

## CHAPTER 1

# THE ASIAN CRISIS AFTER 10 YEARS<sup>1</sup>

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### 1.1. Introduction

There is no shortage of conferences, commentaries, and even keynote addresses celebrating the 10th anniversary of the Asian crisis. “Celebrating” is, admittedly, an odd word to use in this context; recollections of a crisis are not typically being taken as an occasion for the popping of champagne corks. Yet, I use it consciously: 10 years after the crisis there are in fact important achievements. For one thing, Asia has not experienced further financial crises. For another, the region rebounded quickly, and now once again is the fastest growing part of the world. Some observers worry that investment rates in Emerging East Asia ex China have never recovered fully to pre-crisis levels, making for slower growth than in the first half of the 1990s.<sup>2</sup> However, less investment may, in this case, mean more efficient investment and, even if growth rates have slowed they are still impressive by the standards of the rest of the world.

Commentators on this experience faces two challenges. The first one is drawing inferences about the future from the past. The fact that Asia has not experienced another crisis is no guarantee against such problems in the future, just as the fact that Asia is now the world’s fastest growing

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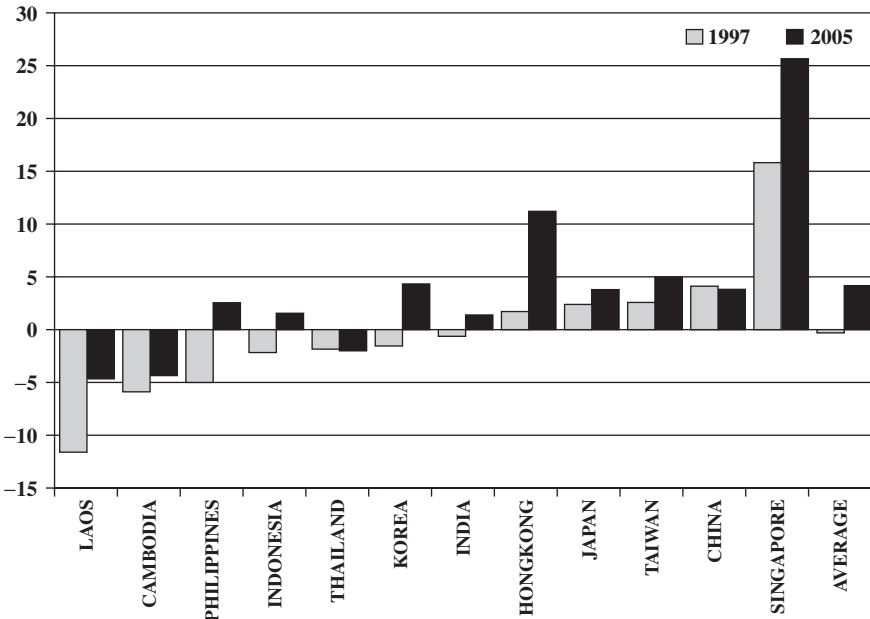
<sup>1</sup>Keynote address to the Claremont-Bologna-Singapore Center for Applied and Policy Economics International Economic Policy Forum on “Capital Flows, Financial Markets and Economic Integration in Asia,” 31 July 2007. This version has been slightly updated to reflect subsequent developments but still should be read in the context it was delivered.

<sup>2</sup>Readers seeking more detail on the decline in investment, its causes, and its implications for growth can find an extensive analysis in Asian Development Bank (2007).

region does not ensure that it will continue to outperform economically.<sup>3</sup> The second challenge is to approach these questions with a modicum of originality. I attempt both tasks in what follows.

## 1.2. Post-Crisis Changes

The big change from the pre-crisis period is the improvement in Asian current accounts. In Figure 1.1, countries are arrayed by the size of the

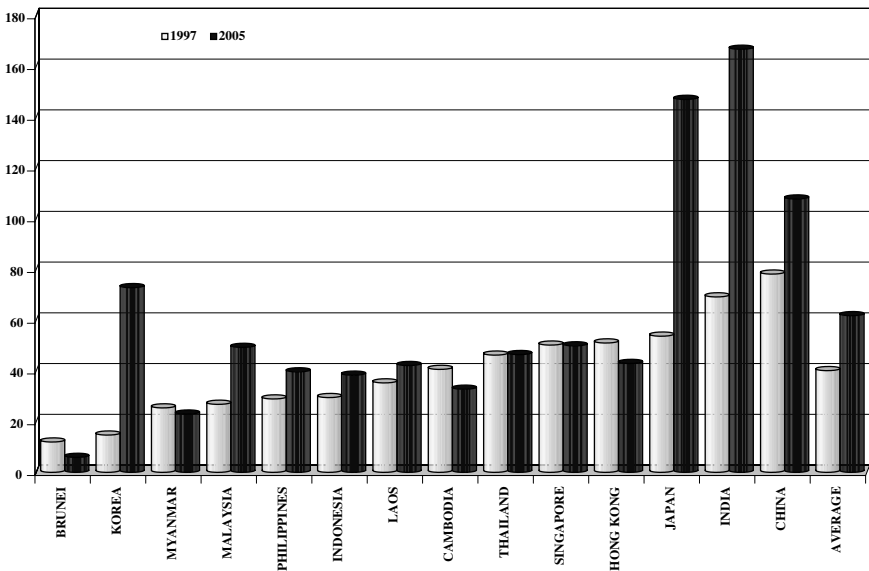


**Fig. 1.1.** Current account balance to GDP.

Source: World Bank World Development Indicators.

<sup>3</sup>Forecasting is risky business, especially when it involves the future, to paraphrase a comment traditionally attributed to Niels Bohr, the Danish physicist. An interesting letter to *The Economist* (21 June 2007) suggests that Bohr did not originate this quote but appropriated it to illustrate the difference between Danish and Swedish humor. (Mark Twain may have been the originator, but even this is uncertain.) Other quotes for which Bohr has clear patrimony are equally relevant to economics, however. “An expert is a man who has made all the mistakes, which can be made, in a very narrow field.” “Never express yourself more clearly than you think.” And “We all agree that your theory is crazy. The question that divides us is whether it is crazy enough.”

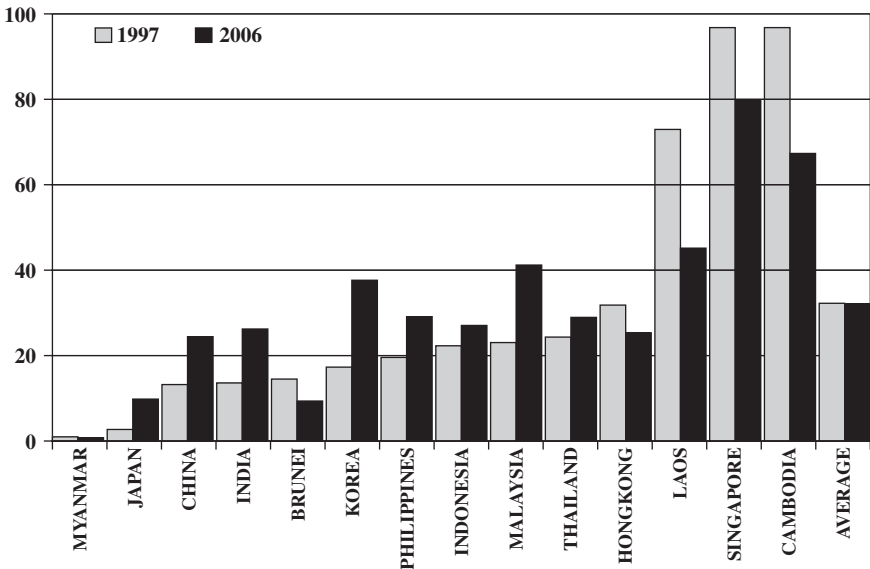
current surplus, scaled by GDP, in 1997. Countries with substantial surpluses around the time of the crisis have maintained them, while a number of other countries have either shrunk their deficits (Laos, Cambodia) or moved from deficit to surplus (Philippines, Indonesia, Korea). Countries have used these surpluses to build their international reserves, keeping their currencies down and sterilizing some of the associated capital inflows (see Chapter 4 of this volume). Less widely appreciated is that while reserves are up dramatically as a share of short-term debt, they are up less dramatically relative to exports (Figure 1.2), where they have risen from 40 to 60 percent (most sharply in three countries that already had high reserves by this measure — Japan, India, and China — as well as in Korea), and they have risen not at all relative to the scale of the financial system as measured by M2 (Figure 1.3). Putting reserves up has been part and parcel with keeping currencies down. Mechanically applying the Reinhart–Rogoff criteria, it would appear that there is relatively little change in *de facto* exchange rate regimes; significant increases in flexibility are indicated only in Indonesia and Korea (Figure 1.4;



**Fig. 1.2.** Ratio of reserves to exports.

*Note:* Total reserves minus gold over goods exports (f.o.b.).

*Source:* IMF International Financial Statistics.



**Fig. 1.3.** Ratio of reserves to M2.

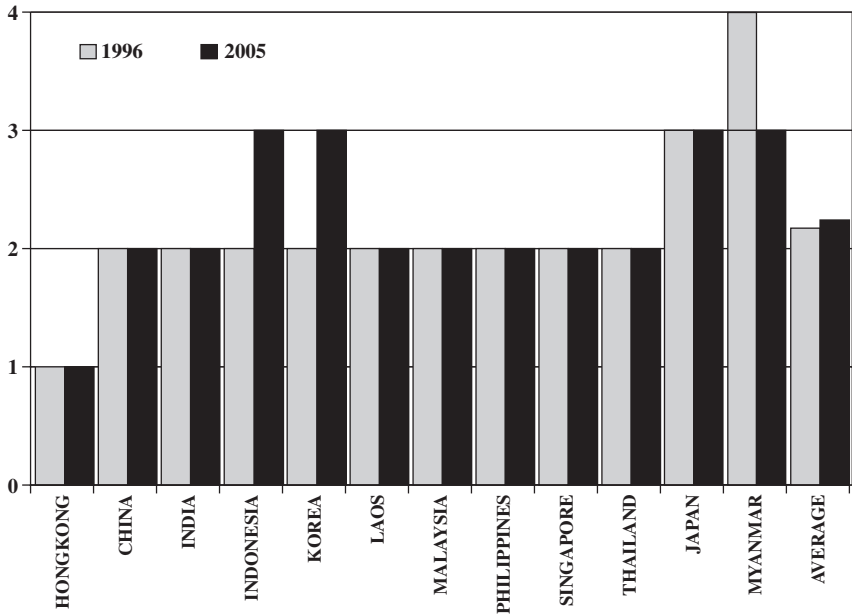
*Note:* Total reserves minus gold over money plus quasi-money.

*Source:* IMF International Financial Statistics.

also see Chapters 2 and 9 of this volume). This is a significant and not entirely reassuring development. I return to it below.

Arithmetically, current accounts have strengthened because investment rates have fallen while savings rates have been essentially flat (see Figure 1.5). But this observation just pushes the mystery back another step. Keeping the exchange rate low should boost not just exports but also profitability; the positive co-movement of exports and investment is one of the foundation stones of the Asian model. Some authors (e.g., Kramer, 2006) point to increased uncertainty since the Asian crisis. Countering this is the observation, due to Villar (2006), that the volatility of output and inflation has in fact been lower during 2001–2004 than during 1995–1999.<sup>4</sup> Others suggest that East Asian industry is being “hollowed out” by the rise of China, depressing investment. In practice, however, the impact of China’s rise on its neighbors is mixed: China has had a positive impact on the exports and

<sup>4</sup>This contrast is presumably influenced by the fact that the first subperiod spans the Asian crisis. But my own calculations for the 1990–1995 period further support the point that volatility has declined in recent years.



**Fig. 1.4.** Exchange rate regime.

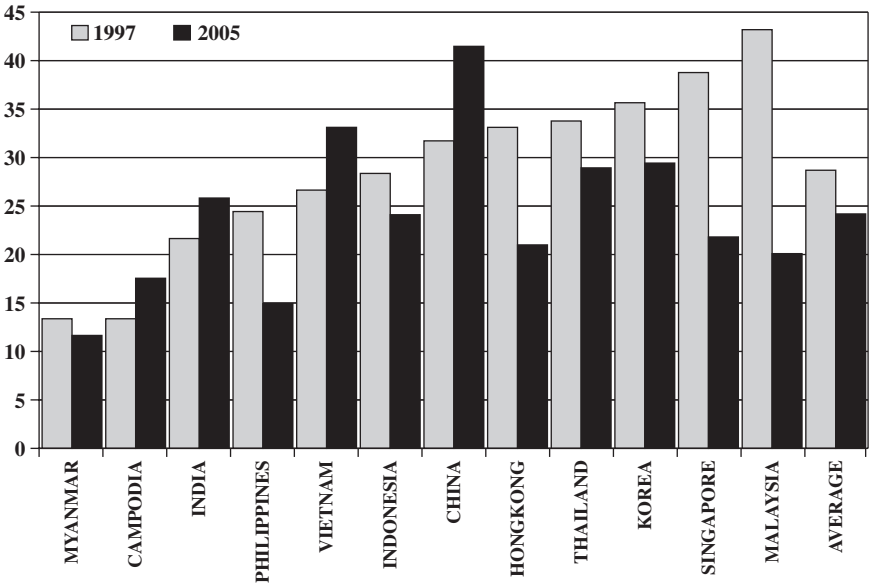
*Note:* The exchange rate regime discrete variable takes the value of 1 if the exchange rate arrangement is a hard peg, 2 for intermediate regimes, 3 for freely floating, and 4 for freely falling.

*Source:* Reinhart and Rogoff (2004) natural classification (for 1996–2002) updated by Eichengreen and Razo-Garcia (2005) (for 2003–2005).

investment of producers of capital goods, components, and technology but a negative impact on countries that compete with it in assembly operations and the production of consumer goods (Eichengreen and Tong, 2006). Yet, with the exceptions of Cambodia, Vietnam, India, and of course China itself, investment rates have fallen across the board.

The explanation still standing is that budget constraints have hardened as financial systems have been reformed, governments have removed explicit investment subsidies and implicit guarantees, and corporate governance has been strengthened, discouraging empire building by managers and founding families. If so, one would think that Asian investment, while reduced in volume, has become more efficient.<sup>5</sup> But this has not shown up in a declining Incremental Capital Output Ratio (ICOR) or accelerating Total

<sup>5</sup>As alluded to in the introduction.



**Fig. 1.5.** Investment to GDP.

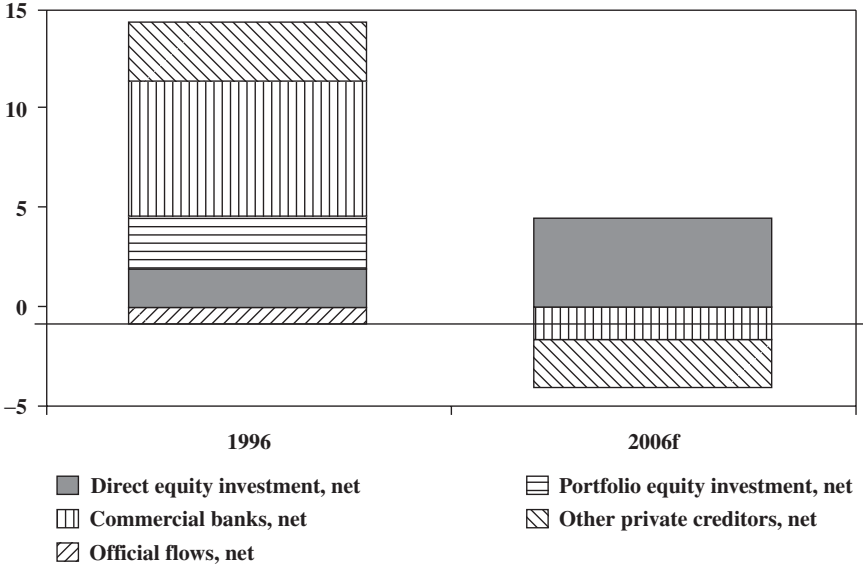
Note: Gross fixed capital formation over GDP.

Source: IMF International Financial Statistics.

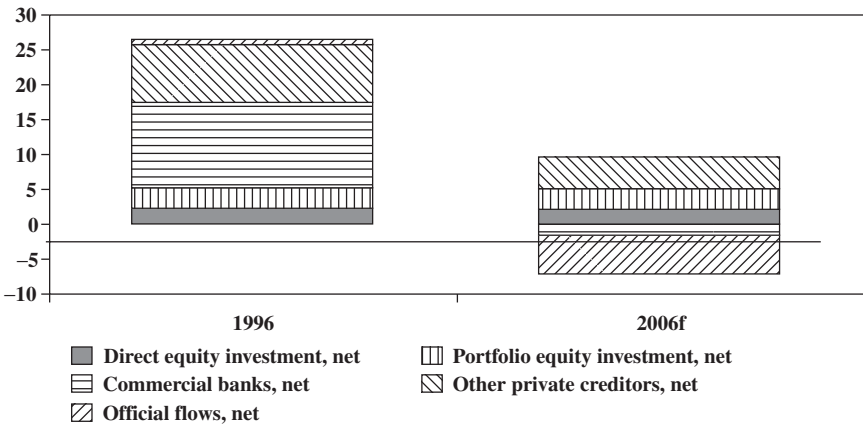
Factor Productivity (TFP) growth. Rather, the decline in investment rates has been accompanied by a downward shift in growth rates (as emphasized by the Asian Development Bank in its 2007 *Asian Development Outlook*). It could be that more time will have to pass before more efficient investment translates into faster growth. We shall see.

Another big change is the composition of foreign finance (Figure 1.6). In Malaysia, Indonesia, and the Philippines, among other countries, dependence on borrowing from foreign commercial banks and other private creditors has been reduced, on net, while inward foreign direct and/or equity investment has increased. This is a more stable and reliable pattern of borrowing. Interestingly, Korea and Thailand do not fit the pattern in that net inflows remain large.<sup>6</sup> In the case of Korea it is also notable that net borrowing from foreign banks remains substantial, as local branches of foreign banks have taken advantage of low funding costs to invest heavily in higher-yielding Korean securities. I will have more to say about this shortly.

<sup>6</sup>Or at least they did, in the case of Thailand, prior to the coup last November.



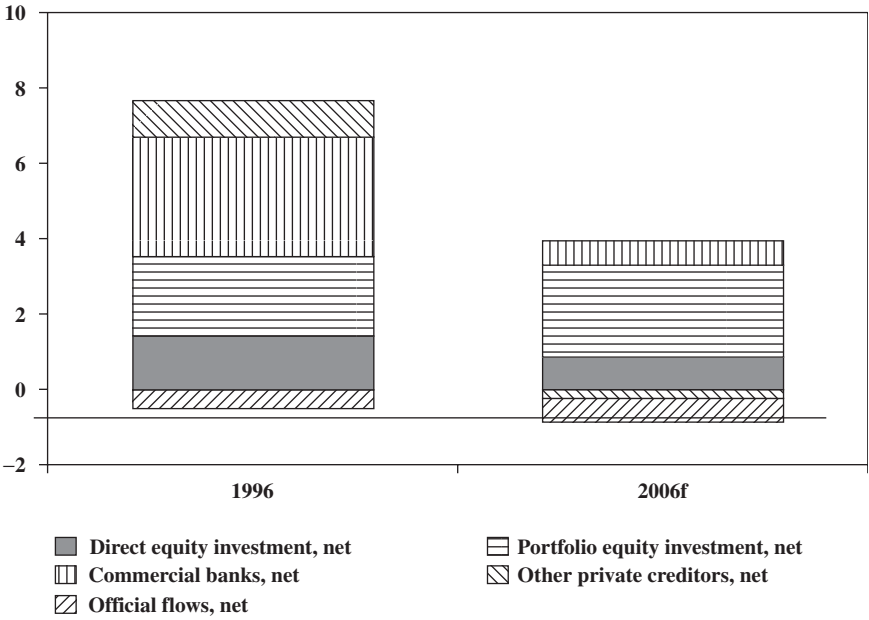
(a)



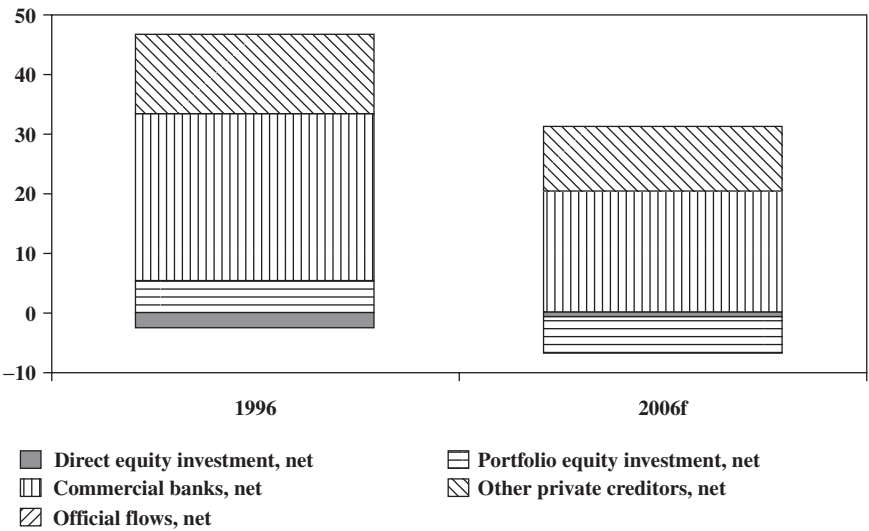
(b)

**Fig. 1.6.** External financing: (a) Malaysia, (b) Indonesia, (c) Philippines, (d) Korea, and (e) Thailand. (billions of U.S. dollars).

Source: Institute of International Finance.

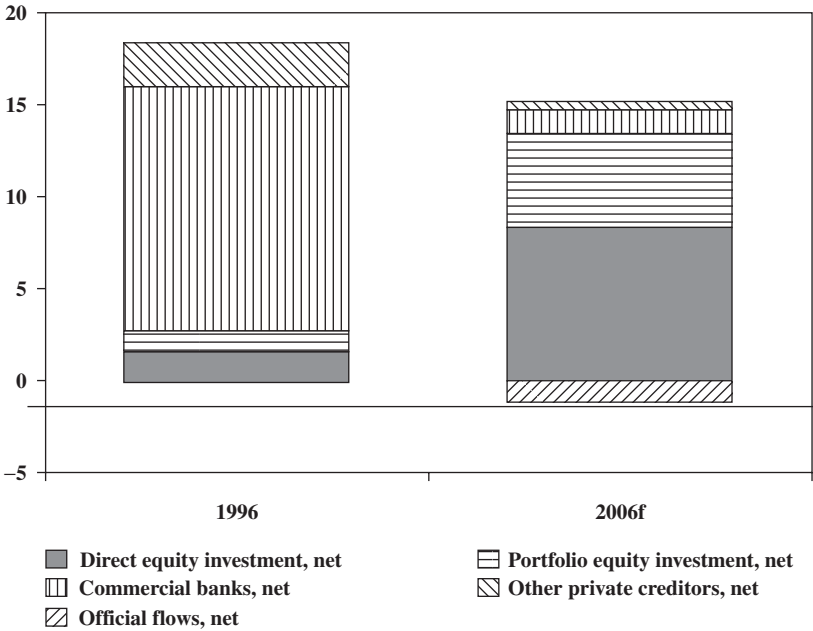


(c)



(d)

**Fig. 1.6.** (Continued)

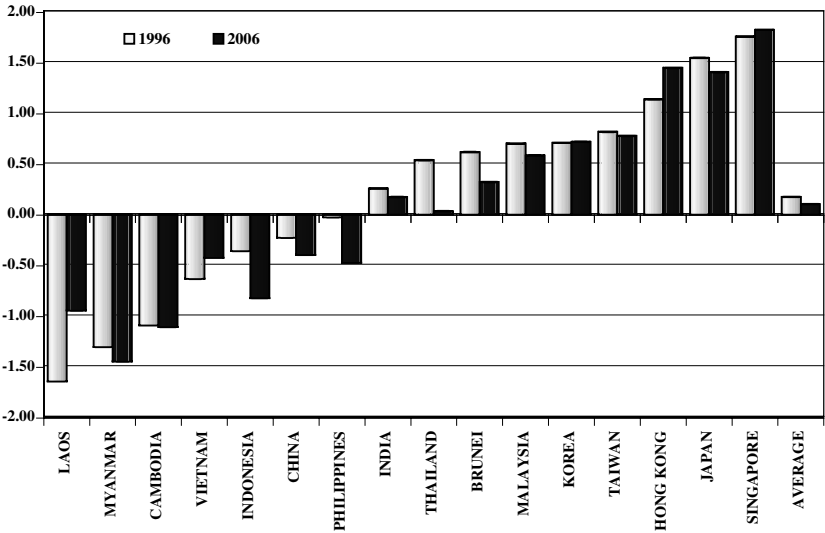


(e)

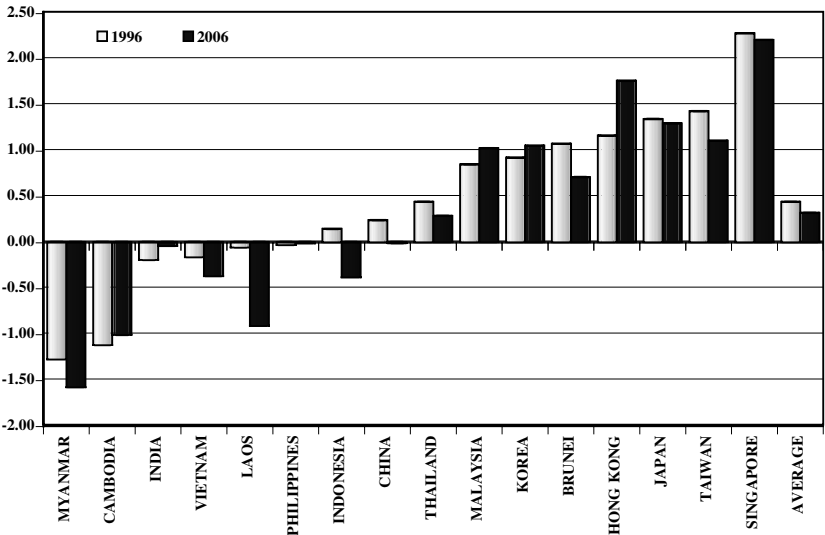
Fig. 1.6. (Continued)

What about Asia’s much-vaunted institutional reforms? There has been little measured improvement in the rule of law (Figure 1.7) or government effectiveness (Figure 1.8), with the exception, in the case of the latter, of Korea, Malaysia, and Hong Kong.<sup>7</sup> Measures of regulatory quality are up only in Korea, Japan, Singapore, Taiwan, and Hong Kong, and down for the region as a whole (Figure 1.9). A less pessimistic perspective would emphasize that, adjusted for levels of economic development, Asia compared favorably with other regions in terms of these measures even before the crisis and that the absence of faster progress has not fundamentally transformed this picture. Figures 1.10–1.12 array countries according to their per capita incomes in U.S. dollars in 2006. Singapore, Malaysia, and to a lesser extent Hong Kong and Korea do visibly better than predicted on the basis of their development and incomes, while Japan does visibly worse.

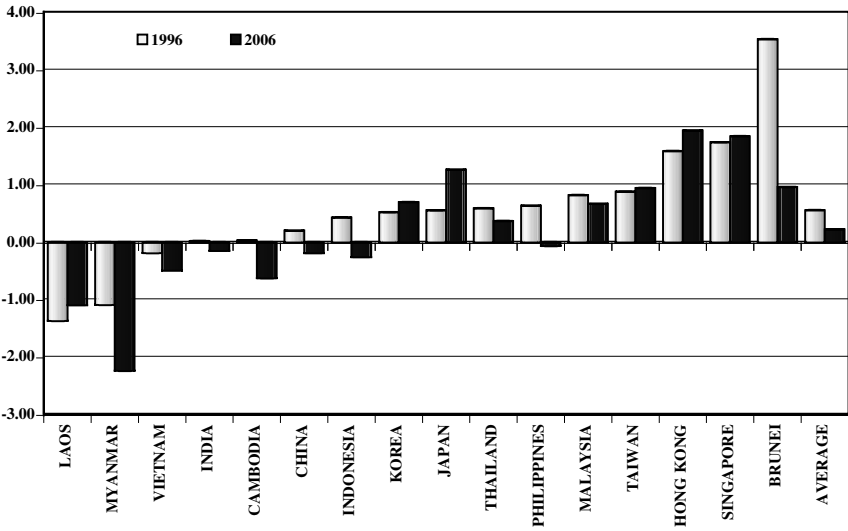
<sup>7</sup>And, if countries with very low values are nonetheless accepted, Cambodia as well.



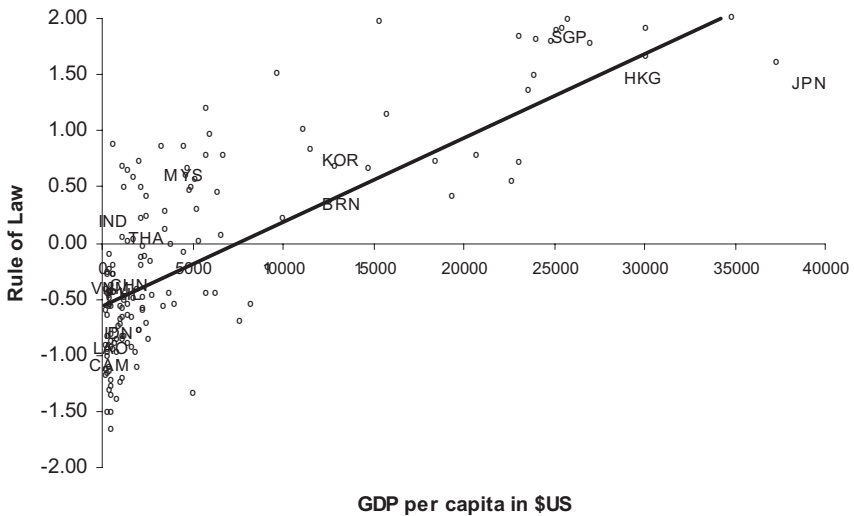
**Fig. 1.7.** Rule of law. (The rule of law index measures the extent to which the agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence. A higher index is translated in a better rule of law.)  
 Source: World Bank Governance Indicators.



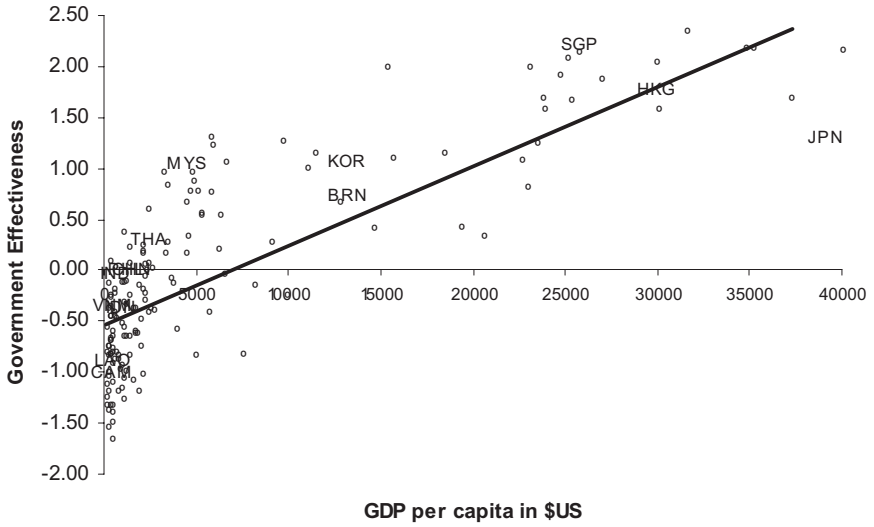
**Fig. 1.8.** Government effectiveness. (The government effectiveness index measures the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. A higher index is translated in a more effective government.)  
 Source: World Bank Governance Indicators.



**Fig. 1.9.** Regulatory quality. (The regulatory quality index measures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. A higher index is translated in a higher regulatory quality.)  
 Source: World Bank Governance Indicators.

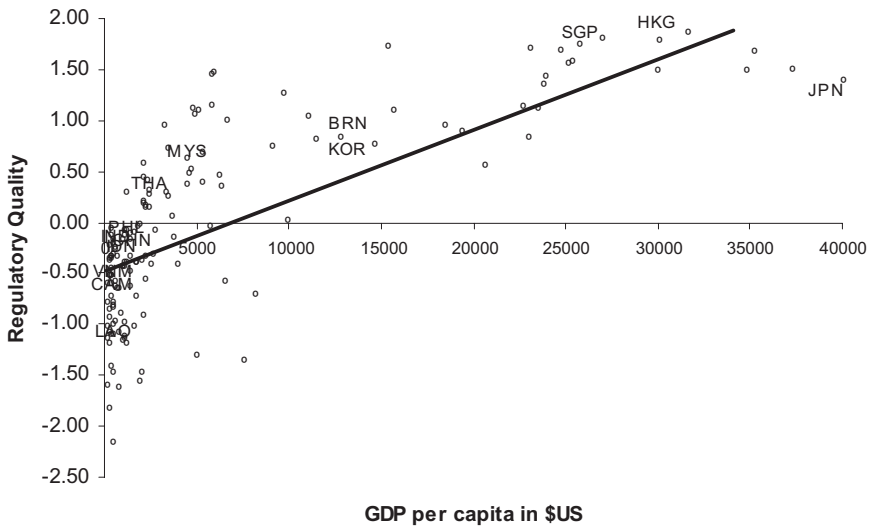


**Fig. 1.10.** Rule of law.  
 Source: World Bank, Governance Indicators and World Development Report.



**Fig. 1.11.** Government effectiveness.

Source: World Bank, Governance Indicators and World Development Report.



**Fig. 1.12.** Regulatory quality.

Source: World Bank, Governance Indicators and World Development Report.

Not surprisingly, then, Asia has made faster progress in changing policies than in changing institutions. The question raised by the contrast is whether policy reform not accompanied by commensurate institutional reform should be regarded as permanent.

### **1.3. Forecasting Is Risky, Especially When It Involves The Future**

These changes in the economic and financial situation significantly complicate efforts to think about future financial prospects. At risk of oversimplification, I would place commentators in two broad camps. The first one is made up of those who argue that Asia has effectively bullet-proofed itself from financial crises. That short-term foreign-currency debt is less than in the 1990s and that it is now only a fraction of foreign reserves mean that, in the short run, crises will not resemble that in Korea in 1997, when foreign creditors' reluctance to renew maturing obligations pushed the banks and their implicit guarantor, the government, to the brink of default. Debt ratios have fallen, maturities have lengthened, and a growing share of debt to foreigners is denominated in local currencies. Even if a sudden reluctance on the part of foreign investors to renew their maturing claims creates problems for banks and firms, the national authorities can provide the resources needed for repayment, using their international reserves to pay off foreign currency-denominated obligations and printing money to supply the liquidity needed by banks and firms to meet their domestic currency-denominated obligations. To the extent that emerging markets have adopted more flexible currency regimes, the authorities are not prevented from engaging in lender-of-last-resort intervention by a commitment to defend a currency peg, and any associated weakening of the exchange rate will not be fatal to confidence. Because currency mismatches have been reduced, the fall in the exchange rate will not have such damaging balance-sheet effects. And if an isolated economy still requires emergency assistance, it can now obtain it from its regional neighbors, courtesy of the Chiang-Mai Initiative (see Chapter 9 of this volume).

Members of the second camp argue that less has in fact changed that meets the eye and that Asia could again experience financial instability not unlike that during 1997–1998 (Roubini, 2007). They observe that exchange rates are more flexible in theory than in practice, not least in the case of

China. In certain countries, South Korea for example, short-term foreign indebtedness is rising again (as noted in Section 1.1). While there has been progress in developing regional bond markets, the majority of bonds sold to foreign investors are still denominated in dollars, creating scope for currency mismatches (McCauley and Park, 2006). There are still weaknesses in Asian banking systems. While this is most obviously true of China, there are reasons to worry more generally that increased competition from foreign banks and nonbank financial intermediaries has led to the relaxation of lending standards and excessive compression of lending spreads.<sup>8</sup> Accounting transparency and shareholder rights may have been strengthened; yet by these and other measures the quality of corporate governance in Asia continues to lag behind that in the advanced industrial countries.<sup>9</sup> Past is prologue, in this view. It is impossible to rule out another crisis similar to that of 10 years ago.

My own view is that Asia is still at significant risk, but that any crisis is likely to take a different form than that in 1997–1998. The trigger this time would not be currency devaluation by a country facing difficulty in financing a large current account deficit but rather a sharp drop in asset valuations. I will suggest in the following Section 1.4 what could trigger such a reaction.

If asset valuations do crash, leveraged investors may be forced to sell into falling markets in order to meet margin calls and raise liquidity. Volatility having risen, banks and funds will be forced to liquidate positions to satisfy the prudential guidelines embedded in their value-at-risk models. Because they use positions in more liquid markets to hedge stakes in less liquid markets, an adverse shock to relatively illiquid markets may force them to sell their holdings of more liquid instruments to reduce the net loss from the portfolio. This creates a tendency for volatility to spill across countries, as we saw when tiny Iceland's problems spilled over to other countries in 2006.

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<sup>8</sup>In addition, commentators worry that by extending interest-rate risk to their customers, including now households, in the form of variable-rate loans, the locus of maturity mismatches may have been changed without reducing the underlying risks. Contributors to Turner (2006) emphasize that much remains to be done in terms of changing the culture in supervisory agencies and the audit departments of banks in many countries in the region, and that many such agencies and banks suffer from shortages of adequately trained staff.

<sup>9</sup>As shown in the analyses of de Nicolo *et al.* (2005) and Ananchotikul and Eichengreen (2007).

The consequences will be rising liquidity preference and higher borrowing costs. Since much of their borrowing has been at variable rates, households may then find it difficult to keep current on their debts. Property prices will plummet as they hold off on purchases and even walk away from existing mortgages. The value of collateral will fall. Firms will find it hard to make interest payments, much less to issue bonds and roll over maturing obligations.<sup>10</sup> Depositors will grow uneasy, and banks will hesitate to lend. The interbank market may seize up as banks grow uncertain about the financial conditions of their potential counterparts. As a result of these events, the operation of the credit chain may be disrupted. The liquidity premium will skyrocket. This is what we mean by a financial crisis.

Two questions are then critical. First, would this sequence of events have major recessionary effects? Financial markets go up and down, and the declines can be abrupt and dramatic, but major recessionary effects need not follow. Second, speaking of Asia as a whole, as I have done to this point, conceals as much as it reveals. The second critical question is how the situation and associated risks will differ across countries.

Where they will most obviously differ is China. Unlike much of Emerging East Asia, China suffers from no shortage of investment. Investment rates have risen further since the late 1990s, to upward of 45 percent of GDP if the official statistics are to be believed. The country is attracting large amounts of FDI. Through late 2007, it experienced a dramatic stock market run-up.

But there are reasons to ask whether such a large increase in the capital stock, mobilized in short order, can be deployed efficiently. One can imagine a variety of economic, financial, and political shocks that could transform investors' positive views of this question. Asset valuations then would fall sharply. Investment would fall sharply. China's growth could fall sharply. These events would compound, and in turn be compounded by, problems in the banking and financial system.

There are obvious parallels with the situation in East Asia prior to 1997, which saw countries running high investment rates funded, directly or indirectly, by state-supported banks. Stock markets were furiously bid up in

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<sup>10</sup>Here it is worth recalling that the average maturity of corporate bonds is still much shorter in Emerging Asia than in the advanced countries.

the first half of the 1990s.<sup>11</sup> Property prices rose strongly in Hong Kong, Singapore, Malaysia, and Thailand. This speculative activity was fueled by a sharp bank lending boom. These observations are more than enough to create a sense of *déjà vu*.

But I find more thought provoking a different parallel, namely that with my own country, the United States, before 1913. [Here, you will see, I am developing some ideas suggested by Larry Summers, albeit in a different context.] The U.S. then, like China now, was undergoing rapid growth. Previously a minor player, it was becoming a major force in the world economy. I think of this phase as extensive growth, where the availability of key resources to the modern sector was effectively unlimited. In the American case this meant unlimited land, which attracted capital and labor from abroad. In the Chinese case it means unlimited labor, which attracts capital.

The result in both cases was an investment-led boom. There is no question that these booms were grounded in fundamentals, abundant land and resources in America, abundant labor in China, and a supportive policy framework in both places, not the least consequential aspect of which was policy-makers' embrace of globalization. Both booms were fed by technological and organization revolutions: in the United States, the process of rail-roadization, the advent of the multidivisional corporate form, and modern mass production; in China, the commercialization of enterprise, export orientation, and abundant labor.

And<sup>12</sup> in neither case was a government budget deficit or a consumption binge at the root of events, as was the case in many episodes of rapid growth that culminated as in the crises in the final decades of the 20th century, especially in Latin America. Rather, these were investment-driven cycles.

While it is understandable that asset markets should have reacted favorably to such developments, it is also argued that they reacted excessively. The literature refers not just to the commercialization of rail transport but also to the railway mania. (The term "railway mania" actually comes from the railway-building boom in Britain in the 1840s — Carroll (1876) referred to it in *The Hunting of the Snark* — but it is applied to U.S. experience as well.) New technology and ample funding, against a backdrop of

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<sup>11</sup>By some 65 percent between 1991 and the peak (typically in mid-1997) according to the data in Collins and Senhadji (2003), p. 104.

<sup>12</sup>This being Summers' point.

excessive growth, combined to encourage surging investment and rapidly rising asset valuations. But in this environment of imperfect information and crony capitalism, what went up also could come down, with serious losses to investors. Scholars continue to debate whether the game was worth the candle. Realized returns on the bonds and stocks issued by early railways were often disappointing. But, some argue that there were positive externalities associated with investment in the railways, in the new generation of chemical technologies in the 1890s, and in electrification and the internal combustion engine at the turn of the century, above and beyond the returns captured by the initial investors. Carlota Perez, for example, argues that overinvestment and losses at what she calls the installation stage made possible high returns at the deployment stage, subsequently (Perez, 2002). (She makes the same argument about the “Nasdaq bubble” in the second half of the 1990s.) Karl Marx, writing about the British case, saw the losses consequent on the railway mania as integral to the process of primitive accumulation.<sup>13</sup> One is also reminded of the recent work of Ranciere *et al.* (2004) emphasizing the positive impact of bubbles and crises on growth.<sup>14</sup>

#### 1.4. The Crisis Part of the Story

This brings me to the crisis part of the story. These investment-led booms in the U.S. were also associated with financial crises, in 1853, 1873, 1884, 1890, 1893, and 1907.<sup>15</sup> Accounts of these episodes make for colorful reading. Authors like Charles Kindleberger have earned generous royalties building on this fact.<sup>16</sup>

Why this particular environment should have been crisis-prone is not hard to see. Despite the development of various forms of market intelligence (rating agencies, investment banks, railway gazettes), information about the new investment opportunities was imperfect. Foreign investors were unfamiliar with the physical geography. (In China’s case, one might similarly

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<sup>13</sup>Marx refers to the railway mania in Volume 3 of *Capital*.

<sup>14</sup>See Ranciere, Tornell and Westermann (2004), where they argue that crises may ultimately have a positive impact on growth.

<sup>15</sup>Here I am adapting the chronology of Sprague (1910) in his classic book, *History of Financial Crises*, written for the commission that recommended creating the Federal Reserve System. An extension of Sprague’s chronology is Bordo (2003).

<sup>16</sup>With particular success in Kindleberger (1978).

argue that they are unfamiliar with the economic and political geography.) In 19th century America, accounting and corporate-governance standards were lax. Mandatory disclosure of corporate information was successfully opposed by insiders until the 1930s. Most railroads did not publish annual reports until the 1890s, and those that did so were unaudited. Eventually, modern accounting practices were imported from Britain in the form of chartered accountants who traveled across the Atlantic, but getting to this point took time. Stock markets were lightly regulated, both by governments and their own members. The New York Stock Exchange made disclosure a requirement for listing, but there were many different ways and places to trade stocks in the United States, and when a company threatened to list elsewhere, the NYSE bent its rules. The U.S. banking system in this period was notoriously fragile.

Critically, a pegged exchange rate, which the U.S. again had after 1873, gave the authorities limited ability to lean against the wind. Interest rates were linked to those in the rest of the world. During the investment-led boom, price increases accelerated, making for lower real interest rates and encouraging yet additional investment. This was the familiar dilemma of the high-growth country enjoying lower real interest rates, in turn feeding its boom that we saw more recently in the context of the European Monetary System in the early 1990s and in the context of EMU at the beginning of the current decade.<sup>17</sup>

One can argue that these crises had an upside. They were part of the larger process that led to the deployment of new technologies. The larger process facilitated the integration of previously underutilized resources into the national and global economies. Disruptions at times of crisis did not prevent the U.S. from experiencing rapid economic growth. Among the consequences were the expansion of exports, the development of financial markets, and — above all — higher living standards. These very same disruptions prompted improvements in the institutional and policy environment, such as the founding of the Federal Reserve in 1914 and blue-sky laws requiring common carriers, utilities, and other public service corporations to disclose financial information, starting in Kansas in 1911.

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<sup>17</sup>As emphasized by people like Alan Walters. On the so-called “Walters critique,” see Miller and Sutherland (1990).

Still, it took the Depression of the 1930s to bring about real reform: the Fed's recognition of its responsibility to act as a lender of last resort, rationalization of the exchange rate regime, and the 1935 Federal Reserve Act, which consolidated decision-making authority at the Board. And that crisis, which had a number of elements in common with its pre-1913 predecessors, disrupted not just the U.S. economy but also the Western Hemisphere and the world. One worries that major problems in China could have equally dramatic effects. A sharp slowdown in China, in which growth falls by, say, half from its current levels, could trigger economic and financial problems elsewhere in the region.<sup>18</sup>

But would growth in fact fall so dramatically? This brings me to the other question, namely whether asset market busts in fact have recessionary effects. Here again it may be revealing to consider the U.S. experience in the 19th century, since weaknesses in financial markets were in some respects similar to those present in China today. Of the seven peacetime asset market busts in the U.S. in the century from 1815 to 1914, major recessions occurred in a bare majority of them — that is, four.<sup>19</sup> The average fall in output in these four episodes was 7 percent from peak to trough, a significant contraction by the standards of the Asian crisis. In contrast, in the 1873–1875 and 1881–1884 crises and the so-called Rich Man's Panic

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<sup>18</sup>To be sure, there are important differences between the two cases. Where pre-1913 U.S. booms were fed by procyclical monetary and credit conditions resulting from the maintenance of a gold-standard peg, the Chinese authorities can ostensibly lean against the wind because the country has a flexible exchange rate. The problem, as I noted earlier, is that the currency is not very flexible in practice. China also has capital controls, which provide at least limited monetary autonomy. But those controls are increasingly porous, and absent exchange rate changes they afford the authorities only limited monetary control — witness their current difficulties in cooling off the economy. The problem in the banking system is of a different sort, although it is not clear whether, in comparison with the late-19th century America, problems in China today should be regarded as more or less severe. China also has extraordinarily high savings rates, which means that it is running current account surpluses rather than deficits even in the midst of an enormous investment boom. Those surpluses have allowed it to accumulate massive foreign reserves, whose existence limits the danger, compared to the U.S. a century ago, of China being pushed off its implicit peg by a run on the currency. So I do not want to exaggerate the similarities. Ok, maybe I do.

<sup>19</sup>The seven asset market busts commenced in 1835, 1853, 1875, 1881, 1892, 1902, and 1906. I put aside wartime busts (during the War of 1812, the American Civil War, and World War I), since war tends to be highly disruptive to output, and including these episodes would bias the conclusions toward finding recessionary effects.

of 1902–1904, equity markets fell by some 23 percent in real terms from peak to trough, but economic growth was barely disrupted.<sup>20</sup>

What was different about these episodes? In 1902–1904 there was no adverse impact on the banking system. In 1884 the banking and financial system in New York City was disrupted, but problems there were resolved quickly before they could spread to the rest of the country.<sup>21</sup> The year 1873 is a more difficult case. The New York banks and their country correspondents had essentially been engaging in a carry trade: country banks with low funding costs placed their deposits with New York banks, which paid them higher interest rates, and in turn “these deposits were to a great extent loaned upon stocks and bonds in Wall Street, payable “on call,” with the confident belief that they were there earning more than the interest paid for securing them, and were available as promised.”<sup>22</sup> Much of this money had been invested in railways, including a large stake in Canada Southern Railroad by Kenyon, Cox & Co., bad news about which set off the panic.<sup>23</sup> Once the panic spread to Jay Cooke & Co., which had a large position in the Northern Pacific Railroad, the country was engulfed.

If there is an explanation for why the real effects were not more disruptive, it is that the banks’ difficulties were contained as a result of the issuance of clearinghouse certificates by the more conservative banks in

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<sup>20</sup>According to the conventional historical statistics on GDP, activity fell by a bit less than 1/2 of 1 percent between 1873 and 1874 before recovering. There was no interruption of growth in the first half of the 1880s. Between 1903 and 1904 growth fell by 1 percent before recovering strongly. In a number of other cases, it can be argued that drop in output caused the banking crisis rather than the other way around (or at least that the banking crisis was not entirely responsible for the drop in output). This is another reason for caution in ascribing effects.

<sup>21</sup>First, the other New York banks formed a committee to inspect the books of main problem bank, the Metropolitan Bank, and finding its accounts in reasonable order provided it with financial support. The Comptroller of the Currency immediately sent in examiners who oversaw the rehabilitation of the Metropolitan bank and the financial system generally.

<sup>22</sup>From the 11 November 1873 report of the New York Clearinghouse, quoted in Sprague (1910), p. 93.

<sup>23</sup>In addition, 1873 in the United States had an element of international contagion: financial crises had broken out earlier in the year in Austria and Germany, and German investors in particular had invested heavily in American railroads; when crisis broke out in Berlin, they had to raise liquidity, causing them to liquidate their positions in the U.S., precipitating volatility there.

support of the larger system.<sup>24</sup> In addition, the fact that the U.S. was not yet back on the gold standard, which had been suspended in the Civil War, was important for removing a constraint on freedom of action. It is clearly better to avoid experiencing a banking panic in the first place. But the lesson of this history would appear to be that if you are going to have crisis, it is important to resolve it quickly.

This brings us to the key questions. How weak or strong are banking systems in China and the rest of Asia? And how much confidence should we have that, if a major financial bust implicates the banking system, resulting problems will be quickly resolved. It is not a controversial judgment that the condition of the Chinese banking system is poor. According to the official statistics, nonperforming loans came to 6.3 percent of total loans as of the middle of 2006. This ratio is down to barely a quarter of its level at the end of 2000, reflecting recapitalization and the rapid growth of the Chinese economy (high tides lift all boats).<sup>25</sup> But it is well known that loan-classification standards are lax. The cautious commentator's rule of thumb is to double official measures of NPLs. If one does this, then current problems in the Chinese banking system are comparable to those in Japan in 1998, Korea in 1999, and Taiwan in 2001.<sup>26</sup> In other words, they are highly worrisome.

Traditionally, problems in the China's banking system have been associated with loans to loss-making state enterprises. The question for the current discussion is whether a growing and worrisome share of loans and investments is now being devoted to real estate and is ending up in stock market speculation. Despite the incompleteness of the published statistic, we know that loans to households are the most rapidly growing component of the asset portfolios of the four big banks, and that mortgage loans are in turn the most rapidly growing (and single largest) component of loans to households.<sup>27</sup> Wang (2007) points out that the longer the stock market boom continues, the greater is the likelihood that loans will have been diverted to the stock market, either directly or indirectly. Allen *et al.* (2007) point

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<sup>24</sup>This is the common explanation of Sprague (1910) and Friedman and Schwartz (1963).

<sup>25</sup>On the previous recapitalization initiatives, see Dobson and Kashyap (2007).

<sup>26</sup>Allen *et al.*, 2007, Table 3-A.

<sup>27</sup>Allen *et al.*, 2007, p. 16.

to the collapse of property prices in Shanghai and other major cities as the likely trigger of a Chinese banking and financial crisis. Roubini (2007) places more weight on a stock market collapse, fed by the panicked reaction of 100 million inexperienced Chinese day-traders. Either way, if a growth slowdown follows, the performance of the banks' outstanding loans to state-owned enterprises will be placed at risk.

How prevalent are such problems in other Asian countries? And if distress develops in the Chinese financial system, would there be spillovers to other Asian economies? Asian stock market returns being highly correlated, major asset price drops in China would all but certainly be accompanied by major drops elsewhere in the region. Less certain is whether banking systems in other Asian countries would be engulfed. Tarazi *et al.* (2007) look at comovements in bank share prices across Southeast Asian countries: they find that proxies for bank fundamentals (the quality of bank assets, the structure of bank incomes) better explain cross-country bank contagion than within-country contagion.<sup>28</sup> This directs attention to the strength of fundamentals in other Asian countries to which China's difficulties might spread.

Here the only general statement is that circumstances differ. While nonperforming loans have fallen throughout the region, they remain in the double digits in the Philippines, Thailand, and Vietnam. The rebalancing of loan portfolios from corporate to consumer credit is no guarantee against problems, as the experiences of Korea, Hong Kong, and Taiwan all reveal. Internal controls, loan classification practices, and supervisory standards have been raised, but in many cases practice lags principle.<sup>29</sup> Fitch's indicator of the health of national banking systems as of March 2007 gives ratings of "low" (D on an A–E scale) to Indonesia, the Philippines, Taiwan, and Thailand, and only "adequate" (that is, C) to South Korea, and Malaysia.<sup>30</sup> In the first quarter of 2007, the prices of the shares of emerging Asian banks were up slightly, presumably reflecting revisions of investor

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<sup>28</sup>Within countries, proxies for liquidity and opacity better explain the spread of difficulties, as if illiquidity is the major concern within national banking systems but fundamental solvency problems drive spillovers from one national system to another.

<sup>29</sup>Moody's (2007) describes the case of Indonesia, where owing to lax corporate governance of financial firms banks continue to lag their regional peers in terms of implementation of international standards, although the relevant standards are not obviously inferior to those of the neighboring countries.

expectations regarding the condition of the banks. Within the region, share prices were up in Thailand, Malaysia, the Philippines, South Korea, and China, but down in Indonesia, Hong Kong, and Taiwan.

If a crisis erupted, would the authorities be able to intervene quickly and forcefully to prevent it from spreading and protect the credit channel from being disrupted? In China's case, the authorities have upward \$1.2 trillion in foreign currency reserves to draw on to recapitalize the banking system, as they have done in the past.<sup>31</sup> Compared to \$1.2 trillion of reserves, \$160 billion of nonperforming loans (the mid-2006 official figure) or even twice that level is not overwhelming.<sup>32</sup> And insofar as the foreign-currency-denominated liabilities of the banks are limited, the value of foreign exchange reserves is not the relevant metric; what are relevant are the central bank's ability to print money and the government's capacity to tax and borrow. In this sense, their scope for intervention is virtually unlimited.<sup>33</sup> The question is whether the authorities would be prepared to utilize that capacity freely, now that foreign financial institutions have taken stakes in the big banks. A public sector bailout of the banks would be a bailout or a subsidy to these foreign institutions, and the government might hesitate to use the hard-earned tax dollars of Chinese residents in this way. To be sure, the best course would be to provide the liquidity now and defer

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<sup>30</sup>See Fitch Ratings (2007). Other sources flesh out this picture by analyzing national cases in detail. Thus, Nakornthab (2007) describes vulnerabilities in the Thai banking system associated with exposures to consumer credit and the property market. Pineda (2007) provides a detailed analysis of current weaknesses of the Korean banking system, citing its lending to other investors speculating in short-term securities its excessive extension of credit to the household sector — this time (in contrast to 2002, when it took the form of revolving credit) in the form of housing loans. Moody's (2007) describes how pre-election legislation may discourage timely debt repayment by consumers and extend consumer debt charge-offs from the banks' credit card books to their mortgage books.

<sup>31</sup>The government also has debt that should be subtracted from its assets, but explicit public debt is only on the order of 16 percent of GDP.

<sup>32</sup>It is not overwhelming from the perspective of capacity to maintain financial stability. On the other hand, previous recapitalizations have cost the Chinese taxpayer on the order of 10 percent of GDP (Ma, 2006), as interpreted by Dobson and Kashyap (2007).

<sup>33</sup>It can be argued that a large-scale injection of liquidity could destabilize the exchange rate and unleash flight from currency and the banks, feeding back on the banking system in destabilizing ways. Here the foreign exchange reserves of the authorities become relevant and provide reassurance against the development of this scenario.

questions of burden sharing to later. But there is an issue of whether the Chinese authorities will in fact respond in this fashion.

### **1.5. Concluding Remarks: The Credit Crisis and Asia's Reaction**

After the first draft of this manuscript was delivered as a keynote address was delivered, the U.S. and Europe were engulfed in a credit crisis. The collapse of the prices of structured investments backed by residential mortgages caused major problems in Western credit markets starting in the second half of 2007. With banks providing guarantees and credit lines to special-purpose vehicles taking large positions in these securities, and with certain large financial institutions holding extensive positions in such securities themselves, U.S. and European banks suffered major losses. The incompleteness of information on the position of banks in the markets for these securities caused the interbank market to seize up. Superimposed on an ongoing decline in U.S. housing markets, the credit crisis sparked fears of recession in the advanced industrial countries.<sup>34</sup>

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<sup>34</sup>Asian banks and nonbank financial intermediaries had only limited positions in Collateralized Debt Obligations (CDOs) and other structured investments backed by residential mortgages. According to Fitch (2008), the gross exposure of Asian banks' ex Japan to subprime residential-mortgage-backed securities and CDOs came to 2.1 per cent of their equity; adding in non-subprime Residential Mortgage-backed Securities (RMBS) and CDOs and the exposures of Structured Investment Vehicles (SIVs) and conduits brings total exposure to 5.6 per cent of regional bank equity. China was the largest investor in subprime and other structured products, with total exposures approaching 5 per cent of bank capital. While 5 per cent is not an inconsequential number, it pales in comparison with the problem of non-performing domestic loans to state-owned enterprises and others, which is a multiple of bank equity, notwithstanding recent recapitalization. Still, one might argue that, with non-performing loans so large, another 3 per cent may be the straw that breaks the camel's back. As shares of bank capital, the total exposures (subprime, other RMBS and CDOs, SIVs and other) of Taiwan and Hong Kong are largest, at 21 and 14 per cent. These countries have considerably stronger banking systems than China, of course, although cumulative losses have already reached 4 to 5 per cent of bank capital, a tolerable but not insignificant number. Subprime mortgage backed securities held by all Japanese banks, which include major banks, regional banks and cooperative financial institutions, as estimated by Japan's Financial Services Agency were relatively small — around \$14 billion — and the total loss associated with these holdings was estimated to be less than \$3 billion at the end of September 2007. See Financial Service Agency of Japan (2007). According to the Bank of Japan (2008), however, over the next three months the losses of the major banks rose to \$6 billion, still

This credit stringency also prompted worries about sustainability of the finances and exchange rates of emerging markets in weak external positions. As a result, spreads on external debt issues shot up in late 2007 and early 2008. In the Philippines, sovereign spreads jumped by 200 basis points between August 2007 and February 2008. In the same period, spreads went up by 131 basis point in Indonesia, 93 basis points in Korea, and 70 basis points in China. Following the Bear Stearns rescue, these countries saw their spreads decline, reflecting the belief or at least hope that the worst of the credit crisis is over. There was no financial crisis in Asia in late 2007 and early 2008.

Indeed, there was little evidence of a slowdown in Asia in the first half of 2008. The explanation is straightforward enough: the Federal Reserve cut U.S. interest rates dramatically in response to deteriorating economic and financial conditions in the United States, and given the fact that Asian central banks continued to limit the flexibility of their exchange rates against the dollar, the Asian economies imported lower interest rates as well. While this meant that a slowdown was averted, it also meant inflation. One can debate whether Fed overdid it or whether it should have relied more on credit injections at penalty rates. But whatever one's view of the appropriateness of U.S. policy for U.S. conditions, it is indisputable that its policy was not appropriate for Asia. The Asian economy was growing full out in 2007. The last thing it needed was lower interest rates. But that's what it got, given the habit of limiting the fluctuation of Asian currencies against the dollar. Allowing Asian interest rates to rise more sharply against U.S. rates would have caused Asian currencies to appreciate against the dollar more strongly. And for all their talk of greater exchange rate flexibility, this was not something that Asian governments and central banks were prepared to countenance.

As a result, Asian economies that needed demand restraint got demand stimulus instead, what with the impact of central bank policies showing up first but slower growth in the U.S. and Europe taking time to develop and then feed through to other regions. There would have been more inflationary pressure in Asia in the first half of 2008, in other words, even without the

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a small fraction of tier one capital of these banks which stood at \$253 billion at the end of September 2007.

geopolitical uncertainty, oil-market speculation, bad weather and ethanol programs that garnered the headlines.

The obvious response for Asian central banks was to raise interest rates. There were some half-hearted efforts in this direction, but they did not do the job. As of April 2008, Indonesia's central bank rate stood at 8.5 per cent, but its inflation rate was above 10 per cent. The Philippines' central bank rate was 5.25 per cent, but its inflation rate was also 10 per cent. Vietnam's central bank rate was 14 per cent, but its inflation rate was 25 per cent. It made no sense when most Asian countries were growing at or near capacity that they should have had negative real interest rates. Negative real rates are an unhealthy subsidy for borrowing by households and firms. They encouraged inefficient investment and excessive leverage in Asia in the first half of the 1990s, and we all know what followed.

Critics of inflation targeting will say that central banks have a dual mandate not just to fight inflation but also to foster growth and that Asian central banks have no business raising rates in a deteriorating growth environment. But the fact of the matter is that the alternative to painful interest rate increases now was even more painful increases later.

Fortunately, there is another instrument for sustaining demand in these circumstances, namely fiscal policy. If higher interest rates push up the exchange rate and damp down inflation, then tax cuts and increases in public spending on locally-produced goods can be used to limit the contraction of aggregate demand. Insofar as these fiscal actions stimulate the demand for locally-produced goods, they tend push up the exchange rate still further, moderating the rise in import prices and further containing inflationary pressure.<sup>35</sup>

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<sup>35</sup>Which Asian countries have scope for responding this way? In China, there is likely to be a high return on additional infrastructure investment, especially in the relatively underdeveloped west where producers still find it difficult to get goods to the market. There is the need for public spending on reconstruction in the wake of the earthquake. There is the need for increased public expenditure on health care, education and pensions. That the public sector is running a current surplus of 4 to 6 percent of GDP, depending on who is doing the measuring, points to the existence of maneuvering room. Elsewhere in Asia, tax cuts and public spending increases should be calibrated to the U.S. and global slowdown — in contrast to the case of China they should be explicitly temporary. Korea, Malaysia, Singapore, and Taiwan are at the top of my list of countries with room to expand public spending temporarily to offset the dampening effects of higher interest rates.

So there are two scenarios. One is where Asian central banks start tightening to fight inflation. They allow their currencies to rise in response to their tighter monetary policies and higher interest rates. They deploy fiscal policy to prevent demand and growth from slowing excessively.

The second scenario is one where Asian central banks and their political masters delay, attempting to preserve the stability of their currencies against the dollar. But, ultimately, they will get the same real appreciation without nominal appreciation and higher interest rates, in this case instead as a result of inflation. And the danger under this scenario is that inflation gains momentum and threatens to spiral out of control.

At that point, central banks will have no choice but to tighten, and sharply, like Paul Volcker in 1979 and Margaret Thatcher in 1981. This harsh reaction when it occurs may catch banks and other investors wrong footed. There could a sharp fall in asset valuations of the sort described in the previous section. At that point the crisis problem will be back.

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