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Market Developments and Issues

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The following symbols have been used throughout this volume:

. . . to indicate that data are not available;

— to indicate that the figure is zero or less than half the final digit shown, or that the item does not exist;

– between years or months (for example, 1997–99 or January–June) to indicate the years or months covered, including the beginning and ending years or months;

/ between years (for example, 1998/99) to indicate a fiscal or financial year.

"Billion" means a thousand million; "trillion" means a thousand billion.

"Basis points" refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to ¼ of 1 percentage point).

"n.a." means not applicable.

Minor discrepancies between constituent figures and totals are due to rounding.

As used in this volume the term "country" does not in all cases refer to a territorial entity that is a state as understood by international law and practice. As used here, the term also covers some territorial entities that are not states but for which statistical data are maintained on a separate and independent basis.

PREFACE

First launched in March 2002, the *Global Financial Stability Report* (GFSR) provides a regular assessment of global financial markets and identifies potential systemic weaknesses that could lead to crises. By calling attention to potential fault lines in the global financial system, the report seeks to play a role in preventing crises before they erupt, thereby contributing to global financial stability and the sustained economic growth of the IMF's member countries.

The report was prepared by the International Capital Markets Department, under the direction of the Counsellor and Director, Gerd Häusler. It is managed by an Editorial Committee comprising Hung Q. Tran (Chairman), Donald J. Mathieson, David J. Ordoobadi, and Rupert Thorne, and benefits from comments and suggestions from William E. Alexander, Axel Bertuch-Samuels, Charles R. Blitzer, and David Cheney. Other contributors to this issue are Francesc Balcells, Burkhard Drees, Martin Edmonds, Toni Gravelle, Janet Kong, Markus Krygier, Gabrielle Lipworth, Chris Morris, Jürgen Odenius, Kazunari Ohashi, Lars Pedersen, Jorge Roldos, Calvin Schnure, Alexander Tieman, and a staff team from the Monetary and Financial Systems Department (MFD) led by Anne-Marie Gulde, S. Kal Wajid, Udaibir Das, and including Gianni De Nicoló, Greta Mitchell, and others. Silvia Iorgova, Anne Jansen, Yoon Sook Kim, Ned Rumpeltin, Kalin Tintchev (MFD), and Peter Tran provided research assistance. Caroline Bagworth, Jane Harris, Vera Jasenovec, Ramanjeet Singh, and Joan Wise provided expert word processing assistance. Jeff Hayden of the External Relations Department edited the manuscript and coordinated production of the publication.

This particular issue draws, in part, on a series of informal discussions with commercial and investment banks, securities firms, asset management companies, insurance companies, pension funds, stock and futures exchanges, and credit rating agencies in Brazil, Chile, China, Hong Kong SAR, Hungary, Poland, Russia, Singapore, South Africa, and Thailand, as well as the major financial centers. The report reflects mostly information available up to August 4.

The report has benefited from comments and suggestions from staff in other IMF departments, as well as from Executive Directors following their discussions of the *Global Financial Stability Report* on August 22, 2003. However, the analysis and policy considerations are those of the contributing staff and should not be attributed to the Executive Directors, their national authorities, or the IMF.

CHAPTER I OVERVIEW

The bursting of the equity bubble, geopolitical developments, and corporate governance scandals have severely tested the global financial system in recent years. In the fall of last year, these developments contributed to high levels of risk aversion, increased market volatility, widening credit spreads, and limited access to external financing for many emerging market countries. Even in the face of these strong headwinds, however, financial markets have remained remarkably resilient. Indeed, markets strengthened in the first half of 2003, notwithstanding continued lackluster economic growth.

Since the March 2003 issue of the *Global Financial Stability Report* (GFSR), further progress has been made in addressing the lingering effects of the bursting of the equity price bubble. Household and corporate balance sheets have continued to improve gradually and corporate default levels have declined. Companies in mature markets have cut costs, enhancing their ability to cope with slower growth and other potential difficulties. While unambiguous signs of stronger growth are still lacking, corporations—particularly in the United States—have made good progress in their financial consolidation efforts and are in a better financial position to increase investment spending.

The reduction of policy interest rates to postwar lows in the major financial centers has facilitated progress in restoring financial soundness. The prospect of a protracted period of low short-term interest rates and ample liquidity sparked investors' quest for yield that proceeded progressively out along the risk spectrum. After a period in which risk-averse investors sought the safety of mature market government bonds, driving down their yields, risk aversion began to dissipate rather quickly starting in the fall of 2002. Since then, the pendulum has been swinging toward increased risk appetite. Investors moved into corporate and emerging market bonds, leading to a swift compression of credit spreads in these sectors. Flows were also attracted to higher-yielding local emerging markets, contributing to the appreciation of their currencies. Finally, mature equity markets—shunned by investors after three successive years of steep price declines—have rebounded since mid-March 2003. Monetary stimulus, an easing of geopolitical concerns, more attractive valuations relative to alternative asset classes, and indications of stronger growth in corporate earnings all underpinned the equity market rally.

Benchmark yield curves in the major financial centers had been pushed to quite low levels, setting the stage for a snapback in mature government bond yields when signs of stronger economic growth emerged (Table 1.1). The March 2003 GFSR highlighted the risk that such an increase in yields would trigger an unwinding of carry trades; indeed, the rebound in yields evident in all major markets since mid-June appears to have been accentuated by an unwinding of such trades. Also, credit spreads on corporate and emerging market bonds and credit default swaps may have been overly compressed, making them vulnerable to a rebound in government bond yields, although spreads have to date remained little changed. In addition, given the high level of portfolio managers' exposure to emerging market bonds, the rotation of funds away from fixed-income instruments in favor of equities could hurt emerging markets.

Ultimately, however, a further steepening of government bond yield curves in the major financial centers, driven by prospects for

Table 1.1. Financial Market Data

(Percentage change; unless otherwise noted)

	Change to August 4, 2003 from				
	Peak	2001		2002	2003
	(March 24, 2000)	September 11	December 31	December 31	March 31
Equity Market					
Major stock indexes[1]					
S&P 500	−35.7	−10.0	−14.4	11.7	15.9
Nasdaq	−65.5	1.1	−12.1	28.3	27.8
FTSE Eurotop 300	−47.7	−21.7	−31.4	1.0	16.4
Topix	−43.0	−11.7	−9.5	10.8	18.6
Bank indexes					
S&P 500 bank index	19.3	11.5	8.7	13.1	19.9
FTSE Eurotop 300 bank index	−19.1	−9.6	−21.7	9.3	24.9
Topix bank index	−60.6	−44.1	−23.2	2.3	19.4
Bond Market					
U.S. corporate bonds					
Yields (level change; basis points)					
AAA	−176	−107	−74	−22	10
BAA	−132	−78	−91	−30	14
High-yield bonds	−223	−286	−300	−245	−140
Spreads (level change; basis points)[2]					
AAA	15	−59	3	−69	−39
BAA	59	−30	−14	−77	−35
High-yield bonds	−32	−237	−223	−292	−188
U.S. corporate bond price indexes[3]					
AAA	. . .	3.6	4.3	−1.7	−2.3
A	. . .	3.6	4.6	−1.0	−1.7
BBB	. . .	−0.6	1.3	1.6	0.3
European corporate bond spreads[4]					
AA	−12	−16	−15	−19	−14
A	−13	−43	−25	−20	−24
BBB	25	−81	−44	−64	−48
Japanese corporate bond spreads[4]					
AA	−10	−2	−5	0	0
A	0	−4	−27	−10	−5
BBB	−24	2	−35	−24	−9
Government bond yields (level change; basis points)[5]					
United States	−191	−48	−77	47	49
Germany	−111	−66	−86	−6	10
Japan	−89	−44	−39	7	27
Government bond price indexes[6]					
United States	9.6	0.8	4.0	−5.4	−5.3
Germany	10.1	8.9	7.6	−0.1	−0.4
Japan	11.8	8.1	7.0	0.1	−4.1
Exchange rates					
Euro/U.S. dollar	−13.9	−19.6	−21.7	−7.6	−3.9
Yen/U.S. dollar	12.6	0.8	−8.6	1.3	1.9
Trade-weighted nominal U.S.dollar	−3.8	−11.7	−15.1	−6.0	−3.8

Sources: Bloomberg L.P.; and Datastream.
[1]In local currency terms.
[2]Spread over a 10-year U.S. treasury bond.
[3]Merrill Lynch corporate bond indexes.
[4]Merrill Lynch corporate bond spreads; level change, in basis points.
[5]Ten-year government bonds.
[6]Merrill Lynch government bond indexes, 10+ years.

stronger growth, would be a positive development. A return to strong growth will improve the financial conditions of firms and households, while a steeper yield curve will allow banks and other institutions to generate income through well-managed maturity mismatches. The risk lies in the transition to a higher level of bond yields, as market participants must manage the inevitable losses on bond portfolios and increased market volatility. So far, the transition process appears to be orderly, notwithstanding the widening in credit spreads and rising market volatility.

A related risk lies in rising bond yields driven by a further weakening of the dollar in a disorderly fashion. However, since the dollar has recently recovered somewhat in line with the rebound in bond yields—both reflecting expectations of strong U.S. growth—this scenario is less likely.

A more serious risk would emerge if corporate earnings fail to validate the recent strong rebound in mature equity markets. Equity markets would fall again, undermining corporate and household balance sheets and undoing some of the progress achieved in the first half of this year. Unless economic growth decelerates substantially, however, weak earnings growth is unlikely to pose a serious threat to the resilience of the international financial system. Having strengthened their balance sheets, most corporations and financial institutions are now better prepared to cope with slower growth than they were last fall.

In addition to assessing recent financial market developments and current vulnerabilities (Chapter II), this GFSR considers financial market stability issues in a more medium-term context. Chapter III analyzes past episodes of extreme asset price volatility in mature markets. It highlights the role of amplifiers that can transform volatility into market instability and identifies measures to limit their impact. The lessons learned from those episodes remain relevant. Chapter IV assesses the changing pattern and volatility of capital flows to emerging markets, identifies the factors that have contributed to changing patterns of flows, and suggests ways to mitigate the impact of abrupt changes in flows. These two chapters represent the first installment of work to examine the interrelationship between market volatility and financial stability. Such work aims to draw policy lessons to help strengthen the resilience of financial systems in both mature and emerging market countries.

Balance of Risk and Vulnerabilities

The two major risks going forward—namely, *a continued rise in bond yields* and *disappointing corporate earnings*—have a number of potential consequences.

Bond Yields

Bond yields could rise further in the face of convincing signs of a strong economic recovery and an increased supply of government securities. Since the U.S. Federal Reserve has indicated that the Fed funds rate will be kept low for a sustained period, the U.S. treasury yield curve would likely steepen further. Given the historically high correlation among government bond markets, yield curves in other major financial centers can be expected to do likewise. Ultimately, the combination of a steep yield curve and stronger growth would contribute to more robust global financial conditions. The transition period, however, would entail risks that need to be carefully managed to ensure an orderly adjustment:

- The sharp increase in bond yields in the major financial markets has apparently weakened the wave of mortgage refinancings in the United States, which may unsettle the support extended throughout the downturn by consumers. Rising interest rates could also undercut property prices, undermining the net worth of the household sector, whose exposure to real estate has increased with the refinancing and house price boom.

- Bond investors, or their hedging counterparties, would incur losses on their portfolios. Those attempting to benefit from the carry trade and other bond investors with short-term liabilities would suffer.
- U.S. mortgage agencies would need to engage in continuous hedging, as rising rates would rapidly increase the expected duration of their portfolios of mortgage-backed securities from relatively low levels. Hedging by shorting cash or derivative instruments could amplify the rise in bond yields—highlighting the role of amplifiers in accentuating market price movements. The liquidity of the markets for fixed-income cash and derivative instruments has come under pressure given the hedging need for the unprecedented size of holdings of mortgages and mortgage-backed securities.
- Emerging bond markets are vulnerable to a correction, given the rapid spread compression and the apparently reduced investor discrimination over issuer credit quality during the recent search for yield.

Corporate Profitability

The alternative risk—that of continued lackluster corporate profitability and weak economic growth—could be more serious. Corporate earnings reports—especially for the second quarter of 2003—suggest that the probability of this happening, while not negligible, does not appear to be very high. Lower-than-expected earnings growth in the second half of 2003 could lead to an equity market sell-off, as the recent rally was built on the inflow of funds being pushed away from low-yielding alternatives and encouraged by expectations of better earnings. If a renewed equity decline were substantial, it could undo some of the financial improvements to date and thereby weaken the global financial sector. This would be a particular risk for insurers and pension funds, which would be hurt both by a further equity market sell-off and by the continued low interest rates such a weak growth scenario would entail.

Policies to Promote Financial Stability

Policy Implications of Recent Market Developments

The favorable performance of financial markets has anticipated, and improved the prospects for, a stronger recovery in the real economy. Policies must continue to boost consumer and business confidence. Confidence is important to help spark renewed investment spending—so far the missing key ingredient in the recovery—as corporations have improved their balance sheets. It is appropriate that monetary policies in the major financial centers remain accommodative for the present. Low short-term rates and ample liquidity would contribute to further balance sheet repair and underpin investor risk appetite, even though this could cause problems for some financial institutions.

As for the major financial centers, many of the measures discussed in previous issues of the GFSR remain salient. In a range of areas, the authorities must persist in implementing reforms to strengthen market foundations:

- Corporate governance must be strengthened further to restore investor confidence, including through the full implementation of recent measures to enhance the independence of corporate boards. At the same time, corporate executives must not feel constrained from undertaking profitable investments.
- Most investment managers, mutual funds, and pension funds should play a more active role in enhancing corporate governance. They have typically viewed proxy voting as a back office function, often voting with management by default rather than conviction. More active exercise of ownership rights would increase transparency and board independence.

- By virtue of their size, rapid growth, high leverage, and complex hedging of interest rate risk, the U.S. mortgage agencies warrant careful monitoring. Such monitoring should include an assessment of whether these agencies are sufficiently capitalized against the shocks arising from fast-moving markets. Thin capital coverage can increase the pressure on these agencies to conduct continuous hedging strategies that have the potential to amplify interest rate movements.
- The regulation and supervision of the financial activities of insurance and re-insurance companies must improve further (see Appendix I of Chapter II).
- Pension fund accounting and regulation are in need of reform. Such reform should aim at increasing transparency and improving risk controls. Possible measures that need to be studied include putting pension fund assets and liabilities on the balance sheet or as a separate trust fund, valuing pension fund assets at market prices rather than actuarial assumed rates of return, and speeding the recognition of pension fund shortfalls and surpluses. But given the magnitude of corporate pension funds, and of the potential cost of implementing such reforms, the appropriate pace and degree of reform will need to be carefully calibrated.
- More generally, given the sizable buildup in liquidity searching for investment outlets, there is a risk of excessive accumulations of positions or exposures in certain instruments or credits. While low interest rates are needed to spur activity and investment, investors need to remain discriminating. Supervisors, as well as private sector risk managers, should be on the lookout for signs of concentration or mispricing of risk.

Policy Lessons from Past Episodes of High Volatility

Price volatility is an inevitable and, to a large extent, desirable feature of markets as it represents the price discovery mechanism at work. Nevertheless, it is important to ensure that volatility is not amplified to a point where it triggers instability. Chapter III studies price volatility in, and correlations between, the equity, bond, and foreign exchange markets since the 1970s. It notes that only the equity market has experienced persistently high volatility in recent years and identifies four episodes of extreme volatility in equity and other markets. Case studies of these four episodes show that the lessons learned about the need to limit the impact of amplifiers continue to be relevant. At present, they are particularly relevant for the potential risk that the continuous hedging of mortgage-backed securities portfolios could amplify interest rate movements.

A number of these lessons relate to the need to avoid mechanisms that amplify volatility in a crisis by forcing, or creating incentives for, asset sales into falling markets:

- The injection of liquidity by the authorities or emergency netting and settlement agreements between market participants can help break the cycle of increasing volatility in a crisis by allowing counterparties to meet margin requirements or otherwise settle transactions without having to sell assets.
- Excessive leverage often turns volatility into instability. Supervisors must continually improve the sophistication of their leverage measurement—both on- and off-balance sheet—to keep up with market innovations.
- Dynamic hedging strategies—while useful during periods of moderate price fluctuation—can have severe limitations in coping with a rapid price fall and they have, in a number of crises, sharply accentuated selling pressure. Currently, hedging strategies for prepayment risk in mortgage markets are similar to the strategies of those past crises in that they could lead to price-insensitive sales.
- Rigid risk limits, similar to automatic hedging rules, can lead to forced sales in a crisis.

Developments such as value-at-risk models and the ratings-based approach in Basel II greatly improve risk management. They also, however, carry the risk of pro-cyclicality and amplifying volatility by requiring asset sales as volatility increases.

- Incentive structures that promote herding and "short-termism" among institutional investors, or the companies they invest in, have also contributed to boom-bust cycles. While conflicts of interest can be mitigated by regulation or better enforcement, the pro-cyclical effects of excessive focus on short-term returns or index tracking are more difficult to address.
- Adequate transparency both from financial intermediaries and the corporate sector is needed to permit risk assessment and management. But the information disclosed must be meaningful and put within an appropriate long-term context. Measures such as fair-value accounting illustrate the difficulty of achieving this for institutions with long-term investment goals. There may be scope for a middle ground to smooth the more extreme effects of using mark-to-market snapshots of balance sheets.

Policy Implications for Emerging Market Countries

Past issues of the GFSR have highlighted—in a less favorable external financing environment—the need for emerging market countries to consistently implement sound macroeconomic policies and reforms to improve their investment climate. In the current, slightly improved external financing environment, complacency must be avoided. Emerging market countries must take advantage of the recent improvement in access to capital markets to pursue structural reform and to make progress on putting public finances on a sound footing. They also need to improve the structure of liabilities. Indeed, a number of countries—including Brazil, Mexico, and Poland—have undertaken successful liability management operations that have extended the maturity of their obligations and conducted debt swaps out of existing Brady bonds. Brazil has also taken advantage of improved investor sentiment to reduce the share of dollar-linked liabilities in its domestic debt, thus reducing a major past source of vulnerability. South Africa has used some of the proceeds of its recent 10-year bond issue to pay down maturing short-term debt and to eliminate the Reserve Bank's net open forward position.

More, however, can and is being done by emerging market countries. As Chapter IV and previous GFSRs emphasize, emerging markets have taken measures to self-insure against the potential volatility of external flows, particularly private debt flows. These measures have included:

- changes in external asset and liability management practices. In part, this has involved large-scale accumulation of foreign exchange reserves, particularly in Asia;
- adapting exchange rate arrangements to the degree of capital account openness;
- strengthening domestic financial institutions;
- enhancing prudential supervision and regulation in order to increase resilience to volatility; and
- developing more efficient and liquid local and regional securities and derivatives markets.

Finally, the relationship between emerging markets and international capital markets has changed fundamentally in recent years. Indeed, although some emerging markets remain dependent on borrowing from international markets, emerging markets, as a group, have become net exporters of capital since 1999, including through the accumulation of international reserves.