

## V

# **Emerging Markets in the New Financial System: Nonstandard Responses to External Pressure and the Role of the Major Credit Rating Agencies in Global Financial Markets**

The financial market turbulence experienced by many emerging markets during the past two years has both generated new policy responses to market pressures and highlighted the key role of institutional investors and agencies in mature markets in determining capital flows to emerging markets. This chapter examines two aspects of this experience. First, while the authorities have traditionally responded to speculative attacks through on-balance-sheet sales of domestic currency and other assets converted into foreign exchange, they have begun to expand the set of instruments and markets in which intervention is undertaken. This chapter analyzes three such interventions, namely Hong Kong SAR's equity markets intervention, Brazil's buyback of Brady bonds, and the use of capital controls by Malaysia. The second section focuses on the role of the major credit rating agencies in influencing terms and conditions of access to global securities markets for emerging markets. As global securities markets have become increasingly important sources of funding for emerging markets, the credit ratings assigned to sovereign and private sector issuers have often had an important influence on the demand for these securities. Indeed, some institutional investors often can hold only so-called "investment grade" securities because of either regulation or self-imposed risk management considerations. Moreover, the Basel Committee on Banking Supervision recently proposed that credit ratings would become key determinants in the risk weights attached to bank exposures to sovereign and other borrowers. However, the sharp adjustments of sovereign credit ratings for many emerging markets in the period since July 1997 have raised concerns about the accuracy and stability of the rating process.

## **Nonstandard Policy Interventions in Emerging Markets**

Innovations in financial markets and the accompanying proliferation of instruments have increased the channels through which investors can take positions on expected asset price movements in emerging markets. In times of crisis, a high degree of volatility has often been transmitted through various markets, posing a dilemma for national authorities in pursuing their policy objectives, which have typically included exchange rate and financial system stability, as well as broader macroeconomic objectives such as growth and price stability.

While the classic speculative attack takes place through on-balance-sheet sales of domestic currency and other domestic assets converted into foreign exchange, alternative

positions can be taken in markets for other assets, such as domestic and international stocks and bonds, as well as a variety of derivatives such as currency forwards and futures, equity and bond futures, options and total rate of return swaps. While the typical defense of a speculative attack has meant a combination of spot foreign exchange intervention and an interest rate defense, when strong pressures have been felt in markets and instruments other than domestic credit, national authorities have in some cases been tempted to intervene through nonstandard methods to counter speculative pressures. Some of these interventions have involved alternate uses of foreign exchange reserves, such as buying equity or buying back outstanding debt, or imposing restrictions on the mobility of capital. Since the beginning of the Asian crisis in mid-1997, several countries have adopted such nonstandard interventions, raising questions about the implications of such intervention for the behavior of market participants and asset prices in the future. The line distinguishing standard from nonstandard interventions is by definition elastic, and other episodes of what may be considered nonstandard interventions have been discussed in previous reports.<sup>1</sup> The following section reviews some of the more notable recent nonstandard responses by authorities.

### **Hong Kong SAR's Intervention in Equity Markets**

Between August 14 and 28, 1998, the Hong Kong Monetary Authority (HKMA) bought a total of some \$15 billion in stocks and futures in the Hong Kong SAR equity market,<sup>2</sup> which constituted 7 percent of the capitalization and between 20 and 35 percent of the free float of the Hang Seng index.<sup>3</sup> This intervention in the equity market was at the time

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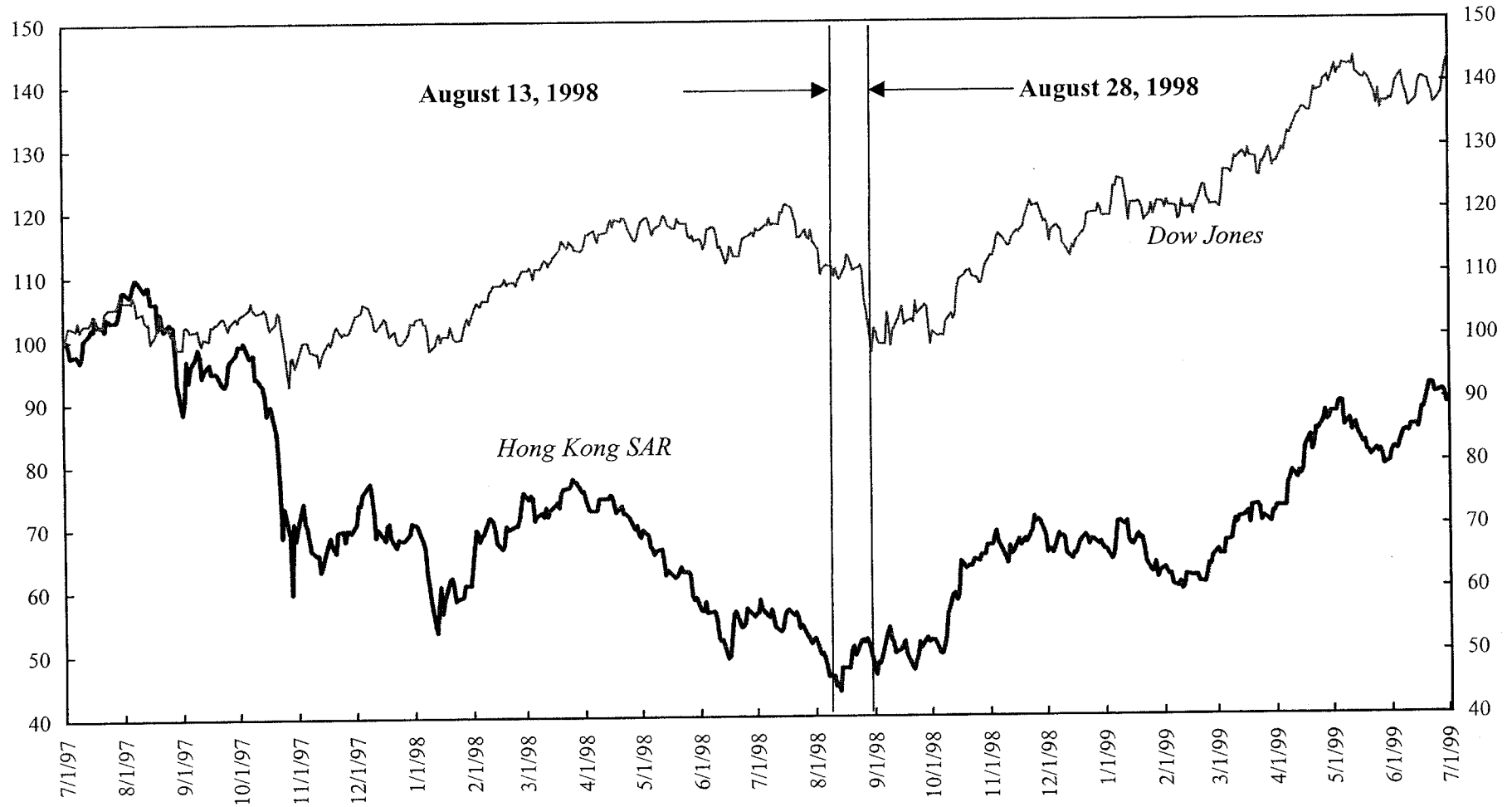
<sup>1</sup> See, for instance, International Monetary Fund (1998), pp. 44–58, which discusses the Bank of Thailand's failed defense of the baht's peg using forward market intervention, Brazil's intervention in the currency futures market and issuance of dollar-linked real-denominated debt, and Korea's placement of foreign exchange reserves with foreign branches of domestic banks.

<sup>2</sup> The portfolio is now held under the subsequently established Exchange Fund Investment Limited (EFIL).

<sup>3</sup> The portfolio was worth some \$26.7 billion following the Hong Kong SAR market's 85 percent rise between September 1998 and end-June 1999 (see Figure 5.1), and the government has announced plans to sell up to two-thirds of the portfolio while allowing money managers to manage the rest. The government plans to sell part of the shares it owns in the form of a unit trust tracking the Hang Seng index, available to retail investors and preparatory work for its listing will take four to five months. In the meanwhile, the government's holdings are being managed by EFIL, according to strict guidelines to avoid interference with the day-to-day commercial activities of the companies.

**Figure 5.1. Stock Market Indices: Hong Kong Hang Seng and Dow Jones Industrial Average**

*(July 1, 1997 = 100)*



Source: Bloomberg Financial Markets, L.P.

viewed by a wide variety of market participants as a significant departure from Hong Kong SAR's traditional free market principles and clearly took the markets by surprise.<sup>4</sup>

The Hong Kong SAR authorities have explained their stock market intervention as being targeted at a specific group of speculators that were manipulating Hong Kong SAR's equity and foreign exchange markets for profit in what was termed a "double play," that is, a simultaneous attack on equity and currency markets.<sup>5</sup> (See Box 5.1 for a description of the mechanics of a double play.) The authorities perceived certain players as selling Hong Kong dollars to drive up interest rates—taking advantage of the adjustment mechanism of Hong Kong SAR's linked exchange rate arrangement—and depress stock prices, thus generating profits on previously established substantial short positions in the equity cash and futures markets.<sup>6</sup> Certain players were also said to have spread rumors in the market about a Chinese devaluation and its knock-on effect on Hong Kong SAR, and about a collapse of the Hong Kong SAR equity and property markets, to generate selling pressures on the Hong Kong dollar and the stock market. According to the authorities, the speculative attack "was a contrived game with clearly destructive goals in mind . . . [to] drive up interest rates, drive down share prices, make the local population panic and exert enough pressure on the linked exchange rate until it breaks."<sup>7</sup>

However, some market participants noted that at the time of the pressures, there were fundamentals reasons to sell off Hong Kong SAR equity holdings and the Hong Kong dollar. As of August 1998, the Hong Kong SAR economy was heading into its deepest recession in 23 years with recently released figures showing first quarter GDP having shrunk 2.8 percent year-on-year. Other data released around that time showed unemployment at a 15-year high

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<sup>4</sup> However, it may be recalled that under severe pressures in 1987, the authorities had temporarily shut down the stock market altogether with adverse implications for market sentiment.

<sup>5</sup> The official account is most comprehensively summarized in Financial Secretary Donald Tsang's speech at the Hong Kong Trade Development Council (Tsang, 1998).

<sup>6</sup> According to the authorities, some of these sales of Hong Kong dollars may have been facilitated by "prefunding" in the swap market, that is, engaging in swaps to access Hong Kong dollars that multilateral organizations had raised through their bond issuances. Multilateral agencies, including inter alia the World Bank Group, the Asian Development Bank, the IADB (Inter-American Development Bank), and the EBRD, issued HK\$36.6 billion (equivalent of US\$4.7 billion) worth of bonds in the period January–August 1998.

<sup>7</sup> From Hong Kong Development Council speech (footnote 5).

## **Box 5.1. The Mechanics of a “Double Play”<sup>1</sup>**

According to a widely discussed version of events leading up to the intervention by the Hong Kong Monetary Authority in Hong Kong SAR’s equity market in August 1998, some large players were taking large short positions in the spot and futures markets for Hong Kong SAR equities. They then engaged in abrupt sales of Hong Kong dollars, driving up interest rates. This spike in interest rates drove down equity market prices, allowing speculators to close out their short positions at profit. This is the essence of the so-called “double play,” where speculators were shorting both the currency and equity markets, and taking advantage of the currency board’s automatic adjustment mechanism to cause a spike in interest rates—predominantly in very short-term rates, but also to a lesser extent in long-term rates—which would negatively affect asset prices. By some accounts, the players who were manipulating the stock and foreign exchange markets may also have simultaneously spread rumors about the health of the Hong Kong SAR stock and property markets, to create a panic in markets, and may also have established positions that would have become profitable if the exchange rate collapsed.

The basic version of the “double play” raises some interesting issues. First, such a play is clearly risky, since it runs the risk that other market participants will understand the intention of the players involved, and will take larger opposite positions. Second, a double play could clearly not occur systematically if other agents are rational, as other agents would quickly come to understand the play and would no longer respond to the artificial spike in interest rates. Instead, a double play presumably needs to exploit very particular circumstances where markets are unusually susceptible to being pushed by large players in one direction, and perhaps also where some asset price—such as the overnight interest rates in Hong Kong SAR in 1998—is especially volatile owing to an institutional factor. Third, if a double play can be made in one direction, it is of interest to ask if a similar play could be made in the opposite direction. This is unclear, but one factor that would limit the possibility is the fact that interest rates are bounded below at zero. Fourth, one aspect of the double play is that any profits from shorting the equity market are denominated on Hong Kong dollars, so that the potential profit would be reduced if the various short positions result in a devaluation in the exchange rate. Finally, to the extent that an exchange rate devaluation did occur, the experience of some countries is that equity prices—in domestic currency terms—may actually rise substantially, resulting in losses on the short equity position.

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<sup>1</sup> A formal model of the mechanics is described in Chakravorti and Lall (1999).

of 4.5 percent, a halving in property prices, and seven consecutive months of falls in retail sales year-on-year. Recent corporate earnings reports had also created a negative sentiment in markets. Reflecting these factors and the general speculative pressures in the region, by August 11 the Hang Seng index had slumped 36 percent in 1998, to its lowest level since January 1993. More generally, Asian markets were close to their lowest levels since the onset of the Asian crisis in July 1997 and the outlook for the region was bleak. For example, the IFC Global index for Asia had declined in dollar terms by 60 percent over this period (see Figure 5.2). Regional sentiment was very poor, the affected Asian countries were mired in a deep recession, and foreign investors were cutting back their exposures to emerging markets generally, and to Asian emerging markets in particular. Since Hong Kong SAR is one of the region's most liquid markets, a reduction in Asian regional exposure would trigger sales in Hong Kong SAR's markets, as unwinding of positions in other less liquid markets would generate greater pressures on prices. In addition, the Japanese yen was also at an eight-year low of ¥147 to the dollar, negatively affecting sentiment toward Asia. In this regard, the sell-off in Hong Kong SAR was part of a general shift away from Asian emerging markets at a time of poor market sentiment.

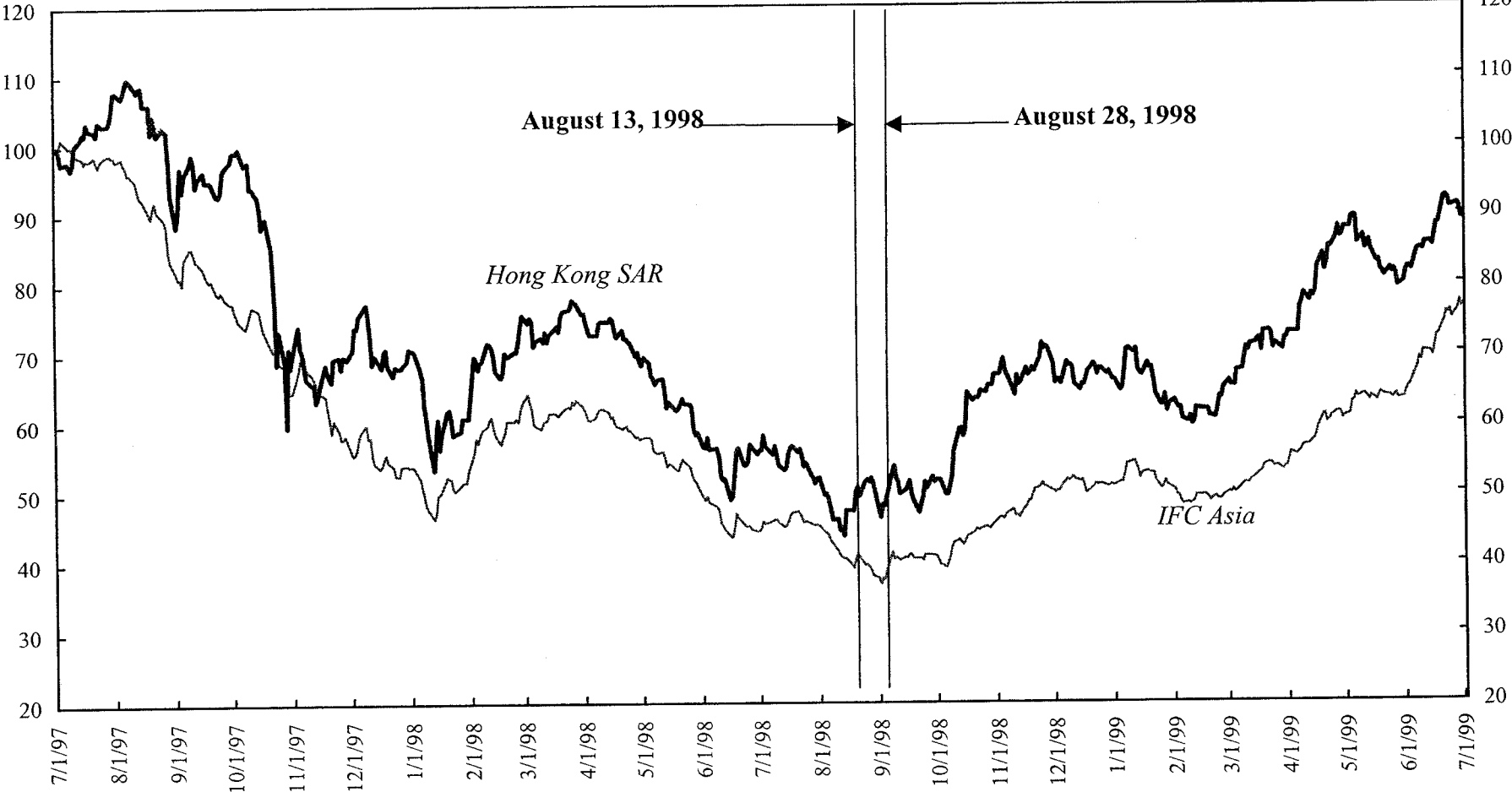
It is, of course, difficult to ascertain the relative importance of economic fundamentals, general sentiment, and the particular trading strategies of large players in determining market prices, and it is possible that different observers can reasonably interpret the same events differently. Given the economic and financial developments during the period, some pressures on the equity and foreign exchange markets may not have been surprising, and many investors no doubt independently decided to sell in one or both markets. In addition, some large players may have followed a trading strategy—the double play—based on the likely response of one market to pressures in the other, although available evidence on this is limited.

Based on the market pressures and information on the positions and reported intentions of a few large players, the authorities took the unprecedented step of supporting the equity markets to maintain confidence in the economy and the financial system. The HKMA also subsequently made changes in the operation of the linked exchange rate system to make interest rates less volatile to small shifts in the demand for credit, to strengthen the linked exchange rate arrangement. Since the intervention in August, markets have turned around remarkably. The Hang Seng index rose 85 percent between September 1998 and June 1999. A number of factors have been responsible for this turnaround, including the interest rate cuts by the U.S. Federal Reserve and other central banks in the fall of 1998, the strength of the yen in the wake of the deleveraging following the near-collapse of LTCM, and improved sentiment and conditions in Hong Kong SAR, and Asia more generally.

The nonstandard response by Hong Kong SAR in the face of massive speculation raises a number of issues. The first is the direct impact of the intervention in the short run and the long run. While the massive intervention did raise the index by 18 percent in the period in which it was taking place, the market fell back 10 percent in the two days after intervention ceased. The market then rebounded along with other regional stock indices and the U.S.

**Figure 5.2. Selected Stock Market Indices 1/**

(July 1, 1997 = 100)



Source: Bloomberg Financial Market, L.P.  
1/ IFC Asia stock index is in U.S. dollar.

equity market (see Figures 5.1 and 5.2). To some extent, the significant reduction in the free float in the market may have allowed the market to rally more than would otherwise have been the case for a given amount of inflows into the equity market. However, the government's large holdings also obviously have raised concerns in the market about the timing and rate of disposal of the Exchange Fund Investment Limited's assets. In this regard, the recent announcement that the government will create a unit trust tracking the Hang Seng index to dispose of part of the portfolio has been well received by markets, as it supports the authorities' pledge to implement an orderly disposal of the assets.

While imposing losses on speculators is often undertaken by authorities wishing to deter speculation, the inability to specifically target such speculators because of the use of blunt instruments leads to much wider impacts. In this case, in addition to preventing major systemic effects, the aim of the HKMA's intervention appears to have been to impose losses on certain speculators who were perceived as manipulating the markets, to discourage speculation in the future. In the event, the impact of the intervention on prices was felt by all investors. To the extent that the HKMA's intervention has altered perceptions of the risk and return on equity investments in Hong Kong SAR, it will have done so for all classes of investors. The intervention and subsequent statements by the authorities have created an impression among investors that the authorities retain the option to intervene once again to support the market under circumstances that are not well defined. This may have altered the distribution of returns that investors foresee when undertaking investment decisions. While there is no general agreement on levels, some market participants may now be acting on the belief of an informal floor on the market, truncating the downside risk to investing in Hong Kong SAR's equity market, increasing the chances of a "one-way" bet where investors may expect the government to bail them out before they can suffer large losses. Such perceptions on the limited risk of investments may attract inflows in excess of those that would otherwise occur, as risk is mispriced by the expectation of intervention. Furthermore, uncertainty regarding the precise circumstances that may trigger a response by the government, and the willingness of the government to intervene through nonstandard channels, may have shifted the balance so that those investors who are more sensitive to the lack of clarity on the "rules of the game" will shy away from the market. So while the overall flows into the market may increase, the investor base is likely to shift away from investors who are averse to policy shifts.

Nevertheless, the fact that the HKMA's intervention was fairly transparent, and was followed up by clear statements from the authorities on the extent of intervention and their motivation for intervening, together with the recent announcement on the unit trust to dispose of part of the share portfolio, has been viewed positively by market participants. Furthermore, given that the portfolio's value has appreciated with the Hang Seng index, the negative impact of the intervention on the perception of risk and reward in Hong Kong SAR's equity market is mitigated by the fact that no contingent liabilities have arisen from the actions.



### *Buybacks of Bonds*

One notable development in emerging market financing in the 1990s has been the growth in the issuance of bonds in international markets. Beginning with the Brady plan which converted the commercial bank debt of several emerging market sovereign borrowers into tradable securities known as Brady bonds, partly collateralized with U.S. treasury bonds, countries also began to issue overseas bonds in various markets such as in the U.S. dollar bond market (yankees) and the yen-denominated bond market (samurais). This year, issuances denominated in euros made their debut.

The volume and pricing of international bonds remains a closely watched indicator of the access of emerging markets to private financing. Since international and Brady bonds (Bradies) are traded in international bond markets and continuously priced, the spreads of these securities over a benchmark have become a common indicator of country creditworthiness.<sup>8</sup> The most common benchmark for dollar-denominated bonds such as Bradies has been the yield on U.S. treasury securities of comparable maturity, and indices such as J.P. Morgan's Emerging Market Bond Index are interpreted as representing the average spread of bonds in the index over U.S. treasury securities.

While numerous factors determine the spread of sovereign bonds over their benchmark, the most prominent and visible component of the spread is country creditworthiness and, more generally, the country's fundamentals. As a result, when a country is under speculative pressure, spreads on its international bonds and Brady bonds tend to widen. These bonds therefore become an important instrument for taking a short position offshore based on a negative view of the issuing country's fundamentals. Moreover, the very act of short selling these bonds lowers their price, widens their spreads, and signals negative sentiment, and may fuel speculative pressures through other onshore channels. However, price movements in these bond markets do not in and of themselves translate into pressures on the issuer in terms of a drawdown of reserves since short-selling the bonds has no strong direct link with the provision of domestic credit, which is the key to fueling a speculative attack on a country's reserves. It does, of course, influence the price at which a country can access new funding on international capital markets. Furthermore, if the fall in the price of international bonds issued by a country triggers a rebalancing of portfolios by investors away from assets of that country, it may through this channel result in a drawdown of reserves.

An important element of international bonds and Bradies that does, however, have a more direct bearing on a country's ability to defend itself against a speculative attack is the fact that, in many emerging market countries, it is often domestic entities—typically domestic commercial and investment banks, but also mutual funds and other investors—that

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<sup>8</sup> In the case of Bradies, the stripped spreads— i.e., without the impact of the collateral—are the most watched indicators.

hold these instruments. This reflects the fact that resident entities often feel they are better equipped to assess the country's fundamentals and creditworthiness and are quick to exploit what they see as attractive pricing relative to risk of these instruments. These instruments are often held on margin. International banks are the counterparties that provide the credit for domestic entities to buy these securities, against the posting of an initial margin as well as a variation margin that has to be posted if the price of the bonds, and hence value of the underlying position, falls below a threshold. The leveraged holding of such instruments by domestic entities becomes a potentially lucrative asset with high expected rates of return. However, in the event of a fall in the prices for these bonds—whether due to deteriorating domestic conditions or a general sell off across emerging market debt instruments—these leveraged positions can become a source of pressure in domestic markets. This is because the suppliers of credit overseas, the international investment and commercial banks, will require the leveraged domestic investors to post additional (variation) margin or force a sell-off of the bonds. Posting of additional margin, in the event that liquid foreign assets are not available to the investor to liquidate for this purpose, requires selling domestic liquid assets, their conversion to foreign exchange, and their transfer to the overseas banks. This process exerts downward pressures on domestic stock and bond markets, foreign exchange reserves, and the exchange rate, and exerts upward pressure on interest rates. Therefore, developments in Brady and international bond markets can transmit pressures onto the domestic market rapidly and forcefully.

Sovereign issuers have been tempted to intervene in the Brady and international bond markets by buying securities for a number of reasons, as suggested in the above discussion. First, intervening in these markets raises prices and lowers spreads. This has the effect of squeezing those speculators that are short-selling the bonds overseas. While this has a limited direct impact, as discussed above, the resultant narrowing of spreads sends a more positive signal—perhaps inaccurately if the pricing of bonds is being manipulated by official buying—about the domestic economy's fundamentals and creditworthiness. This may cool direct speculative pressures that may be being felt onshore. Second, supporting the bond markets ensures that margin calls and forced selling will not be imposed by the banks that provide the leverage to domestic entities that have built up long leveraged positions in these instruments. This eliminates one channel for the outflow of reserves and downward pressures on domestic markets when a country's perceived fundamentals deteriorate. Intervention in the market for overseas bonds is done either directly by the central bank or the treasury, or through a state-owned entity such as a bank or a large corporate. The latter two methods would make the intervention less transparent to market participants, as they could be justified as being proprietary positions taken on their own account by the bank or the corporate, reflecting their own views on the fundamentals, which differ from those of the rest of the market.

One notable example of intervening in the overseas bond markets in the recent crisis has been Brazil's reported intervention in the market for its own international bonds. Brazil reportedly imposed a squeeze on speculators that were short selling the bonds overseas by buying large quantities of the bonds, bidding up the price and making the short positions unprofitable. Market sources report significant buying on behalf of the government at certain

times throughout 1998. The intervention also prevented margin calls from being made on Brazilian domestic banks that were holders of such instruments on margin overseas.<sup>9</sup> Other nonstandard forms of intervention by Brazil that have been noted elsewhere—and which have resulted in losses given the subsequent evolution of asset prices—have included its intervention in the currency futures market for the real, and its issuance of dollar-linked domestic currency debt over a period prior to the devaluation of the currency.<sup>10</sup>

Interventions of this type, where governments buy their own country's bonds, imply a use of liquid foreign exchange reserves in times of possibly severe market pressures to either acquire longer-term illiquid assets or extinguish long-term debt. This reduces the amount of liquid reserves available to counter speculative pressures through traditional means and the interventions must be viewed against this trade-off. Furthermore, the interventions involving bond buybacks have been viewed as much less transparent than the equity purchases in Hong Kong SAR, adding a greater element of uncertainty to market participants' understanding of the official policy stance.

There are numerous other instances where issuing governments have sought to buy back their own debt at discounts. Such nonstandard interventions, motivated by one or more of the factors discussed above, have a number of consequences in addition to the obvious ones mentioned above. Such interventions may skew the subjective distribution of prices that investors in such instruments perceive when making their investment decisions. Investors may begin to perceive informal floors on the prices of these instruments and the risk-reward characteristics they embody. This reduces two-way risk from investing in such instruments. For example, if investors know that spreads will not be allowed to rise above a certain level, long positions in these instruments will be greater than in the case of other instruments, because the downside of this investment is seen as limited. Such "moral hazard" plays, where it is believed the investors will be bailed out in case of a fall in the prices of the bonds, leads to mispricing of risk associated with these instruments and excessive investments in them.

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<sup>9</sup> In the October 1997 episode, nearly half of the capital outflows from Brazil were attributed to such margin calls on domestic bondholders: see International Monetary Fund (1998).

<sup>10</sup> Some countries have also periodically intervened in the market for external debt to achieve debt management goals. An example is the buyback of Polish Brady bonds in 1998, which amounted to some \$750 million, after a buyback of some \$1.7 billion in 1997. These operations were not officially confirmed until after they had been successfully completed. In Poland, the motivation of the buyback appears different from the Brazilian case, with the primary goal having been to reduce the debt stock and take advantage of what was seen as a mispricing (underpricing) of the bonds. If the issuer of a bond perceives a bond to be mispriced to the extent that the probability of a default is judged higher by the market than by the issuer, then a quiet buyback—i.e., one that does not drive up the price too much—at the discounted price delivers a net reduction in the debt burden. By all accounts, the Polish Brady buybacks were conducted successfully and reduced the net debt burden of the government.

Further, in the event that investors reassess their earlier expectations of price support on the downside, the price adjustment that subsequently ensues will be much sharper and abrupt.

In the case of those countries where domestic investors are significant leveraged holders of international bonds issued by their own country, the knowledge that downside risk has been truncated would lead to incentives to build up larger leveraged long positions overseas, as the (perceived) return adjusted for risk of such investments has gone up. Therefore, the equilibrium size of leveraged positions may rise. In this case too, in the event that expectations of price support are not validated in the future, the rapid reappraisal of the risk-reward characteristics of the instruments and the resultant positions can lead to a sharper market correction, greater outflows related to margin payments, and greater pressures on authorities facing a speculative attack than would otherwise be the case.

#### *Capital and Exchange Controls on Outflows*

In an aggressive move to reduce short-term capital flows, on September 1, 1998, Malaysia imposed a range of foreign exchange and capital controls that substantially insulated Malaysian financial markets from external influences and effectively closed down the offshore ringgit market. These measures led to an appreciation of the ringgit, and on September 2 the authorities fixed the exchange rate at RM3.80 to the dollar, which was somewhat stronger than the previous two months' average of RM4.18, but significantly below its precrisis level of around RM2.49 to the dollar. The controls were imposed a day after Malaysia banned overseas trading in Malaysian securities in a move to quell what was seen as excessive speculation. The new capital and exchange controls included restrictions on repatriation of proceeds from securities sales by foreign investors for a year, restrictions on sales and purchases of ringgit by nonresidents, a ban on the transfer of ringgit between offshore accounts effective October 1, 1998, restrictions on overseas investments by residents exceeding RM10,000, a requirement to repatriate all overseas ringgit in one month, a limit of RM1,000 on Malaysian overseas travelers, and a ban on ringgit transactions at the Labuan offshore center. The restrictions reportedly locked in \$10 billion of foreign investment in domestic securities. Extension of domestic credit to nonresidents was also banned. Current account transactions (including the repatriation of interest and dividends) and foreign direct investment flows remained unaffected by the measures.

The authorities have explained their actions by noting that they were aimed at allowing Malaysia to regain monetary independence and insulating the Malaysian economy from destabilizing developments in overseas markets. By restricting the internationalization of the ringgit, the authorities hoped to be able to conduct independent domestic monetary policy and not be subject to the volatility of capital movements and exchange rates. The immediately preceding ban on offshore trading of Malaysian securities was aimed at containing the speculative buying and selling of these securities, which was believed to be affecting domestic markets.

Before the imposition of controls, short positions against the ringgit were reportedly being built in the overseas market in Singapore, where by some estimates almost 90 percent

of the total ringgit foreign exchange market was located. After initial informal attempts to limit the supply of ringgit credit offshore, the differential between onshore and offshore rates began to rise. Arbitrage between the two rates, including by Malaysian corporates, began putting pressure on domestic interest rates as well. The imposition of the controls effectively isolated the onshore and offshore markets at this point and decoupled the two interest rates. The controls effectively brought all offshore trading back onshore and there is little evidence of widespread circumvention of the controls.

Key to understanding the controls and the need for monetary independence is the sensitivity of the Malaysian economy to shifts in interest rates. While Malaysia had controls on private offshore borrowings well before the crisis, which prevented an excessive buildup of short term debt, Malaysian private entities have substantial domestic borrowing. For instance, the ratio of domestic banks' assets to GDP at the end of 1997 was 178 percent compared with 145 percent for Thailand and 76 percent for Indonesia. This has made the Malaysian domestic economy and the banking system much more vulnerable to interest rate increases than to exchange rate depreciation. It was well known to market participants that in the trade-off between exchange and interest rates in the face of speculation and capital outflows, the balance was likely to tilt toward greater exchange rate variability, with little danger of an interest rate squeeze. The extent of domestic leverage present in the economy tied the hands of the authorities and made it difficult to use interest rate squeezes to curb volatility in the exchange rate that resulted from swings in capital flows.

The Malaysian controls introduced in September were accompanied by other measures aimed at pump priming the economy and reducing the burden of nonperforming loans on banks. Banks were also recommended to expand credit by 8 percent for the year as a whole, and the authorities reduced the margins banks could charge their customers above the base lending rate from 4 percent to 2.5 percent. The central bank also instated a policy of easing the classification requirement for bad loans to six months from three months. The combination of these two broad sets of policies, one aimed at expanding credit and the other at reducing the pressure on banks to set aside capital against nonperformance loans, served to generate growth by expanding credit and easing liquidity conditions in the domestic market without an adverse impact on the exchange rate and inflation. The easing of liquidity also eased the banks' bad loan burdens.

As conditions have stabilized, the new rules have been liberalized somewhat, with the intention of promoting a longer-term view by foreign investors. In early February 1999 Malaysia announced modifications to the one-year restriction on the outflow of repatriated portfolio investments. Portfolio capital invested before February 15, 1999 would become subject to a graduated exit levy depending on the length of the period between funds being brought in (after September 1, 1998) and repatriation. For funds brought in after February 15, 1999, the principal could be repatriated without a levy but the profits would be subject to a 30 percent levy if repatriated in less than a year and 10 percent otherwise.

The nonstandard measures Malaysia employed to deal with the pressures faced in the summer of 1998 have to be analyzed in the context of the overall environment and the policy

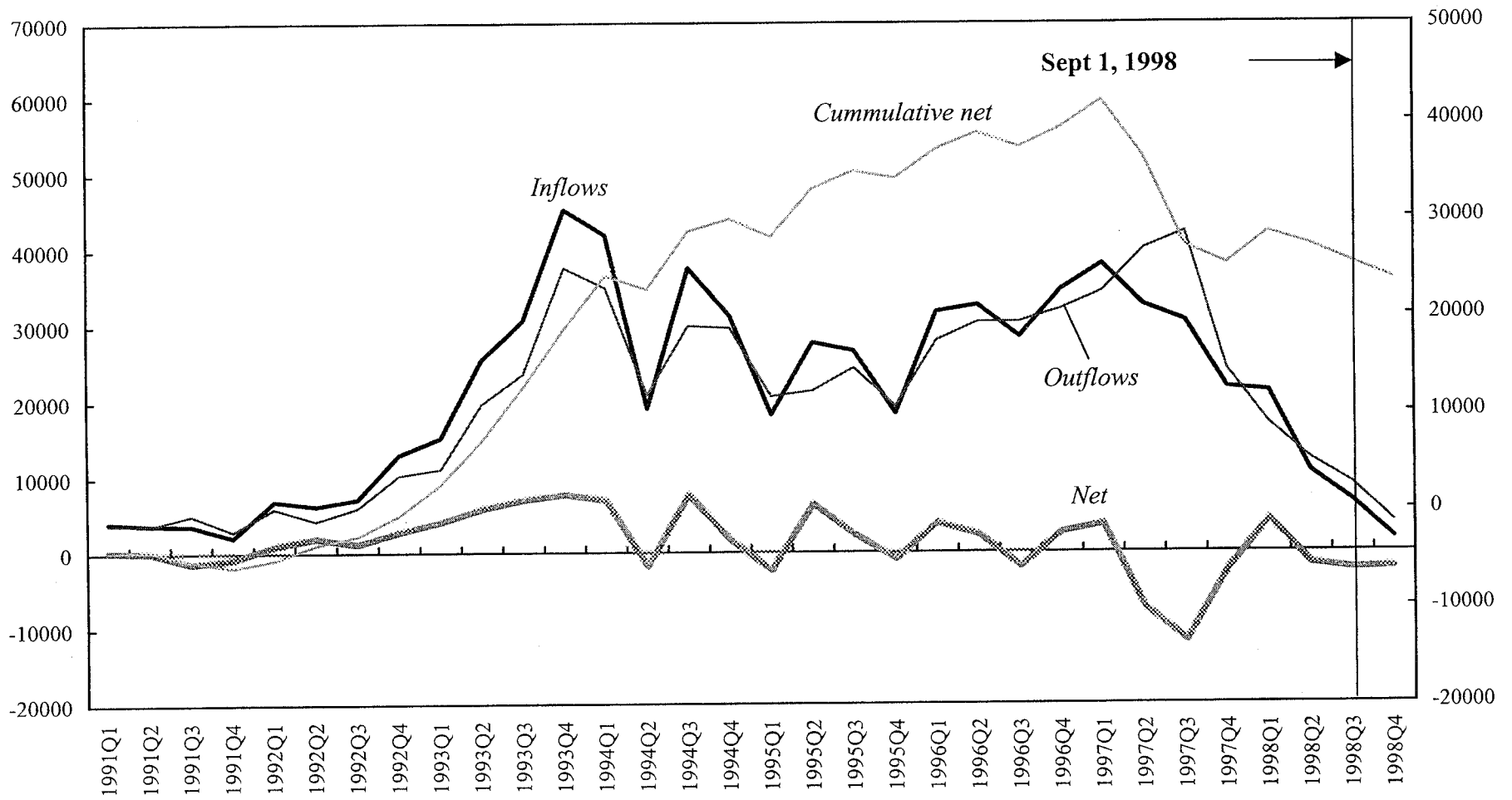
framework. While initial reactions to the imposition of controls and the “locking in” of portfolio funds were in general negative, the introduction of an exit levy in February eased some uncertainties about the long-term prospects for portfolio investors. Furthermore, concerns that easing of liquidity and the classification requirements for banks, in addition to moral suasion to lend more, would mask banking system problems and lead to future contingent liabilities were eased when it became clear that banks would not be punished for failing to meet the 8 percent credit expansion target. Also, for purposes of supervision, the classification period of three months appears to have been followed by both banks and supervisors. In addition, the establishment of two agencies to deal with banks’ nonperforming loans, with well-established and transparent guidelines, clear procedures and principles, and tangible progress being reported, appears to have comforted international investors that the overall structural reform strategy was being pursued. A further important element in analyzing the policies, unanticipated at the time, was that other Asian currencies subsequently rebounded strongly on improved sentiment and capital inflows, while the ringgit remained fixed.

While investor sentiment toward Malaysia has recovered somewhat, as evidenced by Malaysia’s ability to issue \$1 billion in international bonds in May 1999, it is difficult to disentangle the relative impacts of the nonstandard responses from the structural reforms that were undertaken. While the capital and exchange controls, when seen in isolation, had a very poor impact on market sentiment and the prospects for capital flows, the structural reforms that were subsequently launched did have a favorable impact. In that sense, there is a view in some market circles that the controls were used to provide a “window” to set structural changes in train. However, assessing the true benefits of the controls is difficult, given that the subsequent improvement in emerging market sentiment means that the controls were not tested against severe further pressures. There is also a perception that the controls were imposed at a time when much foreign capital had already left Malaysia (see Figure 5.3), as it had other Asian emerging markets, and all the controls did was act as a disincentive for capital to return to Malaysia once markets viewed the prospects as having improved. Nonetheless, given the grim outlook for emerging markets in late August and early September, and the possibility that things might have worsened substantially, the desire to put in place an insurance policy against some of the possible adverse consequences may be understandable.

Some market observers argue that had Malaysia pursued the structural reforms related to the corporate and banking systems while at the same time not resorting to controls, the market response to those reforms would have been stronger and eased the reform process. It is also argued that in such a scenario, economic recovery would have been speedier. However, a comparison of Malaysia with other Asian countries suggests that performance across countries has been relatively similar and that it is difficult to make any strong judgments about whether the imposition of controls had any substantial effect (see Figure 5.4).

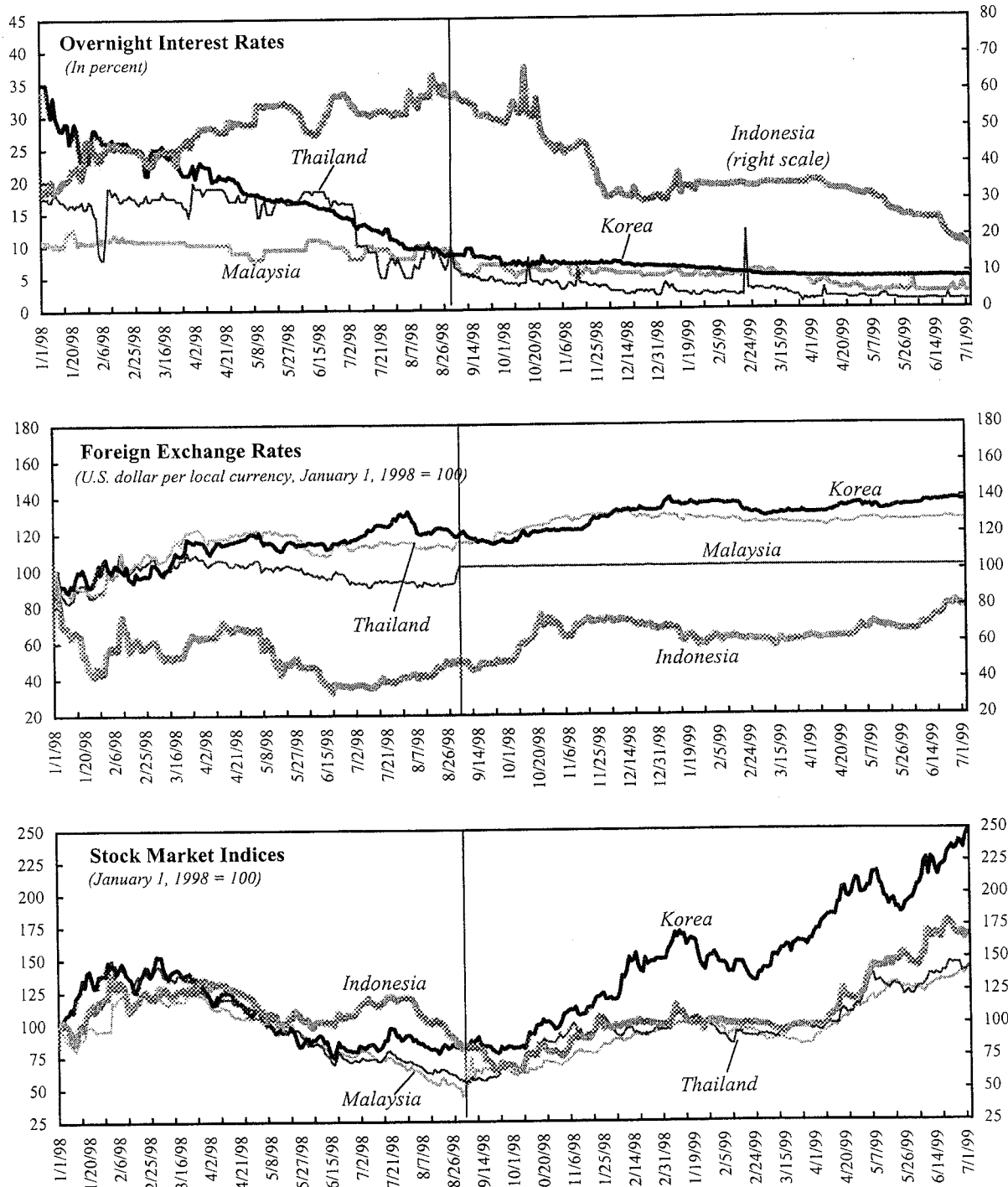
**Figure 5.3. Malaysia: Portfolio Investment Flows**

(In millions of Malaysian ringgit)



Source: Bank Negara Malaysia.

**Figure 5.4. Overnight Interest Rates, Foreign Exchange Rates, and Stock Market Indices**



Source: Bloomberg Financial Markets, L.P.



The significant difference between the nonstandard responses in equity and bond markets discussed earlier in this chapter and the Malaysian response is that, by imposing direct controls on transactions and movements of capital, the authorities abruptly changed the rights and opportunities of private investors. Furthermore, there was a perceived lack of transparency in the methods used relating to the controls. This has created a perception among market participants that, in the face of market turbulence, sudden and abrupt swings in the policy stance may reappear, and such perceptions are likely to persist for some time. Looking ahead, while the general sentiment among market participants is that the controls may be retained for some time, it remains to be seen whether the controls will be reflected in greater differentiation between Malaysia and other relatively open Asian emerging markets as investors make decisions on how to allocate their exposures.

While the recent emerging markets crisis has drawn attention to certain policy responses from some authorities that are deemed nonstandard, some facts need to be borne in mind in assessing the impact of the interventions in the short term and the long term. The pressures faced by some emerging markets in the depths of the crisis were enormous and, in fact, unprecedented in recent history. Such circumstances may have warranted responses that go beyond the typical combination of an interest rate defense and foreign exchange market intervention. Therefore, a judgment on the particular nonstandard interventions applied should be set against the menu of policy choices that were available to the authorities in such extreme circumstances. For instance, circuit breakers are used in many mature and emerging markets to rein in volatile market conditions and restore orderly trading. Looking back, some of the nonstandard responses used in various markets in the recent crisis had the same impact as circuit breakers, but were applied without preestablished guidelines and clear rules that circuit breakers typically tend to have. Looking ahead, an understanding of the longer-term implications of the interventions, and an ability to clearly differentiate between fundamentals and market panic, should guide policies that may be needed to maintain orderly market conditions in the face of abnormal pressures without interfering with the efficient functioning of markets.

## **The Role of the Major Credit Rating Agencies in Global Financial Markets**

During the 1990s, global securities markets have become an increasingly important source of funding for many emerging market countries. As a result, the portfolio preference and practices of the major institutional players in these markets have been key determinants of the scale and composition of capital flows to emerging markets, as well as the terms and conditions under which those markets can be accessed. In this regard, credit rating agencies have been viewed by many market participants as having a strong impact on both the cost of funding and the willingness of major institutional investors to hold certain types of instruments. Indeed, obtaining a sovereign credit rating has often been seen as a prerequisite for issuing a eurobond; and some institutional investors are constrained to hold securities that have been classified by rating agencies as “investment grade,” as a result of either official regulations or internal risk management practices. Moreover, under recent proposals put forth by the Basel Committee on Banking Supervision, credit ratings would become key

determinants of the risk weights attached to bank exposures to sovereign and other borrowers.

The sharp adjustments of sovereign credit ratings for many emerging markets in the period since July 1997 have raised concerns about the credit rating process. Indeed, critics have charged that the improvements in ratings during the early and mid-1990s and the subsequent sharp declines in 1997–98 introduced a procyclical element into global capital flows—accelerating inflows during the mid-1990s and contributing to a collapse of inflows after the Asian crisis emerged—and that the ratings neither warned of the crisis nor accurately reflected economic fundamentals. In addition, there have been concerns that the agencies have been excessively sensitive to short-term developments, especially during crisis periods.

To examine these concerns, this section reviews the role of credit agencies in global financial markets, as well as the specific experience with sovereign credit ratings for emerging markets during the 1990s. There is first consideration of the general issue of how markets generate information about alternative investments and convey that information to either individual savers or institutions serving as their agents. In this setting, credit rating agencies seek to provide information on relative default probabilities for the securities issued by a broad range of public and private sector borrowers. The role of credit rating agencies in global markets is examined by (1) reviewing the history of the credit rating industry and the growing use of ratings in the regulatory process; (2) discussing the nature of the rating process; and (3) analyzing the historical accuracy of ratings. The section then considers the experience with sovereign credit ratings for emerging markets in the 1990s, with particular emphasis on the period since the beginning of the Asian crisis in July 1997.

## **Financial Markets and Information**

One of the fundamental problems that financial markets must deal with is the presence of asymmetric information between savers and investors. In deciding whether to fund a particular investment project, a saver would presumably want to examine a broad range of factors that influence the return on that investment as well as the associated risks. However, the owner or manager of the investment project is likely to have much more information about some aspects of the project (including the amount of effort the owner/manager will devote to making the project successful) than the saver. As a result, gathering information on a complex investment project can be not only very costly but also often subject to great uncertainty. Moreover, in an international setting, the potential asymmetric information problems confronting each individual saver are likely to be much greater than at the national level owing to differences in reporting requirements, accounting standards, and legal arrangements.

A variety of financial institutions and markets, supplemented by official disclosure and investor protection policies, have evolved both to reduce the need for individual investors to evaluate a multitude of investments and to generate a mixture of private and

public information to help savers evaluate alternative investments. For example, banks have historically been one of the key institutions for dealing with asymmetric information through reliance on private information. Commercial banks pool the funds of depositors and allocate these funds to a variety of investment projects. In addition to allowing for a diversification of risks across a bank's portfolio, banks are able to develop specialized expertise in the evaluation of the credit risks associated with individual investment projects. Banks typically do not share the information they develop about individual investment projects, and they can therefore capture the full value of this private information, which helps to offset the cost of generating such information.

Savers can also make use of public information that is generated both by market institutions and as a result of regulatory disclosure requirements; once this information is available, it is a public good. For example, securities houses employ analysts to evaluate alternative investments and to make investment recommendations to individual savers and institutions. The costs associated with producing such "sell-side" investment research are indirectly recovered through the transactions fee that the securities house earns when its customers trade on the basis of the investment advice.

Another source of public information is provided by investment newsletters and credit rating agencies, and it is not linked to sales of particular financial products. These entities provide "standardized" evaluations of the likely returns and risks associated with alternative investments; but the decision regarding which investments are undertaken remains with the saver. The cost of generating this information is recovered through subscription charges to subscribers (in the case of newsletters) or through charges imposed on the issuers of rated securities. Alternatively, savers can delegate to investment managers or mutual funds both the evaluation of alternative investment projects and the choice of the most profitable, risk-adjusted mix of investments. In this situation, the costs of such evaluations and investment activities are imposed on savers through commissions and/or fees based on assets under management and deducted from the returns on the investments.

### **Credit Ratings and the Credit Rating Process**

The emergence of the credit rating agencies is a classic example of how market institutions evolve to deal with asymmetric information in the absence of government intervention. The "good" that they provide is to evaluate financial claims according to standardized creditworthiness categories.

### *History of the Major Rating Agencies*

As a result of geographically fragmented banking and capital markets in the United States in the 1800s, a series of institutions developed to provide private and public information about the creditworthiness of various borrowers. Cantor and Packer (1994) argue that the immediate precursors of modern rating agencies were the mercantile credit agencies, which rated merchants' ability to meet their financial obligations. Following the financial panic of 1837, Louis Tappan established the first mercantile credit agency in New York; and Robert Dun subsequently acquired the agency and published its first rating guide in 1859. In 1849, John Bradstreet established his agency and started publishing his rating book in 1857. In 1933, the two agencies merged to form Dun and Bradstreet, which became the owner of Moody's Investor Service (Moody's) in 1962.

Ratings were extended to the securities markets in 1909 when John Moody began rating U.S. railroad bonds and in 1910, ratings of utility and industrial bonds were added. Poor's Publishing Company issued its first ratings in 1916, Standard Statistical Company, in 1922, and the Fitch Publishing Company, in 1924. Standard & Poor's (S&P's) was formed in 1941 by the merger of Standard Statistical and Poor's Publishing. Duff and Phelps began to provide bond ratings in 1982.

These long-established rating agencies have faced competition from more specialized agencies and newer agencies, particularly in emerging markets. For example, Thomson Bankwatch rates financial institutions, and A.M. Best rates insurance companies. As part of efforts to "jump start" domestic securities markets, a number of emerging markets have introduced mandatory rating requirements for the issuance of certain types of domestic securities or required certain institutions to periodically issue securities that will be rated. (Table 5.1 provides a listing of some of the rating agencies in emerging markets). Recently, rating agencies have experienced a rapid expansion of their activities in Europe, where a growing number of corporate entities have sought ratings to facilitate bond issuance.<sup>11</sup>

Over time, the agencies have continued to expand both the types of financial instruments that they rate and the frequency with which they report these ratings. The major U.S. agencies rate not only long-term sovereign and corporate bonds but also a variety of other instruments including municipal bonds, preferred stocks, asset-backed securities, medium-term note programs, shelf registrations, private placements, commercial paper, and bank certificates of deposit. Table 5.2 provides a description of the rating categories developed by Moody's and S&P's for long-term foreign currency bonds.<sup>12</sup> More recently, they have also begun to evaluate counterparty risk posed by derivative products, the claims

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<sup>11</sup> See "On Watch," *The Economist*, May 15, 1999, p. 82–87.

<sup>12</sup> Annex V provides a more detailed listing of the ratings categories used by the two largest ratings agencies—Moody's and S&P's.

Table 5.1. Local Credit Rating Agencies

Country	Name	Ownership Name	Ownership Type	Instruments Rated
Argentina	DCR Argentina	DCR Argentina	Joint venture (Duff & Phelps)	Bonds and stock
	Fitch IBCA Argentina S.A.	Fitch IBCA	Subsidiary	Bonds, stock, preferred, securitization, and bank deposit
	Standard & Poor's Argentina Branch	Standard & Poor's	Subsidiary	Bonds
	VALUE Calificadora de Riesgo S.A.	Argenhold SA (80%)	Local	Bonds, stock, securitization, and certificates of deposit
Brazil	SR Rating/Duff & Phelps			Bonds
Chile	Fitch IBCA Chile	Fitch IBCA	Subsidiary	Bonds and stock
	Duff & Phelps de Chile Ltda.	ECONSULT Credit Rating Ltd.	Joint venture (Duff & Phelps)	Debt instruments, stocks, commercial papers, and certificates of deposit
	Feller Rate-Clasificadora de Riesgo Ltda	Feller Rate	Local (Strategic alliance with S&P)	Bonds, stock, and time deposits
Colombia	Duff & Phelps de Colombia S.A.	Duff & Phelps	Subsidiary	Bonds
India	Duff & Phelps Credit Rating India Private Ltd.	Duff & Phelps	Subsidiary	Bonds
	Credit Analysis & Research Ltd. (CARE)	Credit Analysis & Research Ltd. (CARE)	Local	Bonds and time deposits
	The Credit Rating Information Services of India Ltd. (CRISIL)	CRISIL	Local	Bonds, commercial paper, and structured obligations
	ICRA Ltd.	ICRA Ltd.	Local	Bonds and commercial paper
Israel	MAALOT-The Israel Securities Rating Ltd.	MAALOT	Local	Bonds
Korea	Korea Investors Service Co.	Korea Investors Service	Local	Bonds and commercial paper
	Korea Management Consulting & Credit Rating Corporation	Korea Development Bank (93%)	Local (subsidiary of KDB)	Bonds and commercial paper
	National Information & Credit Evaluation, Inc.	National Information & Credit Evaluation, Inc.	Local	Bonds and commercial paper
Malaysia	Rating Agency Malaysia Berhad	Rating Agency Malaysia Berhad	Joint venture (Duff & Phelps)	Bonds and preferred stock
Mexico	Fitch IBCA Mexico S.A. de CV	Fitch IBCA	Subsidiary	Bonds
	Duff & Phelps de Mexico, SA de CV (DCRMEX)	Duff & Phelps de Mexico, SA de CV (DCRMEX)	Joint venture (Duff & Phelps)	Bonds and securitization
	Standard & Poor's, SA de CV. S&P Ca-Val	Standard & Poor's	Subsidiary	Bonds
Pakistan	DCR-VIS Credit Rating Company Limited	DCR-VIS	Local	Bonds and stock
	The Pakistan Credit Rating Agency (Pvt.) Ltd. (PACRA)	PACRA	Joint venture (Fitch IBCA)	Bonds
Peru	Duff & Phelps del Peru S.A.			Bonds, preferred stock, and time deposits
	Apoyo and Asociados International S.A.			Banks, financial institutions, Bonds, shares, stocks, all debt instruments
	Equilibrium Bank Watch			Banks, financial institutions, bonds, shares, stocks, all debt instruments
	Class and Asociados S.A.			Banks, financial institutions, bonds, shares, stocks, all debt instruments
Philippines	Credit Information Bureau, Inc.	Credit Information Bureau, Inc.	Local	Bonds and commercial paper
Portugal	Companhia Portuguesa de Rating S.A.	Sociedade de Avaliacao de Empresas e Risco, Lda.	Local	Bonds and commercial paper
South Africa	CA-Ratings	CA-Rating	Local	Bonds
	Fitch IBCA South Africa (Pty) Ltd.	Fitch IBCA	Subsidiary	Bonds
Thailand	Thai Rating & Information Services Company Ltd.	Thai Rating & Information Services Company	Local (3-year Strategic Partnership with Fitch IBCA)	Bonds
Tunisia	Maghreb Rating	Inter Arab Rating Company	Joint venture (Fitch IBCA)	Bonds
Venezuela	Duff & Phelps de Venezuela, S.A.	A qualified group of local professionals	Joint venture (Duff & Phelps)	Bonds

Source: Financial Times, 1998.

**Table 5.2. Rating Categories**

Moody's	Standard & Poor's
<b>Aaa</b>	<b>AAA</b>
Issuers rated Aaa offer exceptional financial security. While the creditworthiness of these entities is likely to change, such changes as can be visualized are most unlikely to impair their fundamentally strong position.	An obligor rated AAA has extremely strong capacity to meet its financial commitments. AAA is the highest Issuer Credit Rating assigned by Standard & Poor's.
<b>Aa</b>	<b>AA</b>
Issuers rated Aa offer excellent financial security. Together with the Aaa group, they constitute what are generally known as high-grade entities. They are rated lower than Aaa entities because long-term risks appear somewhat larger.	An obligor rated AA has very strong capacity to meet its financial commitments. It differs from the highest-rated obligors only in small degree.
<b>A</b>	<b>A</b>
Issuers rated A offer good financial security. However, elements may be present that suggest a susceptibility to impairment sometime in the future.	An obligor rated A has strong capacity to meet its financial commitments but is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligors in higher-rated categories.
<b>Baa</b>	<b>BBB</b>
Issuers rated Baa offer adequate financial security. However, certain protective elements may be lacking or may be unreliable over any great period of time.	An obligor rated BBB has adequate capacity to meet its financial commitments. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitments.
<b>Ba</b>	<b>BB</b>
Issuers rated Ba offer questionable financial security. Often the ability of these entities to meet obligations may be moderate and not well safeguarded in the future.	An obligor rated BB is less vulnerable in the near term than other lower-rated obligors. However, it faces major ongoing uncertainties and exposure to adverse business, financial, or economic conditions that could lead to the obligor's inadequate capacity to meet its financial commitments.
<b>B</b>	<b>B</b>
Issuers rated B offer poor financial security. Assurance of payment of obligations over any long period of time is small.	An obligor rated B is more vulnerable than the obligors rated BB, but the obligor currently has the capacity to meet its financial commitments. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitments.
<b>Caa</b>	<b>CCC</b>
Issuers rated Caa offer very poor financial security. They may be in default on their obligations or there may be present elements of danger with respect to punctual payment of obligations.	An obligor rated CCC is currently vulnerable, and is dependent upon favorable business, financial, and economic conditions to meet its financial commitments.
<b>Ca</b>	<b>CC</b>
Issuers rated Ca offer extremely poor financial security. Such entities are often in default on their obligations or have other marked shortcomings.	An obligor rated CC is currently highly vulnerable.
<b>C</b>	
Issuers rated C are the lowest rated class of entity, are usually in default on their obligations, and potential recovery values are low.	

Sources: Moody's; and Standard & Poor's.

paying ability of insurance companies, and price volatility of mutual funds and mortgage-backed securities.

The 1990s have witnessed a growing reliance on credit ratings in the regulatory process in many mature and emerging markets.<sup>13</sup> Although ratings were first utilized in prudential supervisory regulations, they have also been employed by self-regulatory bodies. Credit ratings have typically been used to prohibit certain institutions from holding low-rated (often non-investment-grade)<sup>14</sup> securities, to modify disclosure requirements (with investment-grade issuers allowed to use simplified disclosure statements), and to adjust capital requirements (with holdings of low-rated securities being subject to higher capital requirements). Such requirements have been viewed as a vehicle for increasing creditworthiness awareness, limiting imprudent behavior, and introducing elements of market discipline. While ratings have been employed most extensively by regulatory agencies in the United States, and to a lesser extent in Japan, there has been expanded use of ratings in Latin American and Asian emerging markets (Annex VI). More recently, the Task Force on the Future of Capital Regulation of the Basel Committee on Banking Supervision has proposed using ratings to help determine sovereign and private sector risk weights in a revision of Basel capital requirements (Box 4.2 in Chapter IV).

The use of ratings in the regulatory process has been subject to some controversy, and the major rating agencies have concerns about using ratings in this way. In part, there are concerns about how accurately credit ratings reflect underlying risks (particularly for sovereigns). Moreover, it has been argued that the linkages between regulatory requirements and rating changes can have a sharp impact on market dynamics, both within national markets and across borders. For example, one concern is that if a sovereign is suddenly downgraded from investment to non-investment-grade in the midst of a crisis, then a number of institutional investors could be faced with either higher capital charges or prohibition on continued holdings of the sovereign's securities. The ensuing portfolio adjustments could limit the funding available to sovereigns and/or impose higher borrowing costs.

In the past, the major rating agencies opposed the use of ratings in the regulatory process because of the potential effects on the incentive structures confronting the agencies and their customers. For example, when ratings are mandated by regulation, issuers and intermediaries could be encouraged to engage in rating shopping—a process in which the issuer searches for the least expensive and/or least demanding rating. Such rating shopping

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<sup>13</sup> Annex VI provides more detailed information on the use of ratings in the regulatory process.

<sup>14</sup> In S&P's ratings system, a speculative- or non-investment-grade rating is any rating below BBB-. For Moody's, any rating below Baa3 is non-investment-grade.

can be particularly dangerous when the ratings are used as a substitute for adequate disclosure requirements. Moreover, linking investments and/or issuance activities to the rating process implicitly gives the rating agencies the right to grant a government license to undertake those investments and/or activities. The importance of the resulting regulatory-driven revenue stream could shift the focus of the agencies away from serving the informational needs of savers. In addition, the agencies are concerned that the growing use of ratings in the regulatory process will lead to calls for official supervision and/or regulation of their industry.

Despite their earlier concerns about the use of ratings in the regulatory process, some of the rating agencies have indicated that the new Basel Committee proposals for using credit ratings to determine risk weights in capital adequacy requirements will have positive implications for bank credit strength and risk strategies. For example, Moody's (1999b) has argued that under the Basel Committee proposals there would be extra incentives for banks to focus on the quality of their borrowers and counterparties. Moreover, the new capital framework could result in lower loan-loss provisions to the extent that banks increase their focus on risk at the beginning of the loan relationship rather than at a later stage in that relationship. In addition, the agency argued that banks would also face increased regulatory deterrents for undertaking high-risk lending.

#### *Rating Process*

The rating agencies view their ratings as providing a forward-looking indication of the relative risk that a debt issuer will have the ability—and willingness—to make full and timely payments of principal and interest over the life of a particular rated instrument. The agencies do not regard their ratings as providing either a prediction of the timing of a default or an indication of the absolute level of risk associated with a particular financial obligation. The absolute level of the default risk is seen as being influenced by the state of the business and credit cycles. During the Great Depression of the 1930s, even highly rated corporates were more likely to default than in other periods; but the agencies would expect that a more highly rated firm would default with less frequency than a lower-rated firm during even difficult times. Nonetheless, in assigning ratings, the agencies indicate that they try to see through economic, political, credit, and commodity cycles.<sup>15</sup> Thus, a recession or decline in the terms of trade should not, by itself, bring about a rating change if it has been anticipated by the agency. Moreover, the agencies' concept of default is not based on a legal definition. A default is viewed as taking place when there is either a failure to meet a principal or interest payment on the due date or a distressed/coercive rescheduling of principal and/or interest on terms less favorable than those originally contracted.

The major rating agencies had initially provided ratings free of charge and financed their operations through the sale of publications. Since these publications could easily be

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<sup>15</sup> See Treacy and Carey (1998) for a discussion of this issue.



copied, they were not a steady and expanding source of revenues. Faced with the conflict between demands for more comprehensive and expanded coverage and limited revenues, the agencies began to charge issuers for ratings. The major agencies acknowledge that 90 percent or more of their total revenues currently come from the fees they charge for issuing ratings.<sup>16</sup>

Some market participants have argued that charging issuers for their ratings could offer the agencies an incentive to assign higher ratings than warranted by fundamentals. However, the agencies have argued that they have an overriding incentive to maintain a reputation for high-quality accurate ratings. If savers were to lose confidence in an agency's ratings, issuers would no longer believe they could lower funding costs by obtaining a rating. In addition, inaccurate ratings might expose the agency to costly legal claims. Following the defaults of the Washington Public Power Supply System in 1983 and Executive Life in 1991, class action suits were brought against rating agencies, but these cases were dropped before verdicts were reached. Given the overriding incentive for the agencies to maintain their credibility, it seems unlikely that they would trade off their credibility in return for short-term revenue gains.<sup>17</sup>

The rating process for an entity can be viewed as consisting of an initial credit rating (the timing of which is typically controlled by the issuer) and subsequent rating reviews and changes (which are usually initiated by the rating agencies). While rating practices tend to differ somewhat across agencies, those employed by the two largest agencies—Moody's and S&P's—are representative of the most common procedures. In both agencies, the initial rating process begins with meetings between the agency's staff and the management of the company (if a private entity) or government officials (if a sovereign or sovereign entity). These meetings are used to gather what the agencies regard as the private and public information (discussed below) needed to evaluate the company's or sovereign's creditworthiness and to gain an understanding of the firm's corporate strategy or the policies the authorities intend to pursue. The analysts then use this information to prepare a presentation for the rating committee, which determines the rating to be assigned. In some

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<sup>16</sup> Agencies charge fees that vary with the size and type of issue. Typically, there is both a floor and a ceiling on the charge for any single bond issue, and frequent issuers can negotiate rates. Treacy and Carey (1998, p. 911) reported that S&P's fees for rating a public corporate debt issue ranges from \$25,000 to more than \$125,000, with the usual fee being 0.0325 percent of the face amount of the issue. A recent survey (Cantwell, 1998) found that in the United States banks tend to pay the highest fees (often over \$100,000 a year per agency) due largely to the amount of debt being issued. Utilities and industrials paid each agency on average between \$25,000 and \$100,000 a year.

<sup>17</sup> Kreps and Wilson (1982) have shown that a reputational effect can be a common feature of markets where there is imperfect information.

cases, the agencies provide a brief time period (typically a week) during which issuers can discuss pending events that might influence the rating before the rating is made public.<sup>18</sup>

In recent years, both Moody's and S&P's have supplemented their ratings with watches and outlooks, respectively, designed to indicate the agencies' perspectives on factors that might prompt a rating review over the next 6 to 24 months. Such reviews usually denoted as positive (implying an improving situation), stable, or negative (implying deteriorating fundamentals).<sup>19</sup>

Following the initial rating, the rating agencies continue to monitor the economic and financial condition of the issuer. Subsequent rating changes are said to occur only if the agencies' analysts come to the conclusion either that there has been a sudden material change in the issuer's economic situation or that cumulative developments have forced a revision. The agencies usually announce that such a review is under way, with Moody's placing the rating "under review" and S&P's changing the "outlook" on the rating or putting an issuer on "creditwatch." The agencies often indicate the likely direction of the rating change that they anticipate will occur. Moody's has indicated that roughly two-thirds of all reviews result in a rating change.

In some markets, the rating agencies will provide unsolicited ratings. For example, S&P's rates all taxable securities issued in the U.S. markets that are registered with the Securities and Exchange Commission (SEC), even if the rating is not solicited. However, S&P's will not rate issues in the U.S. finance or structured finance sectors or non-U.S. debt markets without a rating request. Moody's also rates all taxable, SEC-registered securities in the U.S. markets, but it sometimes provides unsolicited ratings for structured financing. Both agencies argue that they are able to effectively rate SEC-registered securities because there are excellent disclosure standards for these securities.<sup>20</sup>

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<sup>18</sup> Recently, S&P's has begun to issue "public information" (denoted on the rating by "pi") ratings for financial institutions in emerging markets (such ratings are also issued for some mature-markets entities). S&P's has for some time maintained a policy of differentiating between those ratings based solely on public information from those that incorporate the information from discussions with the management of the institution. Institutions that receive "pi" ratings are chosen to provide broad coverage of financial institutions for potential counterparties and other subscribers. Ratings with a "pi" are reviewed annually based on a new year's financial statements, but may also be reviewed on an interim basis if a major event that may affect an institution's credit quality occurs. Outlooks are not provided for ratings with a "pi" subscript, nor are these ratings subject to potential creditwatch listing.

<sup>19</sup> S&P's also uses the designation developing to indicate that the future rating trend could be positive or negative.

<sup>20</sup> A recent survey of issuers in U.S. markets (Cantwell, 1998) found that 9 percent had received unsolicited ratings from S&P's, but that other agencies were even more prone to continued

Sovereign ratings can be provided for both domestic and foreign currency debt issues, and the sovereign rating can have a major impact on the ratings for other entities in the country—via the so-called “sovereign ceiling.” Until recently, the sovereign rating set a ceiling on the rating that could be achieved by other domestic entities under the assumption that the sovereign has first claim on available foreign exchange and controls the ability of any resident to obtain funds to repay creditors. Both Moody’s and S&P’s have now indicated that in certain circumstances a domestic issuer could be more highly rated than the sovereign. In terms of domestic currency ratings, a private entity could be seen as more creditworthy than the sovereign if it has more assets (relative to its liabilities) and more liquidity available to it than the government. The situation is more complex for foreign currency issues because the government could potentially impose severe capital controls that would prevent private sector payments (transfer risk). As a result, only structured products or stand-alone vehicles that allow the private party to mitigate transfer risk can achieve a higher rating than the sovereign. Such structured products typically provide offshore collateral and/or revenues that are protected from sovereign seizure or third-party guarantees of payment by highly rated entities.

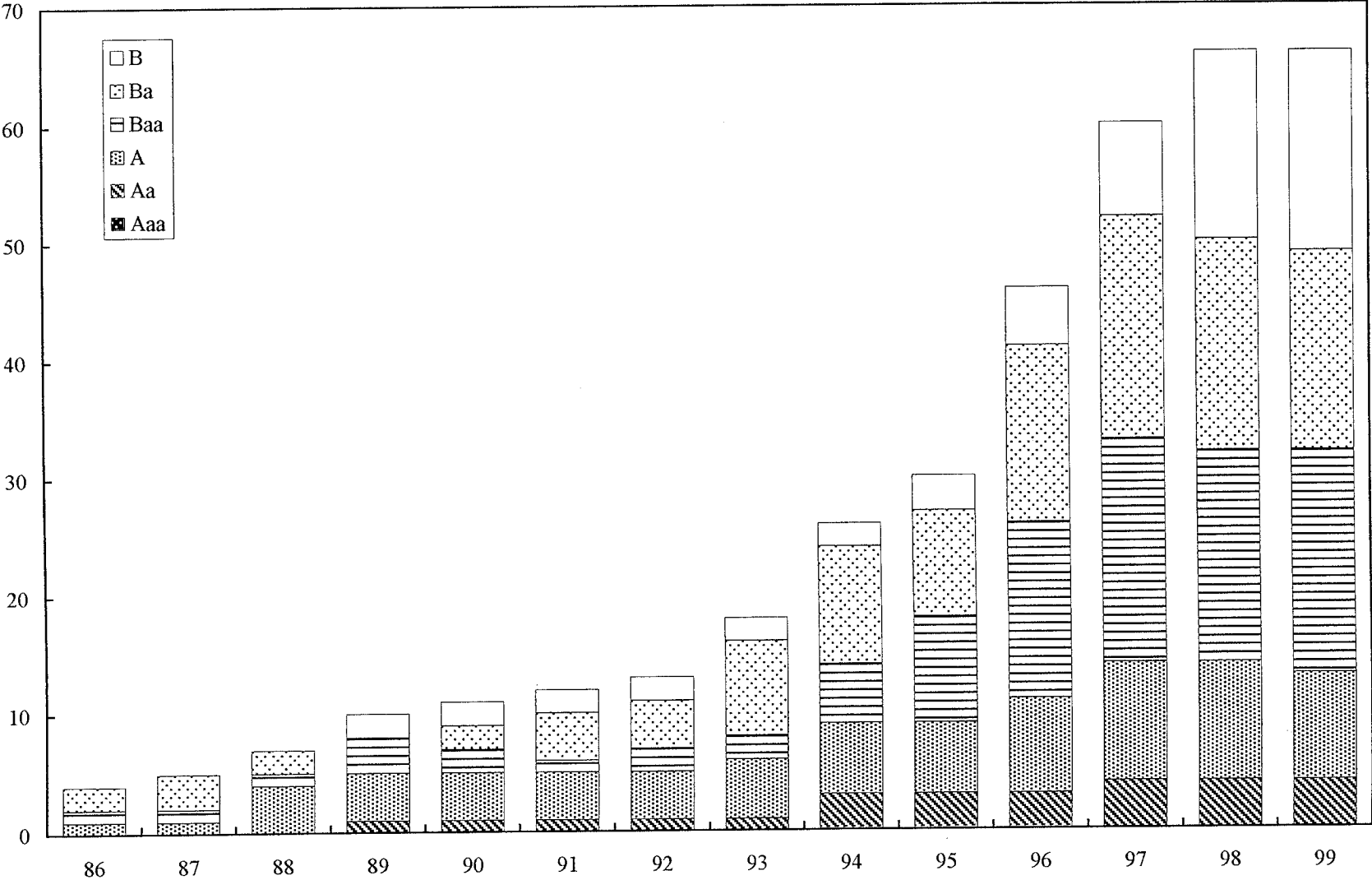
The ratings on long-term bonds issued by sovereigns and corporates (Table 5.2) extend from those that the issuer is relatively unlikely to default (Aaa or AAA) down to those that have a relatively high risk of default (C or CC). Sovereign ratings have a more checkered history than those for corporates. For example, S&P’s predecessors (Standard Statistical Company and Poor’s Publishing Company) began rating sovereigns in the 1920s. These early ratings relied solely on public information and were not based on discussions with the authorities. Most sovereign ratings were lowered during the 1930s depression, with Germany’s and Japan’s ratings falling into the speculative grade. As World War II approached, the ratings for the European nations declined rapidly and, by 1939, all ratings in the region except that of Great Britain were speculative grade. Germany was moved to the default category in October 1939 and, by June 1940, Standard Statistics suspended most of its sovereign ratings. After the war, S&P’s began to rate Yankee bonds (foreign bonds denominated in U.S. dollars issued in the United States) launched by a number of mature economies. However, once the United States imposed an interest equalization tax in 1963, investor interest in Yankee bonds waned and S&P’s suspended issuing sovereign ratings in 1968 (except for Canada). S&P’s resumed rating sovereigns in 1974 and, by 1980, 30 countries had sovereign ratings (all at Aaa level). By early 1999, the total number of sovereigns that were rated reached 79.

The 1990s have also witnessed an increase in the number of sovereigns that are rated at the non-investment-grade level (Figure 5.5). This development has primarily reflected not

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issue unsolicited ratings. Eleven percent of the respondents reported unsolicited ratings by Moody’s, and 40 percent of the issuers reported that their initial rating by Fitch IBCA was not requested.

Figure 5.5. Emerging Markets: Number of Sovereign Ratings by Category



Source: Moody's.

downgrades but rather an increased number of non-investment-grade sovereigns seeking ratings to enhance access to private capital flows.

The agencies argue that the level of a sovereign's rating is determined by a variety of political and economic factors.<sup>21</sup> They regard as important both global systemic factors, which influence the timing and magnitude of sovereign defaults, and country-specific factors, which influence the sovereign's ability and willingness to service its obligations. The agencies recognize that the analysis of sovereign creditworthiness is inherently more complex than that for corporates. While corporates have the primary objectives of profit maximization, sovereigns must trade off between multiple objectives—economic, political, and social. Government stability and unity, policy consensus and consistency, and policy response capacity are therefore viewed as key analytical factors in rating sovereigns. However, these political and policy factors are regarded as the most challenging to assess and are thus subject to wide margins of error.

Local currency ratings are influenced by such factors as the stability of political institutions and the degree of popular participation in the political process; income and economic structure; fiscal policy and budgetary flexibility; monetary policy and inflationary pressures; and public and private sector debt burdens and debt-service track record.<sup>22</sup> A country would have a higher rating if the government was perceived as stable and responding rapidly to economic problems, the standard of living was improving, inflation was low, public and private sector debt burdens were low, and any fiscal imbalance was of modest size and used to fund productive expenditures. The sovereign's ability to service its domestic currency obligations (because it has the power to tax and to print money) is typically seen as greater than its capacity to service external obligations.

The same factors influence a sovereign's foreign currency rating, but additional consideration is given to the effects of policies and other economic conditions that affect trends in public and private sector external debt. Both private and public sector debts are examined because private debts have been assumed by the public sector in a variety of countries during crises. Another key consideration is the scale of the country's foreign exchange reserves and the country's access to funding from the IMF and other multilateral institutions.

A survey of the analytical methodologies employed by the four largest rating agencies undertaken by the staff indicates that these agencies do not use specific models to assign sovereign ratings (see Annex V). Instead, they aim to assess the multiplicity of qualitative factors and quantitative indicators (described above) that affect sovereign default risk.

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<sup>21</sup> Annex V lists the various factors that S&P's identify as ratings determinants.

<sup>22</sup> This set of factors is given in S&P's (1998b).

However, to date, the agencies generally do not conduct extensive scenario analyses and stress testing, and they only rarely assign probabilities to specific risk factors and scenarios when assigning and monitoring ratings.

Although the rating agencies stress that they do not use a specific formula to combine their evaluations of the political and economic factors to derive the overall rating, there have been a number of empirical studies of which factors have historically received the greatest weights in the decision-making process. In particular, Cantor and Packer (1996, 1997), Reisen and von Maltzan (1999) and Juttner and McCarthy (1998) examined the determinants of the levels of Moody's and S&P's ratings for a range of mature and emerging market economies in the mid-1990s (see Annex V for analysis of these studies). The results that were statistically significant indicated that a high rating was associated with a high per capita income, more rapid growth, low inflation, a low ratio of foreign currency debt to exports, the absence of a history of defaults since 1970, and a high level of economic development (as measured by the IMF's classification as an industrial country). However, the fiscal position (as measured by the average annual central government budget surplus relative to GDP in the three years before the rating year) and the external position (as measured by the average annual current account surplus relative to GDP in the three years before the rating year) were statistically insignificant.

#### *Ratings Accuracy and Market Response*

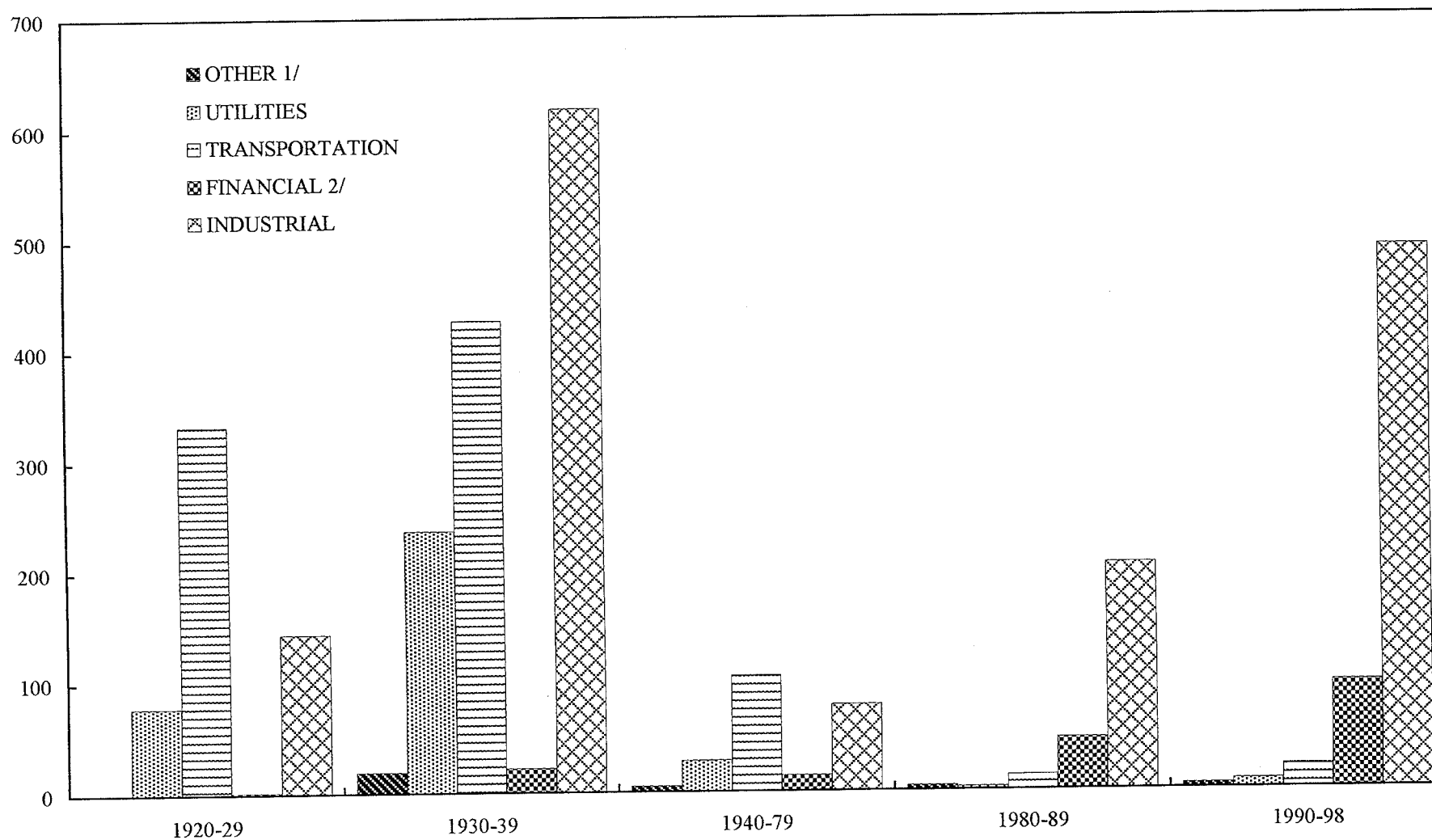
The usefulness of rating agencies to market participants in terms of overcoming problems created by asymmetric information is ultimately tied to how accurately the rating agencies measure the relative default probabilities associated with different issuers. Moody's maintains a database on corporate bond ratings and defaults that covers the period since 1920 and encompasses about 15,200 issuers of rated debt and some 2,200 defaulting issuers.<sup>23</sup> Default rates are calculated by dividing the number of issuers that defaulted at a particular time by the total number of issuers that could have defaulted. The incidence of defaults has been uneven, with large numbers of defaults in the 1920s, the depression of the 1930s, and then again in the late 1980s and 1990s (Figure 5.6). When examined in terms of rating categories, the 5-, 10-, 15-, and 20-year cumulative default rates are illustrated in Figure 5.7.<sup>24</sup> There is clearly a much higher default rate for the lower-rated categories. For example, the average default rates for five-year holding periods rises from 0.1 percent for the Aaa rating category to nearly 28 percent for the B category (Figure 5.7). In addition, there is much greater volatility in the default rates as the ratings move from investment to non-investment-grade levels (Figure 5.8). These mean and variance characteristics of the distribution of corporate defaults have implications for the pricing of corporate securities. To

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<sup>23</sup> This database is described in Moody's (1999a). Annex V also provides comparable information on S&P's experience with defaults, which is quite similar.

<sup>24</sup> Cumulative default rates represent the proportion of the issuers in a particular rating's category that default during the specific time period considered.

**Figure 5.6. Moody's-Rated Default Count by Industry and Trend**

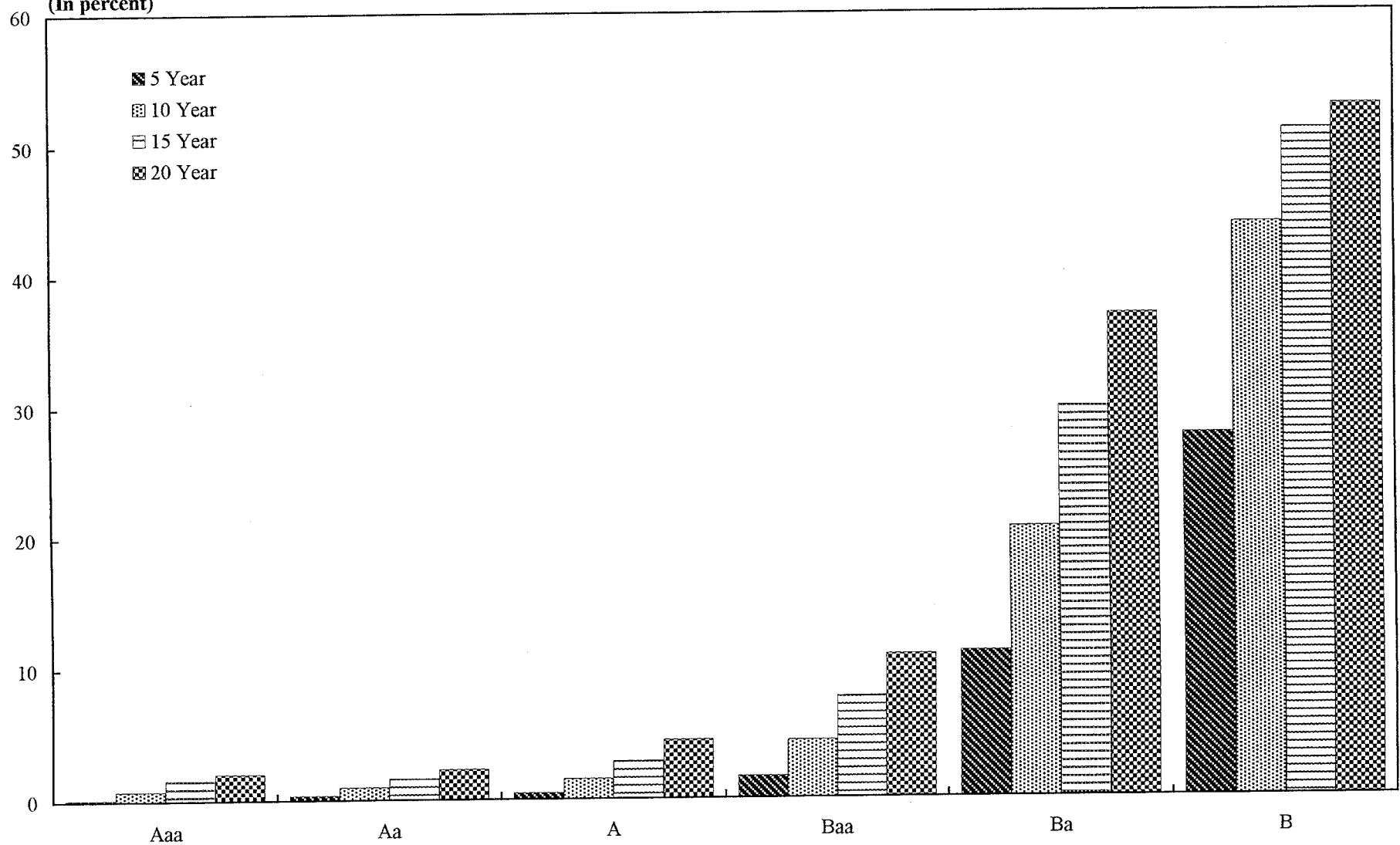


Source: Moody's.

1/Includes sovereign and miscellaneous.

2/Includes insurance.

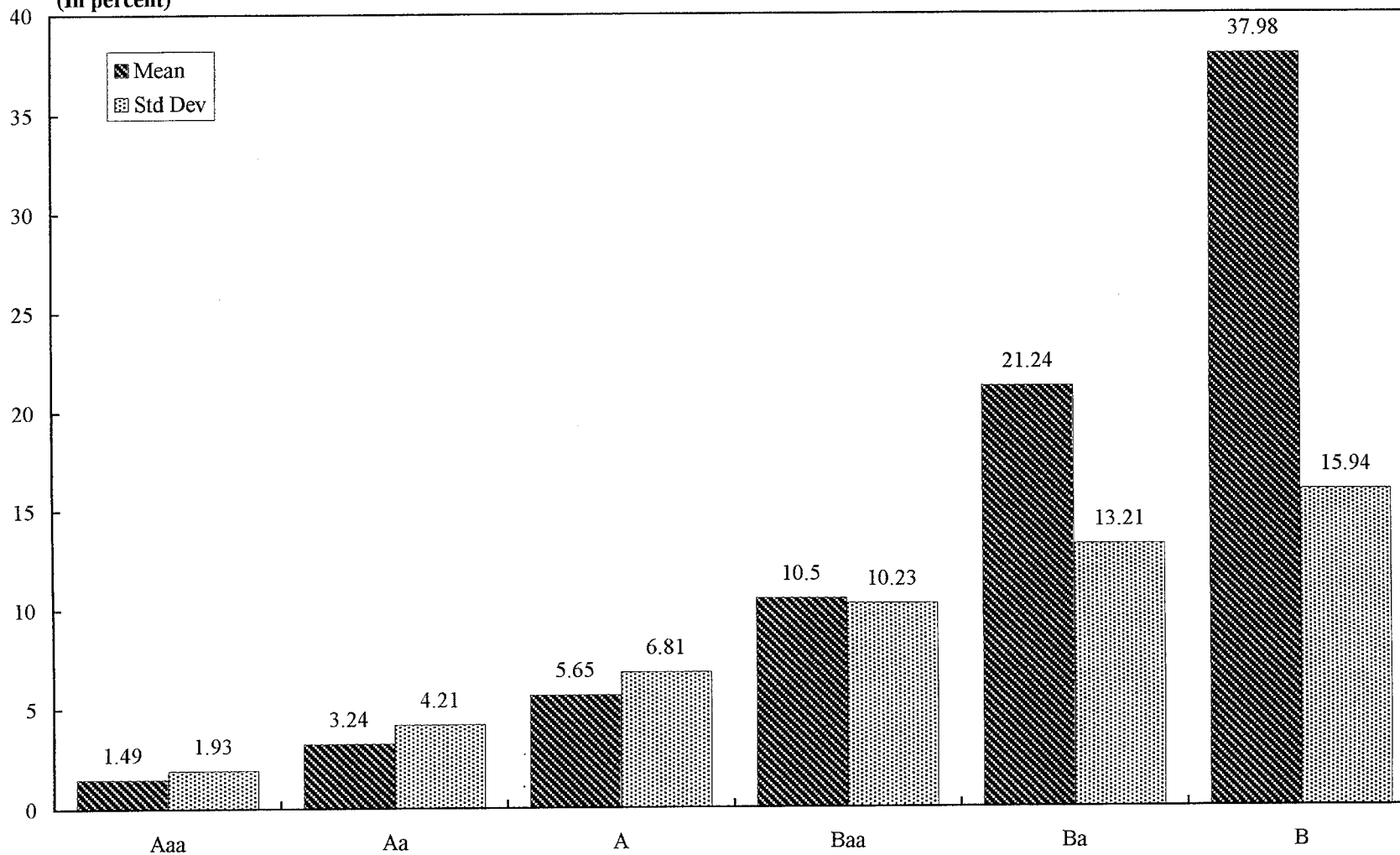
**Figure 5.7. 5-, 10-, and 15- and 20-Year Average Cumulative Default Rates, 1970-1998  
(In percent)**



Source: Moody's.



**Figure 5.8. Ten-Year Cumulative Default Rates and Volatilities, 1920-1998 1/**  
**(In percent)**



Source: Moody's.

1/ Excludes the exceptionally low default period 1950-1965.

the extent that portfolio managers are risk adverse, the returns on lower-rated debt must compensate them not only for the higher average risk of default, but also for the increased risk that the default rate could differ significantly from its historical average.

Even if the ratings are historically accurate, there is still the issue of the degree to which they influence asset prices. There have been a number of studies of the relationship between corporate rating changes and the adjustments in the prices of the firms' bonds, equities, and commercial paper (see Chandra and Nayar, 1998; Hand, Holthausen, and Leftwich, 1992; Matolcsy and Lianto, 1995; and Wansley and Claurette, 1985). These studies have often focused on the issue of whether changes in ratings convey information not already incorporated into prices from other sources. While the empirical results are not uniform, they typically find (1) a more significant effect from a downgrade rather than an upgrade and (2) the largest effect when the rating change is "unexpected."<sup>25</sup>

In examining the relationship between changes in ratings and the change in the spread between the yields on sovereigns, U.S. dollar-denominated eurobonds, and comparable U.S. treasury bonds, somewhat mixed results were obtained. For example, Cantor and Packer (1996) concluded that (1) announcements of upgrades in the agencies' ratings were followed by declines in yield spreads that were statistically significant but downgrades did not produce significant effects; and (2) the impact of rating announcements on spreads was much stronger for non-investment-grade than for investment-grade sovereigns. In contrast, Reisen and von Maltzan (1999), employing a somewhat larger and later sample period, found that a significant change in the yield spread in the expected direction occurred only when a country was put on review for a possible downgrade. However, they also found that the largest announcement effects were for emerging market sovereign spreads. As noted above, Cantor and Packer (1996) found the largest effects for non-investment-grade bonds, which were primarily those issued by emerging market sovereigns.

#### *Emerging Market Sovereign Ratings in the 1990s*

The 1990s have witnessed a sharp increase in the number of rated emerging markets sovereigns, as well as considerable variability in the average level of these ratings. For both Moody's and S&P's there has been almost a sevenfold increase in the number of emerging market sovereigns that have received a rating on their foreign currency issues (Figure 5.5). The most rapid growth in the number of ratings occurred in the period 1993 to 1997 as a

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<sup>25</sup> In addition to the effect of changes in ratings on changes in asset prices, there is also the issue of whether the relative yields on different classes of securities reflect differences in the levels of their ratings. The development of the "junk" bond market in the United States reflected the fact that in the 1970s the yield differentials between low- and high-rated bonds more than compensated for the historical difference in default rates (and subsequent losses) on the two types of securities.

growing number of emerging market sovereigns began to tap global bond markets, and portfolio flows to emerging markets rose from \$117 billion in 1993 to \$286 billion in 1997. For example, there were 11 emerging markets sovereigns that were rated at the beginning of 1990, which included seven Asian countries and four other countries (Figure 5.9). In the early 1990s, the Asian countries had an average Moody's rating of A3, which rose to A2 by late 1994. However, as the Asian crisis intensified, the average rating for these countries declined sharply, reaching Baa2 (still investment grade) in late 1998. The non-Asian countries that were rated in the early 1990s had an average rating of B1 (non-investment-grade) but improve gradually to Ba2 before the events in Russia and Brazil created uncertainties that led to a decline in the average rating to the Ba3 level. Sovereigns that were rated in the mid-1990s tended to start at the low end of the investment-grade range (Baa3) and to improve slightly before declining as the Asian crisis deepened.

#### *Rating Changes During Recent Crises*

In examining the experience with sovereign ratings for emerging markets in the late 1990s, it is important to first note that historically sovereign ratings have been relatively stable. Indeed, since the agencies argue that they try to see through economic political credit and commodity cycles, a recession or tightening of global liquidity should not, in itself, be an occasion for a downgrade. Rating changes should thus be tied to fundamental factors, such as secular trends or unanticipated policy responses. Table 5.3 indicates that sovereigns have typically stayed in the same rating category for extended periods, although ratings are more likely to change as one goes down the rating ladder.

In the period prior to the Asian crises, there had been only relatively modest rating actions and most Asian countries had investment-grade ratings.<sup>26</sup> Moody's placed Thailand on watch for a possible downgrade in February 1997 and subsequently downgraded Thailand from A2 to A3 in April 1997. However, the only other rating action was to upgrade the Philippines (to Ba1 in May 1997) and to assign a rating to Vietnam (Ba3). S&P's did not make any rating downgrades on Asian economies in the first half of 1997, although it also upgraded China (to BBB+ in May 1997), the Philippines (to BB+ in February 1997), and Hong Kong SAR (to A+ in May 1997). Most market participants have argued that these rating actions gave only a limited warning of the subsequent market turmoil and rating adjustments that were to follow. Moreover, a number of observers have argued that, in the agencies' reports on the Asian countries, there was seemingly a "disconnect" between the often critical, and subsequently proven accurate, assessments of the financial sector weaknesses in the Asian economies and the investment-grade ratings that they were assigned.

Against this background of rating stability, the rating changes on Asian emerging markets observed during the period between July 1997 and November 1998 were,

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<sup>26</sup> China, Hong Kong SAR, Indonesia, Korea, Malaysia, Singapore, Taiwan Province of China, and Thailand all carried investment-grade ratings at the beginning of July 1997.

**Table 5.3. Sovereign Foreign Currency Ratings: Average One-Year Transition Rates by Rating Category 1/**

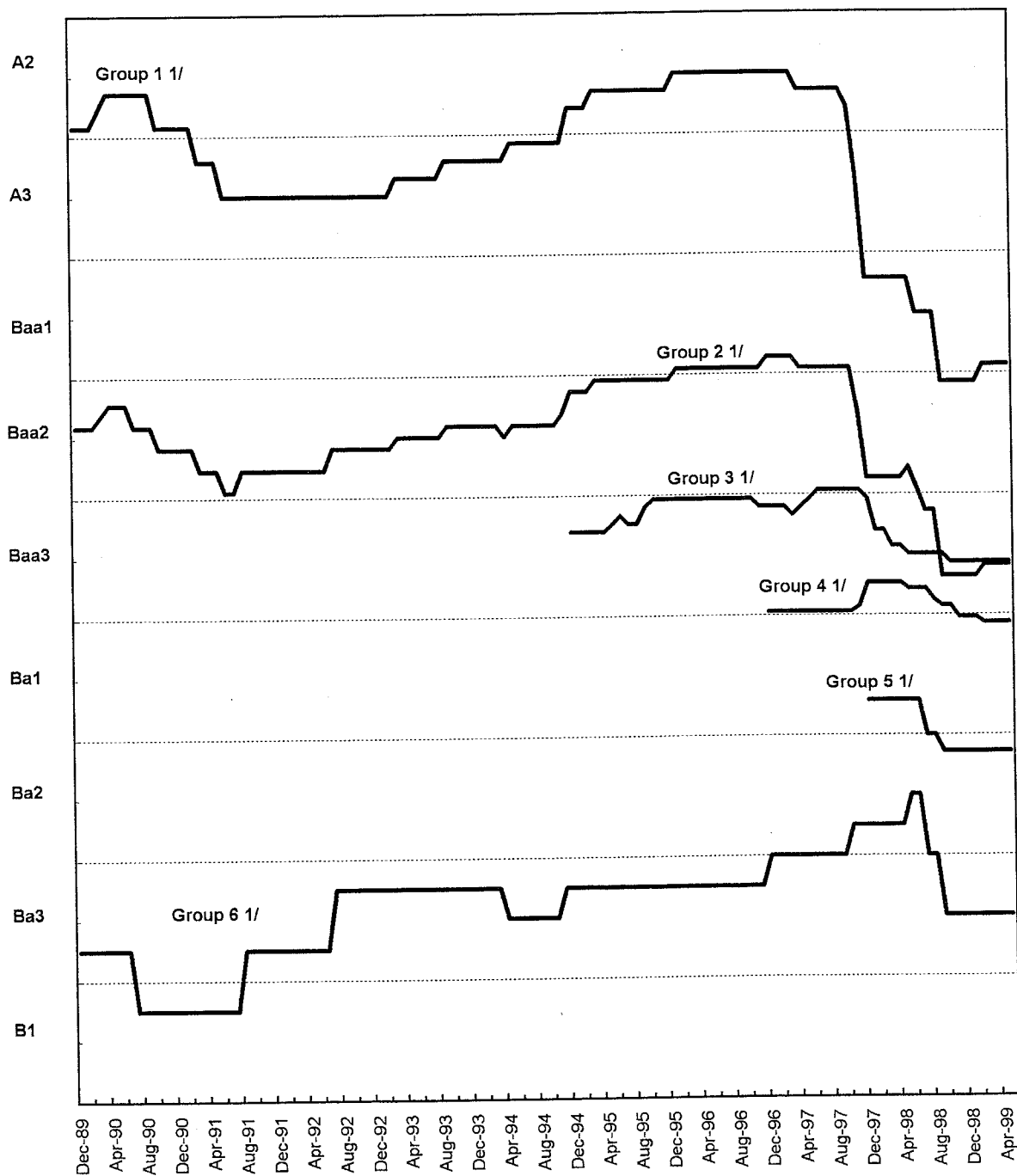
*(In percent)*

	Rating at Beginning of Year							
	AAA	AA	A	BBB	BB	B	CCC	SD OR D
Rating at year-end								
AAA	97.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0
AA	0.8	96.9	0.8	0.0	0.8	0.8	0.0	0.0
A	0.0	4.6	92.3	3.1	0.0	0.0	0.0	0.0
BBB	0.0	0.0	5.1	88.1	5.1	1.7	0.0	0.0
BB	0.0	0.0	0.0	6.0	85.1	6.0	1.5	1.5
B	0.0	0.0	0.0	0.0	20.0	75.0	0.0	5.0
CCC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Standard & Poor's.

1/ Ratings from 1975 to 1998.

Figure 5.9. Average Credit Ratings in Emerging Market Countries



Source: Staff calculations based on data from Moody's.

1/ Group 1: Includes 7 Asian countries rated before or on 12/31/1989. Group 2: Includes 11 countries rated before or on 12/31/1989 (Group 1 and Group 6 inclusive). Group 3: Includes 15 countries first rated between 1990 and 1994. Group 4: Includes 21 countries first rated between 1995 and 1996. Group 5: Includes 14 countries first rated during 1997. Group 6: Includes 4 non-Asian countries rated before or on 12/31/1989.

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collectively, the largest and most abrupt downgrades in the modern history of sovereign credit ratings (see Annex V, Figures 2–12). The ratings of Indonesia, Korea, Malaysia, and Thailand fell by an average of five “notches” (a one-step movement in the rating). In the course of these downgrades, Moody’s reduced Indonesia, Korea, and Thailand to non-investment-grade; whereas S&P’s reduced Indonesia and Korea to non-investment-grade but assigned the lowest possible investment-grade rating to Malaysia and Thailand. Korea was returned to investment grade (BBB-) by S&P’s in January 1999. These rating adjustments were accompanied by virtually simultaneous increases in interest rate spreads (see Annex V, Figures 2–12). By the beginning of 1998, spreads were between 3 (for Malaysia) and 8 (for Indonesia) times the levels observed in early July 1997.

The largest rating downgrades typically occurred following the revelation of what the agencies regarded as material new information. Both Moody’s and S&P’s (as well as some of the other agencies, such as Fitch IBCA) have argued that major rating reviews were triggered by the reports on the size of the Bank of Thailand’s forward foreign exchange position; the extent of the Bank of Korea’s placement of its foreign exchange reserves in offshore Korean banks; and the emergence of widespread political disturbances in Indonesia.

Other market analysts and asset prices also provided little warning of the impending crises. Surveys of analysts at major international commercial and investment banks published just prior to the crises by the Institutional Investor and Euromoney indicated that these analysts gave high creditworthiness ratings to all the Asian countries receiving investment-grade ratings by Moody’s and S&P’s (see Annex V). Indeed, the most common criticism of the rating agencies by other market participants during this period was that the agencies were being too “conservative” in not upgrading some of the countries. Moreover, as illustrated in Figures 2–12 of Annex V, interest rate spreads for most emerging markets (not just those in Asia) were declining or stable and had reached levels that were amongst the lowest observed in the 1990s.

Although Russia’s crisis and the near-failure of LTCM triggered extensive turmoil in global financial markets and a further spike in the interest spreads, credit ratings remained relatively stable across all regions (see Annex V, Figures 2–12). As Brazil’s exchange rate arrangements came under pressure, there were concerns that there would be large, abrupt adjustments in the ratings of Brazil and other Latin American emerging markets. Nonetheless, even the subsequent Brazilian depreciation was accompanied by only modest rating adjustments in Latin America and elsewhere. While Brazil was downgraded by Moody’s (to B2 in September 1998) and by S&P’s (to B+ in January 1999), there were cumulatively only four “notches” of rating changes between October 1998 and May 1999 for the 66 emerging markets rated by Moody’s. Such stability would be consistent with the historical pattern of relatively gradual changes in sovereign ratings.

The experience in the period since 1997 has provoked extensive debate about the specific role of the credit rating agencies in the evaluation of sovereign credit risks and, more generally, about how well market participants assess the risks associated with cross-border

capital flows. Critics have argued that the agencies gave too little early warning before the crisis and overreacted once the crisis emerged. This is particularly the case for Korea, where one critic argued that “any agency which rated Korea at the high investment-grade rating of AA- (in the case of Fitch IBCA and Standard & Poor’s) or A1 (in the case of Moody’s) before the crisis and downgraded at the worst point of the crisis before Christmas to a speculative grade B-, B+, and Baa1, respectively, was clearly wrong either initially or subsequently.”<sup>27</sup>

These criticisms raise the issue of how the performance of the rating agencies should be evaluated.<sup>28</sup> One cannot examine the actual experience with default rates and rating levels (as can be done for corporates) to see if there is a statistically significant relationship for two reasons. First, as noted earlier, there has been only a limited experience with sovereign ratings, both in terms of the length of time since the ratings began (for most emerging market countries, since the early 1990s) and the number of countries that have been rated. Moreover, under the definitions of default employed by the agencies, there were no sovereign defaults on any rated foreign-currency-denominated security in the period 1975–98.<sup>29</sup>

One starting point is to consider what the agencies have said about their performance during the crisis and what changes they have made in their analysis of sovereign credit risks. For example, Moody’s<sup>30</sup> argued that ratings are not intended to predict the precise timing of either when a given borrower might default or when a borrower may face a financial crisis. Moreover, the most abrupt changes in ratings will occur when the authorities reveal new information that has a significant impact on the short-term liquidity position of the sovereign. In the case of Thailand, the most serious rating deterioration occurred after the size of the central bank’s forward foreign exchange position was revealed. In the case of Korea, Moody’s argued that the crisis intensified when it was revealed that the authorities had deposited most of their international reserves with offshore Korean banks, which implied that these funds were not liquid. If this type of material information is concealed by the authorities, then Moody’s argued that one should always expect at least a review and most likely an abrupt change in a country’s rating when it is revealed.

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<sup>27</sup> Huhne (1998, p. 46).

<sup>28</sup> Annex V has a more detailed discussion of potential evaluation criteria including those that have recently been proposed by the Basel Committee on Banking Supervision.

<sup>29</sup> Both Moody’s and S&P’s anticipate that, with the growing scale of non-investment-grade sovereign issues, there will be some defaults in the near future, the first of which occurred (under the agencies’ definition) on May 14, 1999 when Russia failed to make a principal payment on its U.S. dollar-denominated Ministry of Finance (MinFin) Series III bonds.

<sup>30</sup> Moody’s views are given in a special “white paper” (Moody’s, 1998).

Nonetheless, Moody's indicated that there was a need for a "paradigm shift" in its rating technology as a consequence of the abrupt withdrawal of short-term credit, which produced crises whose severity was far in excess of any previous credit experience. This change will involve (1) greater analytic emphasis on the risks associated with reliance on short-term debt for otherwise creditworthy countries; (2) greater emphasis on the identity and creditworthiness of a country's short-term borrowers; (3) a greater appreciation of the risks posed by a weak banking system (including the contingent liabilities of such weakness for the authorities); (4) identification and consideration of the likely behavior of foreign short-term creditors; and (5) increased sensitivity to the risk that a financial crisis in one country may be contagious for its neighbors. Moreover, Moody's is considering the introduction of sovereign financial strength ratings, which would provide an indication of a country's ability to "stand alone" in the absence of outside credit support from international organizations or other countries.

Recent experience has led S&P's to give renewed emphasis on banking system soundness and to place greater importance on the financial contingency plans of countries with significant cross-border financing needs in its rating process. Banking system soundness is essential to a country's macroeconomic stability, effective demand management, and sustained economic growth. The level and rate of growth of leverage in an economy are seen as the key determinants of the likelihood of stress in the financial systems. In turn, trends in credit growth (to the private and public sectors), corporate and household indebtedness, asset-price inflation, and external funding of financial institutions are viewed as the key indicators of leverage. To gauge the likely costs associated with financial system weaknesses, S&P's has begun to publish estimates of the potential level of gross problem assets in the financial system in a reasonable worst-case economic recession or slowdown, expressed as a percentage of domestic credit to the private sector and nonfinancial public enterprises.<sup>31</sup> S&P's also argued that one of the key reasons for the rating downgrades was that the response by a number of countries had fallen short of what was required to manage the crisis without a lasting impairment to their credit standing.<sup>32</sup>

Fitch IBCA has also acknowledged that it needs to change some aspects of its rating methodology in light of its experience since 1997.<sup>33</sup> Sovereign credit risk analysis will always be inherently more difficult than that of corporates and financial institutions because the agencies need to focus on the willingness to pay as well as the ability to pay when analyzing sovereigns. It was noted, however, that this is well recognized by the markets, and this is reflected by the fact that emerging market sovereigns always pay an interest rate risk premium relative to comparably rated U.S. corporates. In terms of the specific lessons from

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<sup>31</sup> This concept was originally discussed in S&P's (1997).

<sup>32</sup> S&P's (1998a).

<sup>33</sup> These views are expressed in Fitch IBCA (1998).



the Asian crisis, Fitch IBCA first argued that inappropriate exchange rate policies had played a key role in determining the severity of the crisis. In particular, the pegged exchange rates maintained by a number of Asian countries were seen as encouraging the private sector to ignore exchange rate risk and borrow in U.S. dollars to take advantage of a slight gain in interest costs. As a result of this experience, it has emphasized that private as well as public sector debt matters for sovereign credit ratings.<sup>34</sup> Moreover, Fitch IBCA had underestimated the importance of the share of short-term debt in total external debt. One of the important lessons this agency had drawn from the Korean experience is that in the future its staff must look closely at any country with a high proportion of short-term debt in its external liabilities, even if its overall indebtedness is modest.

Fitch IBCA will also give renewed emphasis in sovereign analyses for all countries, not merely that of emerging markets, to vulnerability to liquidity crises. Particular attention needs to be given to the level of official foreign exchange reserves, especially in light of the maturity structure of the economy's foreign currency debt. For the agency to make an accurate evaluation of an economy's external asset and liability position, however, it views transparency in both the data and the policy framework as vital. Finally, the most difficult element of the recent crises for the analyst to assess has been contagion. The agency argued that it will maintain lower ratings for countries that are particularly vulnerable to contagion.

Another means of gauging whether the adjustments in ratings during the recent crises were "excessive" is to examine whether the empirical models that have been used to identify the relationship between the ratings and economic fundamentals have remained stable and would predict the types of rating changes that have occurred. Juttner and McCarthy (1998) recently examined this issue by first reestimating the model developed by Cantor and Packer (1996)<sup>35</sup> using the 1995 sovereign ratings given by Moody's and S&P's for 46 countries. Their estimates are quite similar to those obtained by Cantor and Packer. In particular, five of the macroeconomic variables had significant explanatory power, namely, positive effects associated with the level of per capita income and being an industrial country and negative effects associated with a high rate of inflation, a high ratio of external debt to exports, and a previous default (as defined by the agencies) on external obligations. The authors then reestimated these equations with data from 1996, 1997, and 1998 and they used these regression results to examine whether the predictive power of the estimated equations declined over time and to identify the largest outliers from the regressions. Juttner and McCarthy were particularly interested in whether the regressions could explain "rating crises" (i.e., a three-"notch" sovereign credit rating downgrade on long-term foreign currency debt over any six-month period). While the estimation results for both 1996 and 1997 are similar to the 1995 results, the number of significant variables and the proportion of the

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<sup>34</sup> In this regard, Fitch IBCA criticized the IMF's Special Data Dissemination Standard (SDDS) for only including data on public but not private sector external debts.

<sup>35</sup> See Annex V for a more detailed discussion of these results.

variation in the ratings explained by the regression declined significantly for 1998. Moreover, for 1998, the empirical model predicted the rating levels for Indonesia and Korea at five and four notches higher, respectively, than the average of the ratings assigned by Moody's and S&P's.

In addition to concerns about the performance of the credit rating agencies, there has been more general criticism that market sources of public information on emerging markets have systematically failed to produce accurate and adequate amounts of the type of information and analysis that savers need to make appropriate portfolio allocation decisions. Moreover, it has been argued that, even when appropriate analysis was available, there was underutilization of such analysis in the decision making by savers and institutional managers.

The key market failure is the "free-rider" problem, which has two dimensions. First, it is virtually impossible to impose a fee on public information once it is made available. Second, given this inability to capture the value from the information that is produced, Karacadağ and Samuels (1998) have argued that there has been a general market failure to assess investment risks adequately. This market failure reflects underinvestment in the human, information, and technological resources needed for proper analysis of political, economic, and financial risks. The pressures for quick decisions limit the time that can be devoted to research and processing of information and, as a result, telling a defensible story takes precedent over deeper analytical work. It has been argued that the problem of understaffing is compounded by the inexperience of analysts, which reflects both budget constraints and the limited supply of seasoned analysts. As a result of these severe resource constraints, many market analysts attempt to "free ride" from those that do more in-depth analysis, but, to the extent that most analysts do the same, market participants are left with suboptimal, mirror-image analysis on which to base portfolio decisions.

The acute underinvestment in analysis by each institution is nonetheless seen as leading to overinvestment in aggregate production. Critics argue that the market for investment analysis is characterized by a multiplicity of "production" centers producing similar but superficial analysis. The analysis is flawed in part because much of the "sell-side" analysis originally was aimed at helping institutions market securitized assets that they no longer want to hold on their books and currently is biased by the motive of generating transaction business.

Another fundamental problem in financial markets is the challenge of assessing and pricing the uncertainty surrounding risk factors. Even when information asymmetry problems are overcome, several sovereign risk factors, including political stability and policy response under stress, are inherently difficult to evaluate and predict, and subject to a wide range of outcomes. Critics have argued that the higher the uncertainty of a specific outcome, the less likely it is to be incorporated into the analysis of investment risks. The disconnect between rating agency reports—which highlighted banking and short-term debt risks prior to the Asian crisis—and actual ratings may in part have reflected the challenge of incorporating possible but uncertain events into ratings, especially given strong economic management track records. One way around this may be to ensure that analytical and pricing methods are

based on probabilistic approaches, to ensure that low- and high-probability events are assessed and priced.

Another fundamental problem lies in the utilization of available (and sometimes high-quality) risk analysis in decision making by savers and portfolio managers. The concern is that a variety of nonanalytical factors, such as competitive pressures, herd behavior, and meeting short-term performance benchmarks, often play decisive roles in portfolio allocation, regardless of what fundamental analysis would dictate.

To address these concerns, members of the country risk profession have recently sought to identify weaknesses in their analytical methods and institutional procedures and to recommend “best practices” that can address these shortcomings. For example, a series of roundtable discussions between September 1998 and April 1999 were conducted by members of the country risk profession under the auspices of the Council on Foreign Relations.<sup>36</sup> In addition, the Report of the Task Force on Risk Assessment set up by the Steering Committee on Emerging Markets Finance of the Institute of International Finance (IIF) in 1999 has also examined methods for improving risk management practices in emerging market finance. While the scope of the two reports differed, key weaknesses were identified in the areas of country risk analysis methods, the structure of the country risk analysis profession, and the use of country risk analysis in decision making.

First, developments in the global economy have outpaced improvements in the analytical capacity of the country risk profession. This situation has reflected such factors as the increased complexity and global interdependence of national economies, the rapid expansion and growing complexity of global financial markets, and, often, the unavailability of timely, accurate, and relevant financial and economic data. These weaknesses should be addressed through the use of techniques that incorporate uncertainty, such as the development of scenarios, sensitivity analysis, and threshold testing. Moreover, greater attention would need to be given to the identification and incorporation of nonquantifiable variables such as political risk and liquidity analysis. There were also calls for improvements in the timeliness and comprehensiveness of the data on the websites of the international financial institutions and national authorities.

A second weakness was seen in the structure of the country risk profession, which has evolved to support securitization and trading, and has thereby decreased the individual analyst’s capacity to openly provide independent, long-term assessments of country fundamentals. It was argued that this should be addressed through the establishment and dissemination of “best practices” for the country risk profession.

A third weakness was that, even when available, quality country risk assessments were often not adequately integrated in decision-making processes. Competitive pressures,

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<sup>36</sup> The results of these discussions are summarized in Samuels, II (1999)

herding, and efforts to match a benchmark return have led portfolio managers to ignore quality analysis. To correct this system, it will be necessary to alter the incentives for using quality risk assessment by revising performance benchmarks, have national and international regulatory regimes reinforce the use of such assessments, and make efforts to tie asset pricing more closely to risk assessments. In contrast to the solutions proposed for the first two weaknesses, these measures cannot be accomplished solely by the efforts of the credit risk profession but would require the assistance of other agencies, particularly regulators.

In reviewing developments since the beginning of the Asian crises, the staffs of the credit rating agencies and, more generally, the credit risk profession have identified a number of economic factors that will receive increased emphasis in any evaluation of a country's creditworthiness; these are quite similar to those receiving increased attention in IMF surveillance. Financial system weaknesses, particularly in the banking system, have been viewed as a key source of vulnerability. Similarly, reliance on short-term external debt and other "confidence-related" capital flows by either the private or the public sector imply that a country can face an abrupt loss of market access. Moreover, it is now recognized that a financial crisis in one country can be contagious to its neighbors. There has also been a clear recognition of the need for greater transparency by countries with regard to both data and policies. In this regard, the Special Data Dissemination Standard (SDDS) has been viewed as making an important contribution to transparency, but there have been calls for increased coverage and shorter reporting lags, particularly for data on international reserves and private as well as public sector external debt.

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