when we compare India versus China. However, it is interesting to note that China’s relative advantage in wage competitiveness may already be narrowing and the dynamic implications of this trend towards the exchange rate and trade policy vis-à-vis China should be very instructive and important to watch.

Chapter 9: ‘Adjustment to China’s CPI-based Inflation Rate to Account for the “True” Cost of Living, 1993–2004’ by Lawrence R. Klein, Huiqing Gao and Liping Tao

In this chapter, the authors Klein, Gao and Tao (KGT), in a pioneering study, adjust China’s Consumer price index (CPI) to account for the ‘true’ cost of living for 1993–2004, a period that covers the Asian Financial Crisis period 1997–98.

Chinese economic growth since 1978 has certainly been spectacular in magnitude, and, as a result, many scholars have drawn the conclusions that the numerical size of Chinese economic growth is overstated. However, that is not the opinion of the authors of this chapter. In order to examine China’s growth rate, they have focused on its rate of price level change as measured by a consumer price index – the inflation rate that can be used to convert nominal GDP to real GDP. They argue that the magnitude of inflation has been overstated, because it does not take into account quality change or lifestyle change. Hence, they estimate an adjustment to China’s CPI by estimating the ‘true’ economic cost of living index, using the linear expenditure system (LES). The true ‘cost’ of living in China can indicate how much the inflation might be lowered, and the real growth rate correspondingly increased, for the economy as a whole.

The LES equation can be written as:

$$(p_{it}q_{it} - p_{it}\gamma_i) = \beta_i \left(r_t - \sum_{j=1}^n p_{jt}\gamma_j \right); \sum_{i=1}^n \beta_i = 1$$

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expenditure on
the *i*-th category

minimum
subsistence
expenditure
on the *i*-th
category

total
income

total minimum
subsistence
expenditure
on all categories

β_{*i*} = marginal
propensity to
consume
out of
supernumerary
income.

This equation is expressed in current value prices (nominal). Goods and services are grouped into eight classes: food; clothing; household facilities; medicine and medical services; transportation, post and communication services; educational, cultural and recreation services; residential; and miscellaneous commodities and services. Each of these aggregate groups can be treated as a non-inferior good. Engel curves separately relate expenditure on each group to total income, and the part of the Engel curves that the authors of this chapter use for parameter estimation is in a linear range. They use cross-section data from family budgets (for both urban and rural populations) to estimate the parameters γ_{*i*}, which represent necessary or minimum levels of consumption for each grouping of goods and services, and they use time-series aggregates to estimate the parameters β_{*i*}, which represent marginal propensities to consume.

Using these parameter estimates, they evaluate the ‘true’ cost of living index. They find a lower inflation rate across both urban and rural

populations on the basis of 'true' cost of living, compared with standard CPI calculations, which translates into higher growth rates for real consumption. If nominal consumption rates were adjusted using this lower inflation rate, KGT estimate a higher real consumption growth of 9.32 percent on a per capita basis and 9.57 percent on a household basis (versus 7.65 percent and 6.65 percent, respectively without such an adjustment). Because the authors see persistent overestimates of the price deflator for consumption, they conclude that one or two percentage points should be added to the growth rate. Although they determine this for consumption, they argue that close to the same order of magnitude should be considered for GDP as well.

In addition, the authors offer another approach to adjusting the official published price indexes, which takes into account a variety of indicators of life quality or lifestyle in a wider sense. Using ten such indicators, they compute an index as a ten-element weighted average, which grows from 100 in 1980 to 115.47 in 2002. This indicates an estimated growth rate of $r = 0.65596$ percent, nearly double that for the United States in the period 1980–2000. Thus they conclude that the adjustment to China's growth rate could be as high as 1 percent or more.

The adjustment of the US inflation rate for quality of life and other changes has been broadly accepted, so it seems reasonable to adjust China's price indexes for the same reasons. In fact, lifestyle changes in China have been much greater than for the United States.

Chapter 10: 'Estimating China's Core Inflation Rate' by Deming Wu

The premise of this chapter by Deming Wu is to ascertain the 'core' inflation rate for China in the same manner as is routinely adopted for other advanced economies such as the United States. This constitutes a very sound and extremely interesting methodological exercise with important policy implications as well. The empirical estimates obtained as a result of this effort are a very important statistic that allows us to characterize properly the stabilization policy in China. This is an important element both domestically as well as in the context of the debate pertaining to China's perceived role in the Asian Crisis of 1997–98 when, at times, it was criticized for being too 'deflationary'. One of the main findings of the chapter is that China's core inflation rate – an idea familiar to the US macro-empiricists – was positive unlike the observed official overall inflation rate, which was negative. This implies that, judged by the same standards as adopted, say, in the US for determining the inherent or underlying true inflation rate by looking at the 'core' inflation rate, China pursued a rather expansionary monetary policy during 1997 and 1998. Thus, if anything, China was a

stabilizing influence in East Asia during the crisis period. It is evident that this chapter makes very important contributions methodologically as well from a policy perspective in the context of the debate on the Asian Financial Crisis of 1997–98.

NOTE

1. Kaminsky et al. (1998).

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