CHAPTER II GLOBAL FINANCIAL MARKET DEVELOPMENTS

Low interest rate policies in the major financial centers were a key driver of financial market developments in the first half of 2003. Low rates induced investors to move out along the risk spectrum in search of better returns, investing in corporate and emerging market bonds and then in equities. They also allowed corporate and household sectors to lock in longer-dated borrowing and enabled many emerging market sovereigns to complete early their 2003 borrowing program. However, low rates presented problems to some financial institutions, such as life insurers and defined-benefit pension funds.

Since mid-June, mature market government bond yields have rebounded and yield curves have steepened, raising the possibility that a transition to a higher interest rate environment has begun. The rises in yields have at times been sharp, and the total increase has already been significant. At the same time, the U.S. dollar has shown signs of stabilizing, most notably against the euro, as a result of market expectations that growth in the United States would outpace that in the euro zone.

This chapter examines the impact of low interest rates across a wide range of mature and emerging markets. It notes that, on balance, financial stability concerns have eased. Household and corporate balance sheets have improved, the equity market rally has strengthened insurers and pension funds, and emerging market countries have increased their international bond issuance. However, significant concerns remain. Insurers' and pension funds' balance sheets remain weakened by the low long-term yields, and the equity market recovery remains highly dependent on corporate earnings meeting expectations. Meanwhile, there could be risks to stability if a sudden rise in long-term interest rates is amplified by factors such as herd behavior by market participants, hedging practices in the mortgage market, or the unwinding of carry trades. The signs of reduced investor discrimination in the emerging markets (and other credit markets) also heighten the risks of a more pronounced reversal in that market.

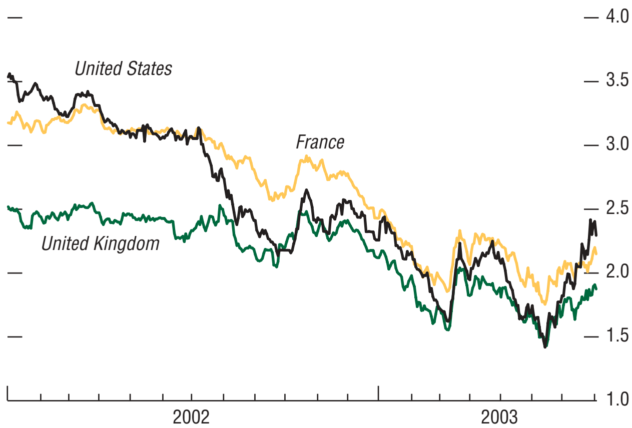
- The first section reviews recent developments in mature markets.
- The second section analyzes key vulnerabilities in the major financial centers.
- The third section assesses developments in secondary markets for emerging market debt.
- The fourth section describes the rebound in emerging market access to financing.
- The fifth section examines financial soundness indicators in emerging market banking sectors.
- Appendix I considers regulatory challenges and responses in the insurance and other sectors.
- Appendix II looks at the market implications of convergence by European Union applicants.

Ample Liquidity Dominates Developments in Major Financial Markets

Mature Bond Market Yields Rise from Near Historic Lows

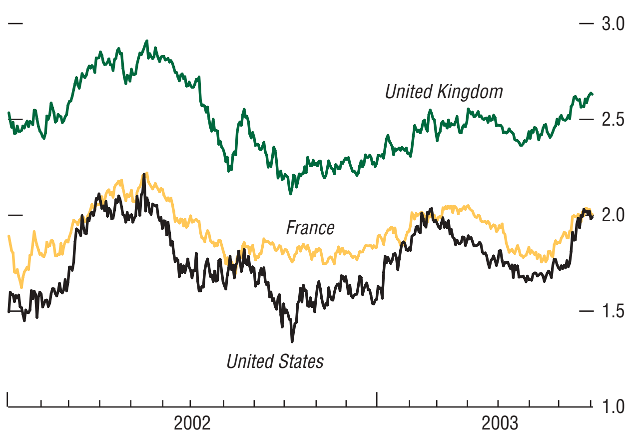
Through most of the first half of 2003, mature government bond markets discounted sluggish growth and low inflation and

Figure 2.1. Inflation-Linked 10-Year Bond Yields
(In percent)



Source: Bloomberg L.P.

Figure 2.2. Inflation Expectations
(In percent)



Sources: Bloomberg L.P.; and IMF staff estimates.

reflected expectations that short-term rates would remain low for an extended period. Government bond yields in the major financial centers approached postwar lows, reflecting in large part a decline in real yields. Inflation expectations—as proxied by the spread between the nominal yield on conventional government bonds and the real yield on their inflation-indexed counterparts—remained low (Figures 2.1 and 2.2).

Beginning in mid-June, however, markets began to anticipate improved prospects for economic growth and a greater supply of government securities, while reducing their assessment of the likelihood that the U.S. Federal Reserve might purchase longer-dated treasury securities to avert deflation. Nominal government bond yields in the United States, Europe, and Japan rose significantly and yield curves steepened. The sell-offs in these markets were closely correlated with each other. The increase in nominal bond yields largely reflected an increase in real yields, as market-based indicators of inflation expectations rose only modestly. In the United States, longer-term nominal rates are around 40 basis points above levels prevailing at the beginning of the year, but in Japan they have returned to around end-year levels and in Europe they remain around 20 basis points lower. Nevertheless, the speed with which yields have risen since mid-June highlights the risk of further rapid rises in yields from still historically low levels should further signs of a return to robust economic growth materialize.

In Japan, tenacious deflationary pressures, continued low expectations for economic growth, and the Bank of Japan's monetary policies kept government bond yields at virtually zero for maturities of three years or less. Yields on 10-year Japanese government bonds reached a low of about 45 basis points before almost tripling after mid-June to over one percent, as investors began to switch back into equities. The persistence of deflationary pressures has led to an increased direct and indirect ownership role of the government in

Table 2.1. United States: Changes in Government Securities Yields[1]
(In percent)

	October 15, 1993– November 7, 1994	October 5, 1998– January 20, 2000	November 7, 2001– April 1, 2002	June 13, 2003– August 4, 2003
3-month	2.28	1.35	–0.01	0.11
2-year	3.27	2.47	1.41	0.60
10-year	2.87	2.63	1.25	1.17

Source: Bloomberg L.P.
[1]Dates chosen for changes are from the trough to the peak of the respective periods of rising 10-year treasury bond yields (apart from the present period, for which data ends on August 4, 2003).

financial intermediaries and the wider economy.

Yield curves steepened as markets continued to expect policy rates to remain unchanged for an extended period. The steepening of the U.S. yield curve in particular during the recent rebound in yield was much more pronounced than during other periods of sharp treasury market sell-offs and further suggests that technical factors affecting long-term securities, such as mortgage market hedging activity, have played a contributory role (Table 2.1).

Rising U.S. treasury yields resulted in an increase in mortgage rates and a fall in mortgage refinancing activity. A reduction in mortgage refinancing, including in particular cash-out refinancing, could potentially undercut household consumption. Moreover, rising interest rates and falling refinancing levels have extended the expected duration of outstanding mortgages and mortgage-backed securities (MBSs). This in turn necessitated widespread hedging by U.S. mortgage agencies and other holders of MBSs, which has tended to amplify the trend toward higher interest rates and resulted briefly in the largest jump in spreads between the swap rate and government yields since the Long-Term Capital Management crisis in 1998.[1] (The hedging process is described in detail later in this chapter.)

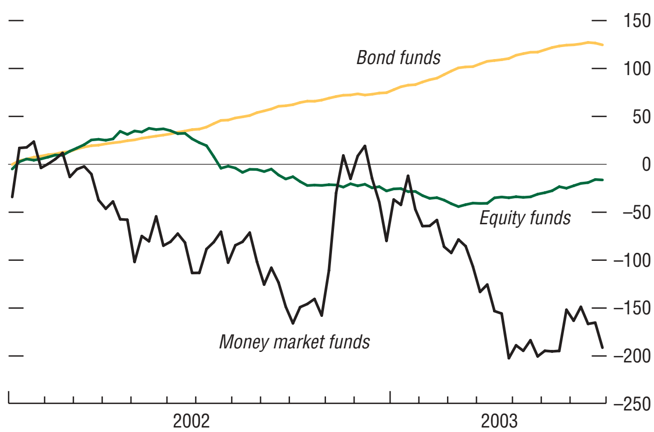
Investment Flows Shift into Corporate Bonds and, Eventually, Equities

Corporate bond spreads narrowed substantially as investors were increasingly prepared to assume credit risk and interest rate risk in the search for yield (Table 2.2). There were signs of reduced investor discrimination, as shown by the lower coefficient of variation in the spreads of individual U.S. corporate issuers over treasury securities compared with the peak in credit spreads last October. This could leave corporate bonds vulnerable to a sell-off in the treasury market. However, to date, corporate bond spreads both for high-grade and below-investment-grade issuers remain below their levels at the mid-June low point for the treasury market, which may be another indication that the recent rebound in yields is partly accounted for by technical factors in the treasury and swap markets.

Continued low short-term interest rates triggered an exodus from money market mutual funds up to May, as investors appeared to be moving out along the risk spectrum (Figure 2.3). In addition to low interest rates on government bond yields across the maturity spectrum and the compression of credit spreads, the rekindled investor interest in equities was sparked by an easing of geopolitical tensions and signs of a revival of corporate earnings. Since May, although money market fund out-

[1]The swap rate is the fixed interest rate that a market participant can pay in exchange for receiving floating-rate LIBOR interest payments. The swap market is frequently used as a method of hedging fixed-rate exposures, including exposures arising from the mortgage market. A rise in the spread between the swap rate and treasury bond yields can indicate an increase in demand to hedge fixed-rate assets by making fixed-rate payments.

Figure 2.3. Cumulative Net Flows to U.S. Mutual Funds
(In billions of U.S. dollars)



Source: AMG Data Services.

Table 2.2. U.S. Corporate Bond Spread: Coefficients of Variation

	Oct. 31, 2002	Jul. 31, 2003
Mean of spreads (basis points)	219	108
Standard deviation of spreads	195	73
Coefficient of variation	0.89	0.68

Source: Lehman Brothers; largest 100 U.S. corporations measured by market value of issuance.

flows have come to an end, equity inflows have continued.

As a result, mature equity markets rebounded from their March lows and implied equity volatility moderated (Figure 2.4). Moreover, expectations that earnings volatility would decline helped raise equity valuations. Low interest rates on government bonds also made equity valuations appear relatively attractive, pushing bond-to-earnings yield ratios to long-term lows, which have been only modestly offset by the recent rise in bond yields (Figure 2.5). More recently, U.S. corporate earnings in the second quarter have outstripped analyst projections, further boosting sentiment.

The Dollar Stabilizes Amid a Recovery of Equities and Foreign Exchange Intervention

In tandem with the equity market recovery and rising bond yields, expectations that growth in the United States would outpace that in Europe contributed to a rebound in the dollar from mid-June, following its steep decline (Figure 2.6). Portfolio flows into the United States remained strong, reflecting in part efforts by Asian central banks to stem the appreciation of their currencies against the dollar. Nevertheless, concerns over the size of the external financing need of the United States and the large share of U.S. financial assets held by foreigners remain strong. Moreover, markets have been increasingly concerned that the euro will continue to bear the brunt of any adjustment in the U.S. external accounts, further undermining sluggish growth in the euro area.

Mature Market Vulnerabilities Have Eased

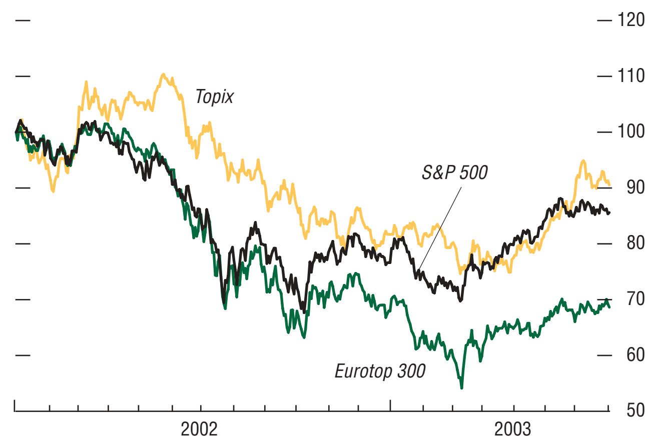
The March 2003 GFSR, and earlier issues, highlighted a number of vulnerabilities stemming from the continuing adjustment to the bursting of the equity price bubble in 2000. Since then, on balance, vulnerabilities have eased in the global financial system:

- *The rally in equity markets since March has reduced stability risks.* It has improved the balance sheets of insurers (particularly in Europe) and of pension funds. It will have increased household wealth and strengthened corporate balance sheets (not least through its effect on defined-benefit corporate pension funds).
- *Both corporate and household sectors continued to build up liquidity in early 2003.* More recently, they have begun to be less risk averse, as investors have acquired corporate bonds and equities and the pace of corporate balance sheet restructuring appeared to slow down, which could help to increase private sector investment.
- *The recent increase in long-term interest rates appears to have led to the unwinding of some carry trade positions.* It will also have eased pressure on insurance companies and pension funds by reversing part of the rise in the discounted value of their liabilities.

However, some risks remain:

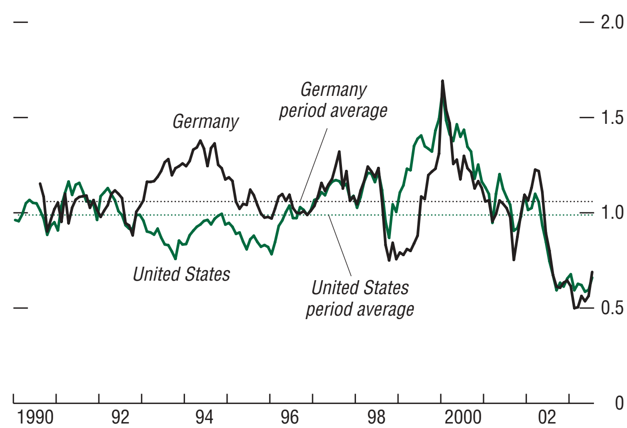
- *Higher long-term interest rates could still cause problems if not accompanied by stronger economic growth.* A further rise in interest rates is likely to be accompanied by stronger economic growth and to strengthen many financial balance sheets. However, in the unlikely event that interest rates were to rise while growth stayed weak, then equity as well as bond prices could fall.
- *Risks arising from the mortgage market should receive particular attention.* The sheer size alone of the U.S. mortgage market makes it of systemic importance. As the U.S. mortgage market has grown, some of the common strategies used to hedge the prepayment risk in MBSs (described below) could amplify any upward trend in overall interest rates.

Figure 2.4. Equity Market Performance



Source: Bloomberg L.P.

Figure 2.5. Bond-to-Earnings Yield Ratio

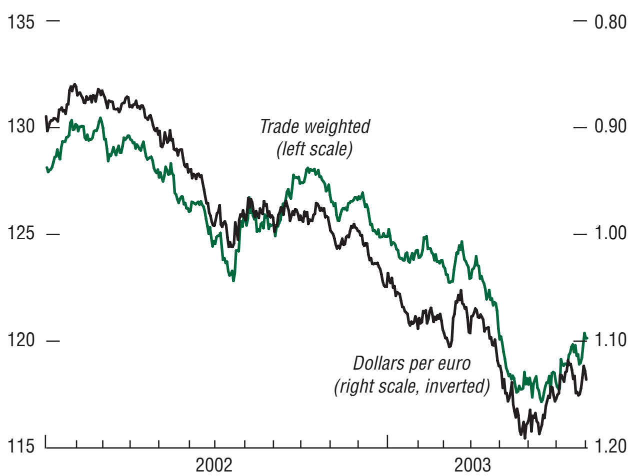


Source: I/B/E/S.

- *The equity market rally could be reversed if corporate earnings disappoint.* There are encouraging signs that earnings are matching expectations despite slow economic activity, but uncertainty remains high, particularly in Europe.
- *Although insurers' and pensions funds' balance sheets have improved, they remain vulnerable.* Life insurers in many countries still suffer from negative spreads between their assets and guaranteed liability returns, and many pension funds still face funding gaps.

This section discusses these vulnerabilities in more detail.

Figure 2.6. U.S. Dollar Performance



Source: Bloomberg L.P.

Balance Sheets of Household and Corporate Sectors Are Gradually Strengthening

Previous GFSRs noted a withdrawal from risk-taking and buildup of cash positions in the household and corporate sectors in the United States, Europe, and Japan since early 2000. The liquidity buildup continued in the first half of 2003, as households in particular increased their bank deposits further. But there were some signs of less risk aversion, with U.S. households beginning to acquire equities as the share market recovered and European companies acquiring short-term finance. Meanwhile banks' balance sheets generally improved as corporate earnings began to recover.

Household Sector

Despite the equity losses in recent years, household balance sheets in the major countries show few signs of strain. Debt levels are historically high, but low interest rates have kept debt service manageable and the high deposit balances provide a cushion. Rising real estate prices in the United States and Europe combined with low interest rates have stimulated increased mortgage debt, including for home equity withdrawals. Much of the interest rate risk in the housing market at this point would seem to have been passed to the investors in fixed-rate mortgage products (see

Table 2.3. United States: Balance Sheet of Households and Nonprofit Organizations
(End of period; in trillions of U.S. dollars)

	2000 Q1	2002 Q4	2003 Q1
Total assets	**50.25**	**48.1**	**48.24**
of which:			
deposits	4.18	5.08	5.23
corporate equities	9.22	4.33	4.17
pension fund reserves	9.26	8.01	7.94
real estate	11.79	14.92	15.11
Total liabilities	**7.01**	**8.77**	**8.93**
of which:			
home mortgages	4.6	6.05	6.22
consumer credit	1.44	1.76	1.74
Net worth	**43.24**	**39.33**	**39.31**

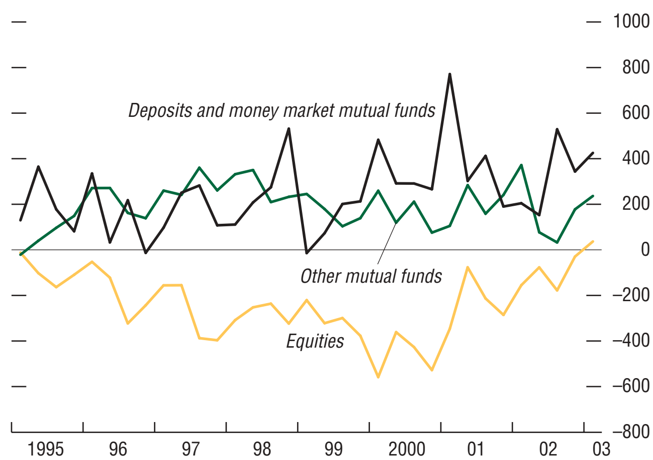
Source: Board of Governors of the Federal Reserve System, *Flow of Funds.*

the discussion of the mortgage market below).

In the United States, household net worth was flat in the first quarter of 2003, as a decline in equity values offset gains in the value of real estate (Table 2.3). Subsequent increases in both stock and housing prices have perhaps led to a recovery in net worth of about 4 percent, leaving it still 5 percent below the peak in early 2000. In the first quarter households made direct net purchases of equities for the first time since 1993, though this partly reflects the cyclical absence of cash-financed takeovers that had returned funds to investors during the boom (Figure 2.7). Household wealth has become more sensitive to the real estate market. Over the past three years, real estate has risen from 23 percent of total household assets to 31 percent. Mortgage debt (including cash-out refinancing) has also continued to grow rapidly. Owners' equity in their homes in the first quarter continued to decline as a share of home value. As a result, based on end-March 2003 figures, a 10 percent fall in house prices would reduce household net worth by 3.8 percent, compared with 2.7 percent three years earlier.

The growth of euro-area household debt rose slightly in the first quarter of 2003, but remains below the U.S. pace. Favorable mort-

Figure 2.7. United States: Household Net Acquisitions of Financial Assets, Selected Items
(In billions of U.S. dollars)



Source: Board of Governors of the Federal Reserve System, *Flow of Funds.*

Table 2.4. Euro Area: Nonfinancial Sector Net Asset Purchases[1]
(In billions of euros)

	2000	2001	2002
Currency, deposits, and money market mutual funds	126.4	420.8	307.4
Securities other than equities	141.6	132.9	89.8
Mutual fund shares[2]	113.1	61.3	55.5
Equities	223.0	38.9	–6.6

Source: European Central Bank, *Monthly Bulletin.*
[1]All nonfinancial sectors other than central government.
[2]Other than money market mutual funds.

gage interest rates have encouraged borrowing, but at a much slower rate than in the United States. Euro-area consumer credit grew slower still, in line with weak spending and as low long-term rates tended to channel credit demand into the mortgage market. Nevertheless, the consumer borrowing market remains less concentrated on mortgages than in the United States. Around two-thirds of bank lending to households in the euro area is for house purchase (31 percent of GDP), whereas almost three-quarters of U.S. household debt is through mortgages (58 percent of GDP). Although most euro-area mortgages, as in the United States, are fixed-rate and demand has therefore been boosted by historically low interest rates, there is much less tendency to use them for equity withdrawal and thus as a substitute for consumer credit.

Data showing separate breakdowns of euro-area asset portfolio allocation in 2002 for the household and corporate sectors are not yet available, but figures for the nonfinancial sector as a whole show that the strong preference for liquidity that began in 2001 continued in 2002 (Table 2.4). Bank deposits and other low-risk assets continued to receive the bulk of portfolio allocations. Monetary data for the first six months of 2003 indicate that this trend has persisted, and in particular the rapid growth of money market mutual funds has continued.

Portfolio allocations by Japanese households continue to be overwhelmingly into bank deposits, with continued outflows from uninsured bank debentures and trusts. Portfolio allocations into foreign securities, although small, have picked up in recent years.

Corporate Sector

Corporate balance sheets in the major countries continue to strengthen, and the main question at this point is whether expectations for earnings will be validated by results (see the discussion of corporate earnings below). But even though companies have lengthened the maturity of their debt, leverage remains high. Another risk would be a rise in interest rates, which would rapidly widen corporate credit spreads from their current compressed levels and would restrict access to new funds.

U.S. corporate profitability and liquidity continued to improve in the first quarter. Capital spending remained weak, contributing to a slow pace of debt growth. Nevertheless leverage remained high, with the debt-to-net-worth ratio rising to 53.2 percent, a little short of the 55 percent peak shortly after the end of the previous recession in the early 1990s. Firms continued to restructure their balance sheets, albeit at a slower pace than in previous quarters, as they lengthened the maturity of debt and locked in low interest rates, while maintaining a high level of liquidity (Figure 2.8). Outstanding commercial paper and bank lending to corporates declined to 26 percent below its end-2000 level, while corporate bonds outstanding rose to 23 percent above its end-2000 level. High corporate bond issuance levels in the second quarter suggest that this trend is continuing.

In contrast to the United States, euro-area nonfinancial corporations increased their short-term financing in the first quarter (based on preliminary data) after lengthening the maturity of their financing during the previous two years (Figure 2.9). This may partly reflect a seasonal rebound from typically slimmed down year-end balance sheets but also may reflect a more underlying increase in demand for working capital.

The Japanese corporate sector significantly reduced its debt in FY2002, while also narrowing the financing gap in its pension fund reserves. This was financed through improved profits and a reduction in deposits, while investments in stocks increased.

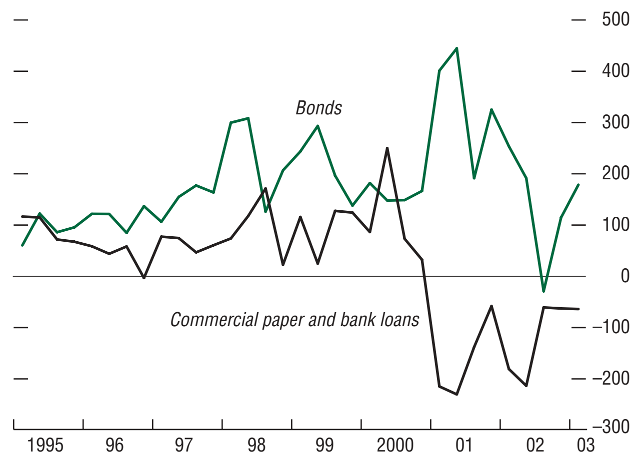
Banking Sector

Banks' balance sheets in the major financial centers generally improved in the first half of 2003. U.S. banks continue to be well capitalized, with strong earnings benefiting from wide net interest margins and slightly declining problem loan books. Mortgage and consumer lending grew strongly, while business lending has continued to decline as borrowing demand remained weak. The recent volatility in the mortgage market may present hedging problems for some banks, although ultimately higher long-term rates should help to keep their interest margins robust.

European banks are recovering from a difficult business environment in 2001 and 2002. Capitalization levels have remained well above regulatory minimums, although some banks sold business assets to ensure this. Cost-cutting programs, involving reductions in staff and branches, have continued at many banks. Profits began to improve in early 2003, despite continuing provisioning needs. As in the United States, lending growth has focused more on households than companies, although corporate lending has begun to rebound. Assuming the real economy continues to recover, banks' performance should improve further, although conditions remain challenging for German banks, and there could be some vulnerability to the real estate sector in some countries.

Japanese banks reduced nonperforming loans by 18 percent during the year ending March 31, 2003, but the resolution of loan quality problems remains a major source of uncertainty. Banks have started to take steps to meet the supervisory requirements to halve

Figure 2.8. United States: Nonfinancial Corporations' Net Borrowing, Selected Items
(In billions of U.S. dollars)



Source: Board of Governors of the Federal Reserve System, *Flow of Funds.*

Figure 2.9. Euro Area: Nonfinancial Corporations' Net Borrowing
(In billions of euros)

Source: European Central Bank, *Monthly Bulletin.*

their share of nonperforming loans by March 2005 and to reduce the amounts of equity holdings within Tier 1 capital by the end of September 2006. Several banks have announced the setting up of special purpose vehicles (SPVs), in cooperation with foreign banks, into which nonperforming loans would be transferred, and one bank transferred equity holdings into a similar SPV. The fifth largest bank, Resona Bank, received a capital injection from the government after a stricter accounting treatment of deferred tax assets revealed it to be undercapitalized. These developments, together with improved corporate earnings, have helped to create a tentative market view that the worst of Japan's nonperforming loan problem may be behind it, and by the end of July bank shares had generally more than recovered their losses earlier in 2003.

The U.S. Mortgage Market, Fannie Mae, and Freddie Mac

Fannie Mae and Freddie Mac, the U.S. government-sponsored housing enterprises, have come under increasing scrutiny because of their rapid growth and the possible risks they pose to financial stability. Recent developments have highlighted the extremely large, highly leveraged, nature of these enterprises and the risks they are managing. The ability of homeowners to fix their mortgage rates while preserving prepayment rights has transferred complex and increasingly large risks to these enterprises and other investors. While it is prudent for Fannie Mae and Freddie Mac to hedge their exposures, the very large size of their balance sheets implies that their hedging operations can accentuate sharp market moves. Although other countries also have seen booms in mortgage activity as a result of low long-term interest rates, the size of these two enterprises and the volume of mortgage prepayments and hedging are much larger than activities in other countries and thus raise particular financial stability concerns.

Fannie Mae and Freddie Mac were chartered as agencies by Congress to provide liquidity to the home mortgage market. They are owned by private shareholders and have no explicit government guarantee, but are believed by many market participants to enjoy an implicit one. This perception, which helps lower their borrowing costs, has been reinforced by a number of factors, including a line of credit from the U.S. Treasury; exemption of their debt from banks' large-exposure limits; exemption of their income from state and local taxes; exemption from SEC registration requirements; and, perhaps most important, the belief that they are "too big to fail." They have an AAA rating but the rating agencies have stated that, absent the implicit government guarantee, the rating would be AA instead.

The size of the U.S. mortgage and agency debt market has grown rapidly in recent years to surpass that of U.S. treasury securities (Figure 2.10). At the end of March 2003, securities directly issued by U.S. government-sponsored agencies (including, but not limited to, Fannie Mae and Freddie Mac) totaled \$2.4 trillion and mortgage-backed securities issued by the agencies totaled \$3.2 trillion.[2] The total of these two amounts was 161 percent of the size of outstanding U.S. treasury securities, compared with 73 percent as recently as 1996.

Fannie Mae and Freddie Mac manage large exposures to interest rate, prepayment, and credit risks. They provide credit guarantees for the mortgages they have securitized. In addition, they hold on their balance sheets nearly \$300 billion of home mortgages, plus an additional \$1.2 trillion of MBSs, compared with a total \$6.6 trillion of home mortgages outstanding in the United States. Some observers have warned of the systemic risks

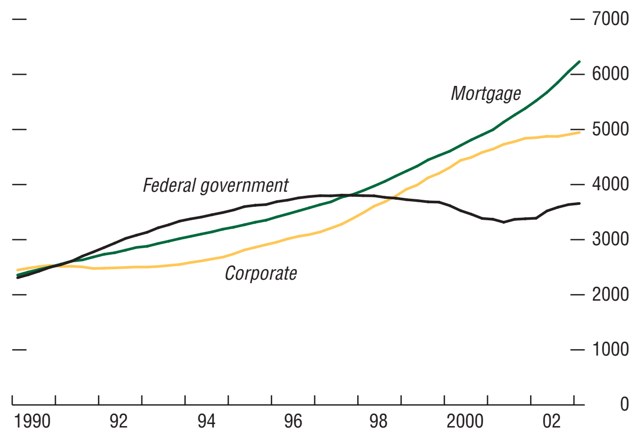
[2]Subsequent references to "agencies" in this chapter refer only to Fannie Mae and Freddie Mac.

inherent in the agencies' large mortgage portfolios and their hedging operations, and have criticized the agencies for lack of transparency.

The Office of Federal Housing Enterprise Oversight (OFHEO), which supervises the two agencies, oversees quarterly stress tests to ensure that they can withstand severe market conditions for interest rates and house prices. Based on these stress tests, OFHEO found that the capital of Fannie Mae and Freddie Mac has consistently exceeded the minimum required. However, regulators need to look closely at whether agencies' capital adequacy is sufficient, especially bearing in mind the questions about internal controls that have emerged in Freddie Mac. Their core capital-to-asset ratio at the end of 2002 was only 3.2 percent, and it is unclear whether they have taken sufficient account of the risk that the markets may not be deep enough to allow them to continuously hedge their growing portfolios in times of stress. More comprehensive stress tests and a greater safety margin for operational risks within the capital requirement are two possibilities that could be considered, which would increase the robustness of the agencies, allow them to take a longer-term investment horizon, and reduce the pressure on them to conduct precise, continuous hedging.

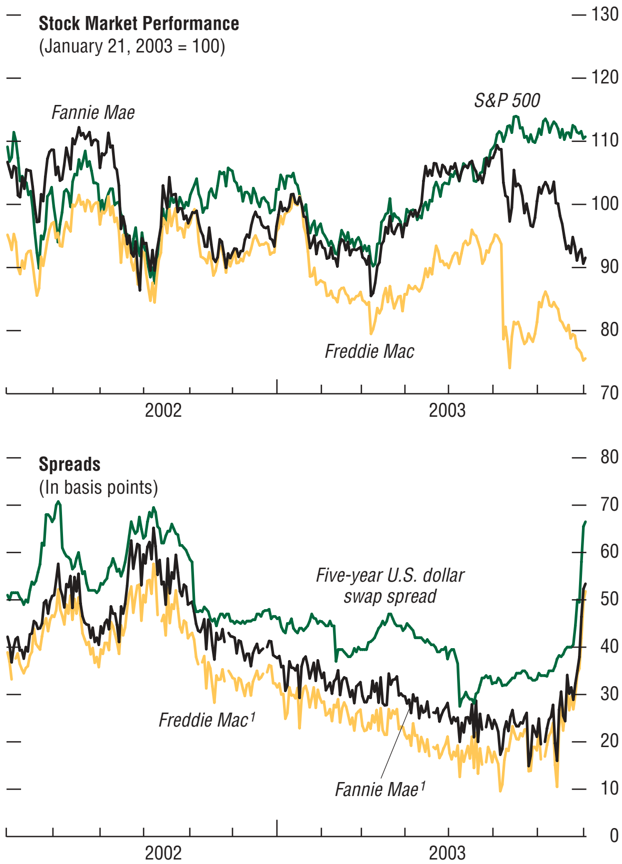
The expected volume of prepayments is strongly influenced by the level of interest rates, and this changes the duration of mortgages and MBSs. (When interest rates go down, borrowers can refinance at lower cost, but when rates go up they can continue paying at the originally fixed rates.) Dynamic hedging requires continuously adjusting the duration of agencies' liabilities to offset changes in the duration of mortgage-related assets. In August 2002, the duration gap between Fannie Mae's assets and liabilities widened to minus 14 months, as falling interest rates increased likely prepayment rates and thus shortened the expected duration of its mortgages. This gap prompted OFHEO to

Figure 2.10. United States: Debt Outstanding
(In billions of U.S. dollars)



Source: Board of Governors of the Federal Reserve System, *Flow of Funds.*

Figure 2.11. United States: Government-Sponsored Agencies



Source: Bloomberg L.P.
[1]Spread over five-year U.S. treasury note.

require an action plan to correct this imbalance and to monitor Fannie Mae's maintenance of its duration gap for the following six months before it declared itself satisfied in April 2003.

In January 2003, Freddie Mac announced it would restate its earnings and capital for prior years due to incorrect accounting for derivatives transactions, and in June 2003 three top executives left the firm over a corporate governance scandal. The firm's former auditor had mistakenly allowed various transactions to be used to smooth financial results and thus defer profits from marking to market hedges as required under the "fair value" accounting rules introduced in 2001. Its new auditor, appointed in 2002, insisted that the accounts be restated to remove this smoothing. Freddie Mac has stated that it expects retained net earnings at end-2002 to be increased by between $1.5 billion and $4.5 billion as a result of the restatement, and that future earnings would accordingly be lower than under the previous treatment. In addition, the new accounting practices will likely result in greater future variability of earnings.

The news of accounting and corporate governance problems at Freddie Mac unsettled the market. The biggest effect was on the equity price of Freddie Mac (in both January and June 2003) and to a lesser extent Fannie Mae (Figure 2.11). Interest rate spreads of agency over U.S. treasury debt widened. The market's initial reaction seemed to suggest more concern about the agencies' future profitability than about their creditworthiness.

Hedging in the Mortgage Market Can Amplify Interest Rate Movements

If U.S. bond yields rise further, one source of additional market volatility may be the dynamic hedging practices in the mortgage and MBS market, by both the agencies and other investors (Box 2.1). The size of mortgage indebtedness and recent historically low interest rates greatly increased the volume of prepayments to be hedged in the last three

Box 2.1. Mortgage Hedging Mechanics

The hedging of mortgages and mortgage-backed securities (MBSs) is complicated by the need to predict, and constantly adjust to, the future tendency of borrowers to prepay their mortgages. A portfolio of fixed-rate prepayable mortgages will, ex post, have an actual duration much shorter than the average contractual length of the mortgages because of prepayments. Prepayment rates will depend partly on future interest rates, as borrowers prepay when there are cost savings from refinancing, but will also depend on other factors, such as the frequency with which borrowers move house or the promptness with which they seize opportunities to refinance more cheaply. Past experience enables investors and analysts to estimate expected prepayment rates, depending on the interest rates and terms of the mortgages in the portfolio and the current level of interest rates.

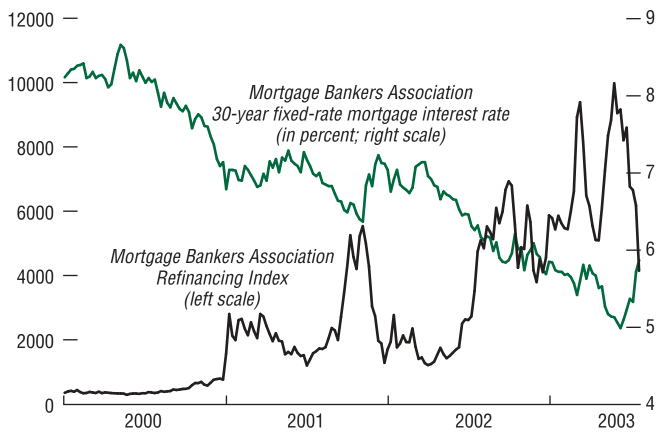
The complicated nature of the prepayment risks means that the interest rate risk on mortgages or MBSs cannot be fully hedged away by other instruments, such as conventional bonds or derivatives. At any given instant, the exposure of an investment in MBSs to small interest rate changes can be hedged by a short position in conventional fixed-rate instruments, once the average duration of the MBSs has been estimated. But the hedge would need to be constantly adjusted, as the expected durations of the MBSs would change much more than the durations of the conventional instruments in response to interest rate changes. For instance, as interest rates rise, expected prepayment rates for MBSs fall, and their durations rise, leading hedgers to need to sell extra conventional instruments to remain fully hedged. The required hedging ratios would change over time even if interest rates remained the same, as the expected prepayment rate would continue to evolve.

Several hedging strategies can be used by investors. One common one is to sell treasury securities. This provides a very liquid market for hedging, but its accuracy depends on a stable spread being maintained between treasuries and MBSs, which is not always the case. The swap market similarly provides an avenue for hedging. Both types of hedge require continual readjusting of hedge positions. Because of a poor experience with government bond hedges in 1998–2000, including during the Long-Term Capital Management (LTCM) crisis, many participants turned to the swap market to hedge investment portfolios of MBSs and other securities. One visible consequence was the strong correlation of swap *rates* and swap *spreads over U.S. treasury yields* as U.S. mortgage rates fell in 2000–01. As rates fell, mortgage prepayment suddenly became more likely and hedged investors needed to receive fixed-rate interest payments in the swap market. This demand to receive fixed-rate payments was revealed by the decline in swap spreads at the same time as the overall level of rates fell.

An approximate attempt to hedge against larger interest rate movements can be made by using option-related products such as buying swaptions (the option to enter into a swap at a certain fixed rate) or selling callable bonds (which give the issuer the right to prepay the bond). Both these instruments can allow investors to match some of the prepayment features of MBSs, but will not exactly duplicate the likely behavior of the pool of mortgage borrowers. The growing size of the mortgage debt market appears to have encouraged the use of a wider range of hedges, such as these to absorb more easily the shifts in mortgage duration. While these sorts of hedges can be more exact than conventional bonds or swaps, they can be more expensive to implement and more illiquid.

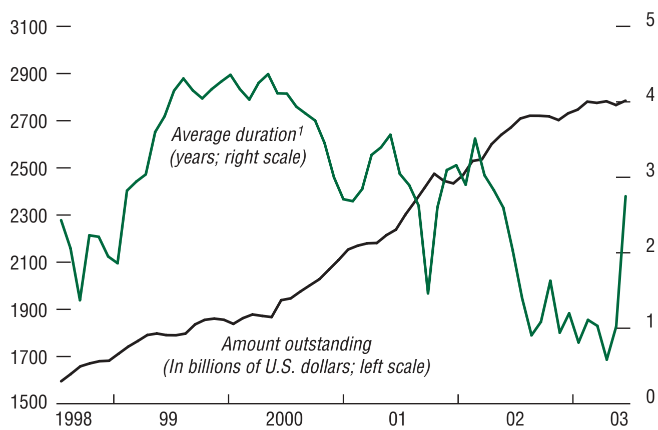
A more fundamental way for mortgage lenders to reduce their hedging needs would be to price adjustable-rate mortgages more aggressively to limit the creation of new fixed-rate mortgages with prepayment rights, although persuading borrowers to accept adjustable-rate mortgages when fixed rates are still at historically low levels would undoubtedly be difficult.

Figure 2.12. United States: Mortgage Market and Hedging



Source: Bloomberg L.P.

Figure 2.13. United States: Mortgage-Backed Securities
(Over one year maturity)



Source: Lehman Brothers Inc.
[1]Modified adjusted duration.

years (Figure 2.12). Therefore the effect of these prepayments, and the consequent need for hedging transactions, has become a more important issue for financial stability. As dynamic hedgers see the expected duration of their assets increase when interest rates rise and the likelihood of prepayments falls, they will reduce duration elsewhere on their balance sheet by, for example, selling treasury securities, thus potentially accelerating the upward movement in yields in the overall market.

As mortgage interest rates have risen from their historic lows in June, the volume of mortgage prepayments has already fallen rapidly. Those borrowers with new mortgages or who have recently refinanced have locked in rates well below what are now current market levels. Meanwhile there are relatively few mortgages still outstanding that were taken out in the period before 2001 when rates were well above current rates and that have not already been refinanced.

As the volume of actual and prospective prepayments has fallen, durations of MBSs, which had declined dramatically, have increased rapidly again. In May during the peak of the refinancing boom, for example, the pace of refinancing was such that the average expected duration of MBSs fell to 0.5 years, compared to over four years in early 2000, and it has widened again to over three years in early August (Figure 2.13).

The speed and magnitude of this change in duration has generated the need for large amounts of extra hedging. The exact proportion of MBSs whose hedges are adjusted on a continuous basis is not known, but around 40 percent of MBSs are held by the agencies, which have a policy of hedging. If we assume that around half the total outstanding are held in continuously hedged portfolios, the rise in duration since the low point in May has already created the need for hedgers to sell the equivalent of $500 billion of 10-year conventional securities, which is more than double the amount of total U.S. government debt issuance with maturity two years and over in the year ending June 30, 2003.

The strains of accommodating this hedging activity have been clearly evident and were illustrated dramatically in the swap market at the end of July. After swap spreads had remained stable during the first phase of interest rate rises from mid-June to late July, the five-year spread between the swap rate and treasury yield rose from 41 basis points on July 25 to a peak of 66 basis points on August 1 before falling back again below 40 basis points on August 7 (Figure 2.11). Swaption volatility also jumped sharply. Many analysts attributed these developments to the strong demand from investors to pay fixed rates under swaps to hedge their increased fixed-rate asset exposure.

The likely continuous hedging needs from the mortgage market remain very high. One market analyst has estimated that, if long-term interest rates were to rise by a further 50 basis points, the expected duration of the MBS market would increase by almost one year, leading to additional hedging sales equivalent to around $200 billion of 10-year securities, while a 50 basis point fall would create the need to reduce short positions by a similar amount (Modukuri, 2003). Given the amounts involved, a sudden rise or fall in interest rates could be further amplified by this hedging, particularly at longer maturities, as hedgers sell into markets where prices are already falling, or buy into rising markets.

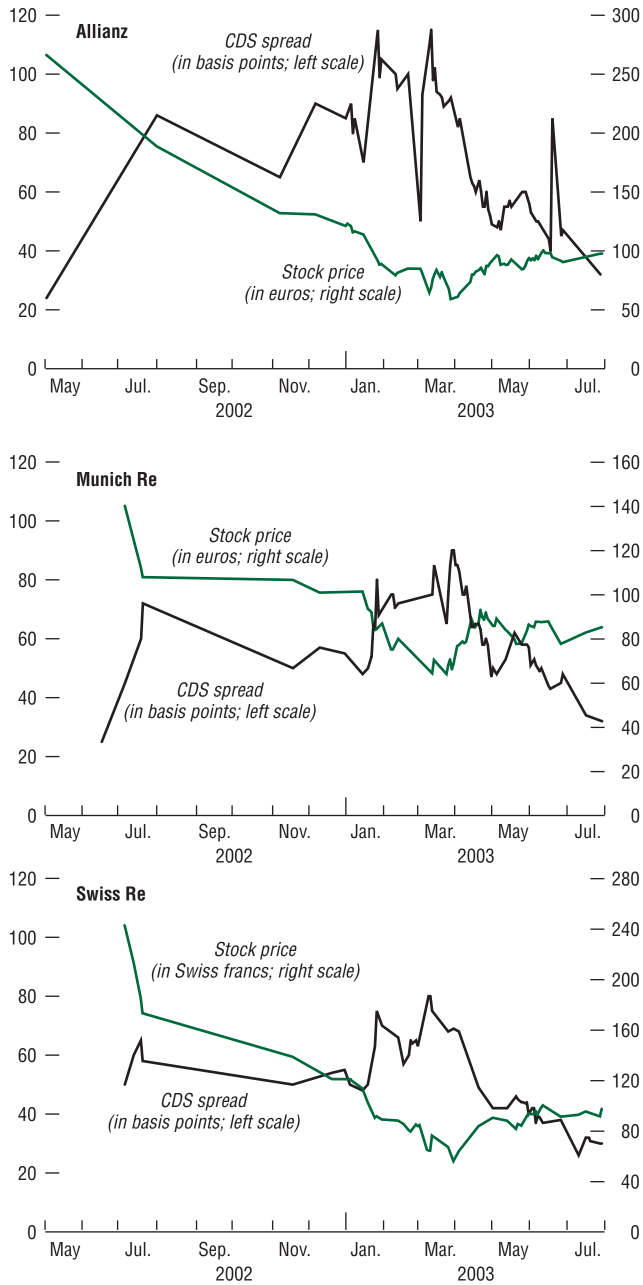
Institutions affected by these hedging needs include the agencies, banks and other investors in mortgage-related instruments, and counterparties that have taken on some of the positions hedged by these investors. The agencies have the largest and most concentrated positions, and so the impact on them is perhaps the most important for financial stability.

The close regulatory and public attention to Fannie Mae and Freddie Mac may have caused them to hedge more exactly on a continuous basis, presumably amplifying the effect of interest rate moves still further. This hedging also has likely costs for the agencies arising from the bid-offer spread of transactions. For every $100 billion of MBSs dynamically hedged on a continuous basis, the total hedging cost of adjusting to an additional one-year change in average duration would be $10 million per basis point of bid-offer spread paid. The speed of market movements and illiquidity during periods of rapid rate movements, illustrated by discontinuities (so-called "gapping") in prices, also mean that the agencies face increased interest rate exposure during these market moves.

Meanwhile, the funding costs have gone up for the agencies as spreads have widened further. Continued stories of accounting uncertainties and investigations appear to have led to sales of agency debt by some investors. Foreign central banks, for instance, which increased holdings of agency securities rapidly in the early part of the year as part of the search for yield, appear to now be making net sales, despite their continued buildup of dollar reserves. Ten-year agency spreads against U.S. treasury bonds have widened to over 50 basis points from 37 basis points at the end of May, for instance. Spreads are currently highly volatile, but if this increased funding cost is sustained, it will reduce the agencies' profitability, although it should be noted that they reported comfortable net interest margins of over 100 basis points at the end of 2002.

It may be that other investors—such as banks, securities firms, or hedge funds—have sustained considerable losses during the recent market turbulence, especially if they have been attempting to benefit from the interest rate carry that can be earned on MBSs or longer-term instruments or otherwise felt less need than the agencies to hedge their full interest rate risk. However, no specific information of such losses has emerged, nor any additional market disruption that would arise from feared failures of significant counterparties. It is also possible that some of these institutions will have moved recently to hedge

Figure 2.14. Germany and Switzerland: Insurance Companies' Credit Default Swap Spreads (CDS) and Stock Prices[1]



Source: CreditTrade.
[1]Spreads on CDS on euro-denominated senior debt with five-year maturities. The stock prices are plotted for dates matching CDS quotes in the CreditTrade database.

their positions more closely as volatility increased, adding further to the sales into a falling market.

In summary, the more volatile market environment for the agencies, potential difficulties for the market in absorbing their hedging needs, and possible lower profit margins all argue for regulators to examine closely whether the agencies' capital base is large enough to absorb the risks on their growing balance sheet. The narrowness of the safety margin provided by their capital has increased the need for them to maintain precise hedges on a continuous basis. The continuous, nondiscretionary hedging by the agencies and others in the mortgage market could amplify the size of any future increase in interest rates and add to market volatility. The amplifying effects of dynamic hedging are similar to those seen during some previous well-known spikes in market volatility, which are described in the case studies in Chapter III. But how powerful the amplification might be will depend on the speed and size of any interest rate rise and the not yet fully tested ability of the rest of the market to absorb the increasingly large duration needs of the hedgers.

Financial Conditions in the Insurance Industry Stabilized But Problems Remain

Previous GFSRs have emphasized the risks to the insurance sector from lower equity and bond markets. In recent months, the pressure from equity markets has eased slightly, but interest rates on fixed-income assets remain below those on liabilities in many cases, and the sector continues to face challenges.

Equity prices of insurance companies, particularly in Europe, recovered in the second quarter of 2003 and credit default spreads for key insurers narrowed from their peak levels in the first quarter (Figure 2.14). Credit downgrades of insurers slowed. In the first quarter of 2003, Moody's, for example, downgraded 1 percent of life insurers and 8 percent of nonlife insurers, compared with 16 percent and

28 percent in the fourth quarter of 2002 (see Moody's, 2003b).

The improvement in balance sheets from the recent equity market rally will be limited. Many insurers have reduced their equity exposures substantially during the past 18 months. In Germany, for example, the portfolio share of equities has declined from a peak of almost 20 percent in 2001 to about 10 percent in the first quarter of 2003, according to the German Insurance Association, though the largest insurers have tended to maintain higher equity exposures.[3] Reported balance sheets may deteriorate further, notwithstanding the improved equity prices, since earlier losses on equity holdings have not yet been fully recognized in some countries. New statutory valuation rules introduced in Germany in 2001 allowed insurers to value their end-2002 equity holdings in their reported accounts at the average value of 2002 plus a premium of 10 percent (see Fitch, 2003a). Broadly speaking, they were able to value the DAX at about 4600 in their end-2002 accounts, compared with a level of about 3300 in early August, but nevertheless had to write down the value if losses are foreseeably permanent.[4]

More generally, the low interest rate environment continues to put pressure on insurers' financial conditions. The drop in long-term yields has exacerbated the squeeze of insurance companies between low-yielding assets and relatively high guaranteed returns on existing life insurance policies. Negative yield spreads in some countries, including Japan, have compressed solvency margins. Observers report asset returns of Japanese insurers of about 1 percent, while average guaranteed yields on existing policies are 3 percent to 4 percent and on newly issued policies are 1 percent to 2 percent (see Fitch, 2003d). Even in countries such as France, where guaranteed returns are tied to market rates, profit margins have been compressed in part because of competitive pressures (see Fitch, 2003c). To alleviate the financial strains on life insurers, in recent months several countries, including Japan and the United States, have launched or passed new legislation to lower guaranteed returns on insurance policies (see Appendix I).

The strained financial conditions, particularly of some smaller European insurers, have led to a flight to quality as new funds have increasingly been flowing to large, presumably more stable, insurance companies. And they have caused the first failure of an insurance company in 50 years in Germany. In late June, assets and liabilities of Mannheimer Lebensversicherung, a small life insurer, were transferred to the industry-funded guarantee fund Protektor after bailout attempts by the German Insurance Association failed. Protektor was established only late last year and will continue to pay policyholders the minimum guaranteed rate of return.

Overall, the insurance industry remains troubled by negative spread problems. The reduced exposure to equities and the rising equity prices have reduced the risk that widespread equity sales into declining markets by insurers could further accentuate renewed equity price declines. But negative spread problems still need to be addressed in many countries to put life insurance underwriting on a sustainable footing in the current low interest rate environment. If, by contrast, long-term interest rates were to rise markedly, the gains to insurance companies from lower present values of their long-term liabilities would outweigh the capital losses on their bond portfolios, and over time they would benefit from higher returns on their fixed-interest investments.

[3]Some of the reduction in the share of equity investments was, of course, caused by lower equity values (see Moody's, 2003a).

[4]The average value of the DAX in 2002 was about 4200.

Credit Derivatives Performed Reasonably Well But the Risks Remain Unclear

Credit derivatives weathered the wave of corporate defaults in 2001–2002 reasonably well. Disputes over credit events were fewer than feared, but the defaults heightened the awareness of risk among market participants. Credit risk transfer markets merit close attention because the distribution of risks is opaque, legal standards need to be refined further, and activity is concentrated among a few of the largest global financial institutions. The lower-yield environment since the peak in defaults may also motivate some market participants to use credit derivatives to reach for yield without fully understanding the risks.

From a financial stability perspective, key questions are the extent to which credit derivatives concentrate risks in a few key financial institutions or disperse risks widely, and whether market participants can adequately price and manage the risks. The market for credit derivatives continues to grow rapidly. Gross outstanding credit derivatives contracts held by U.S. banks grew by 60 percent in the year to March 2003 to $710 billion (see U.S. Office of the Comptroller of the Currency, 2003). As with many over-the-counter derivative products, the structure of the market remains highly concentrated in a small number of dealers, commercial banks, and investment banks, primarily in London and New York. The Office of the Comptroller of the Currency survey reports that the largest participating bank accounts for 58 percent of U.S. bank activity in credit derivatives. Concentration to this degree brings the risk that a failure or withdrawal from the market by one of the major participants could cause extensive disruption, although netting and collateralization agreements reduce this risk.

In the wake of the credit stresses in 2002, concerns have been raised about the ability of credit protection sellers to manage the risk they have taken on. As some traditional sellers of credit protection (particularly insurers and German Landesbanken) have reportedly scaled back their operations in response to losses, some banks that have taken on more of the role of sellers are reportedly hedging the credit risk directly through trading in the underlying corporate bonds. A widening in the range of sellers of protection would help deepen the credit markets, but increasing use of corporate bonds for hedging could make their spreads more volatile, since liquidity in the corporate bond market is sometimes insufficient for taking short positions (see Tierney and Nassar, 2003). Nonetheless, credit default spreads continued to narrow from their peak in August 2002 broadly in line with corporate bond spreads, and the overall returns from taking on credit exposure have been high compared with other financial markets.

Despite considerable legal uncertainties involved in credit derivatives, most disputes have thus far been settled cooperatively, possibly because the financial costs of doing so are small while the market is still growing, compared with the damage to reputation and counterparty relationships from a protracted dispute. But as the amounts outstanding expand, disputes may be less easy to settle and so greater legal certainty and standardization is desirable. In May 2003, the International Swaps and Derivatives Association (ISDA) published new global standard documentation for credit default swaps. Among other measures, the new standard more clearly defines the types of credit events, including debt restructuring, that could trigger default (see ISDA, 2003). (The Basel II proposals would allow regulatory capital reductions for credit derivatives with certain restructuring clauses.) Although standardizing complex contracts is difficult, standard documentation is essential to reduce legal risks and facilitate deep and liquid markets.

Underfunding of Defined-Benefit Corporate Pension Plans

As noted in the March 2003 GFSR, the decline in interest rates (which raised the present value of pension obligations) and the drop in equity prices have created sizable funding shortfalls in corporate defined-benefit pension funds in the few countries (such as the United States, United Kingdom, and the Netherlands) that require firms to fund their pension obligations. In the United States, the aggregate pension underfunding of firms in the S&P 500 grew to $216 billion in 2002 (having had a surplus of $250 billion as recently as 1999), and funding levels declined to 82 percent of projected pension benefits. Nearly half of the deterioration in funding levels since 2000 resulted from stock market losses, with the balance stemming from increases in discounted pension obligations as interest rates fell and from net payouts. Funding problems are concentrated in a few large companies in older manufacturing industries, with fewer than 20 firms accounting for half of the aggregate funding shortfall of corporations in the S&P 500. One estimate for the United Kingdom (by financial consulting firm, Watson Wyatt LLP) has put the total pension funding gap for the corporate sector at about £55 billion.

Other countries that have no short-term funding requirements, where corporate pensions instead operate on a "pay as you go" basis, face perhaps even greater long-term funding shortfalls. Companies not subject to external funding requirements tend to hold financial assets in anticipation of these obligations, but there is concern that these provisions may be inadequate, particularly as populations age. In February 2003, Standard and Poor's downgraded 12 European firms specifically because of their pension obligations. Furthermore, without funding requirements, pensioners' incomes are more exposed to the financial health of their former employers.

While the current U.S. funding gaps are substantial, they cannot be blamed entirely on the equity market decline. In the late 1990s, U.S. corporations enjoyed larger gains from equity holdings than their current losses, averaging $200 billion per year according to Flow of Funds figures, and cumulative capital gains since 1994 are still $700 billion (Figure 2.15). As the capital gains ensured an overfunding, most corporations stopped contributing to their pension plans and relied instead entirely on investment income to pay benefits.

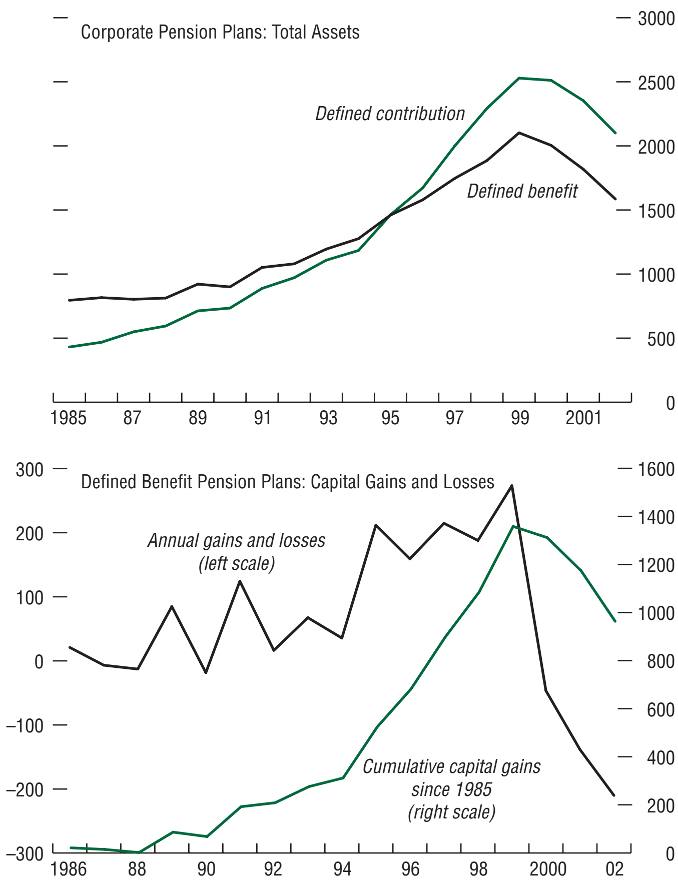
The overall funding situation could improve rapidly if financial markets recovered during an economic upswing. Equity returns near the long-run historical average of 7 to 8 percent would cause a notable improvement in funding positions. A rise in long-term interest rates would have an even more powerful effect on funding levels than an increase in equity prices. According to one estimate, each 50 basis point increase in interest rates reduces the projected benefit obligations for S&P 500 firms by $60 billion (see Credit Suisse First Boston, 2003).

Nevertheless, higher interest rates and equity prices alone may not fill the largest pension funding shortfalls. Many firms in the S&P 500 will need to increase their pension fund contributions. Already in 2002, firms in the S&P 500 tripled their pension contributions to $46 billion, subtracting 5 percentage points from the growth rate of economic profits (see Credit Suisse First Boston, 2002). If equity prices and interest rates remain unchanged for the year 2003, contributions would need to rise by a similar amount this year just to prevent underfunding from growing larger.[5]

Defined benefit plans typically invest in equities, corporate and government bonds, and money market instruments. In the late 1990s, U.S. pension plans allowed stock market gains to increase the share of equity investments to more than 50 percent, while reducing the share of government bonds.

[5]In June 2003, General Motors announced a $17.5 billion bond issue to reduce its $25 billion pension fund gap end-2002 data—the largest in the S&P 500 by a wide margin.

Figure 2.15. United States: Corporate Pension Plans
(In billions of U.S. dollars)



Source: Board of Governors of the Federal Reserve System, *Flow of Funds.*

Since pension liabilities share certain characteristics with long-term bond obligations—future liabilities tend to be relatively predictable over long time horizons—the greater use of equities increased the risk of potential financial mismatches and funding shortfalls.

To limit the impact of short-term asset price movements on operating earnings that result from these mismatches, current U.S. accounting rules allow firms to calculate pension plan earnings using an expected return in place of actual returns. But these rules can obscure firms' underlying financial position. Indeed, while over a long period average reported income from pension plans more or less matched actual returns, with the overreporting in 2000–02 being matched by the underreporting in 1995–99, the lack of transparent accounting had distortive short-term effects on reported profits that may have influenced stock market valuations (see Coronado and Sharpe, forthcoming). Accounting changes are underway in some countries to address this issue. In the United Kingdom, for example, new rules that will take effect in 2005 would require that pension assets are valued at market prices and any deficits (and surpluses) are reflected in reported earnings.

The choice of the discount factor for pension obligations has a large impact on the reported funding status of pension plans. The record low long-term yields on U.S. treasury securities have prompted a debate in the United States on the appropriate discount factor. In early July, the U.S. Treasury issued a series of proposals aimed at improving the accuracy of the present value of pension obligations and increasing the transparency of pension plans. They propose that pension liabilities should be discounted with rates drawn from a corporate bond yield curve that takes into account the term structure of a pension plan's liabilities. According to the proposals, companies should also improve the disclosure of pension fund assets and liabilities in their annual reporting and the government should disclose information on severely underfunded pension plans.

More generally, pension fund accounting and regulation worldwide are in need of reform to increase transparency and improve risk controls, including speeding the recognition of shortfalls and surpluses. But it is important not to create disincentives for companies to build up prudent pension fund surpluses to guard against future financial risks. For instance, in the United States current tax rules only allow deductions for contributions to underfunded plans. These rules discourage firms from building up surpluses in their pension plans to act as a buffer during strong financial conditions. The U.S. Treasury Department has proposed the helpful step of reviewing the limits on deductible contributions as an encouragement for firms to build surpluses.

Corporate Earnings Begin to Recover

Evidence is accumulating of stable to rising corporate earnings, even if current economic conditions do not improve. More stable earnings expectations have made equity dividend payments increasingly attractive compared with low fixed-income yields. So, a long and traumatic period of declining equity values may be coming to an end, and with it some of the balance sheet risks to pension funds and insurance companies.

Earnings Recovery

After deep declines in earnings, even deeper reductions in expectations, and several large revisions of audited results, especially in the United States, business earnings appear to be recovering despite a sluggish economic recovery. In the United States, operating earnings for the S&P 500 companies were up 12 percent in the first quarter compared with a year before, after stagnating in 2002. Earnings gains were concentrated in the previously weak energy and information technology (IT) sectors. Gains so far in the second quarter are smaller, mostly because of a strong period the year before. But stronger and more broadly based gains are widely expected in the second half, depending on how strong a U.S. recovery emerges.

At a time when the accuracy of audited earnings statements remains a lingering issue for investors and analysts, reports using companies' own definitions of operating earnings will be subject to scrutiny. Other measures of earnings show weaker figures to date. U.S. national income accounts estimate underlying domestic business earnings were up 7 percent in the first quarter of 2003 compared with a year earlier.

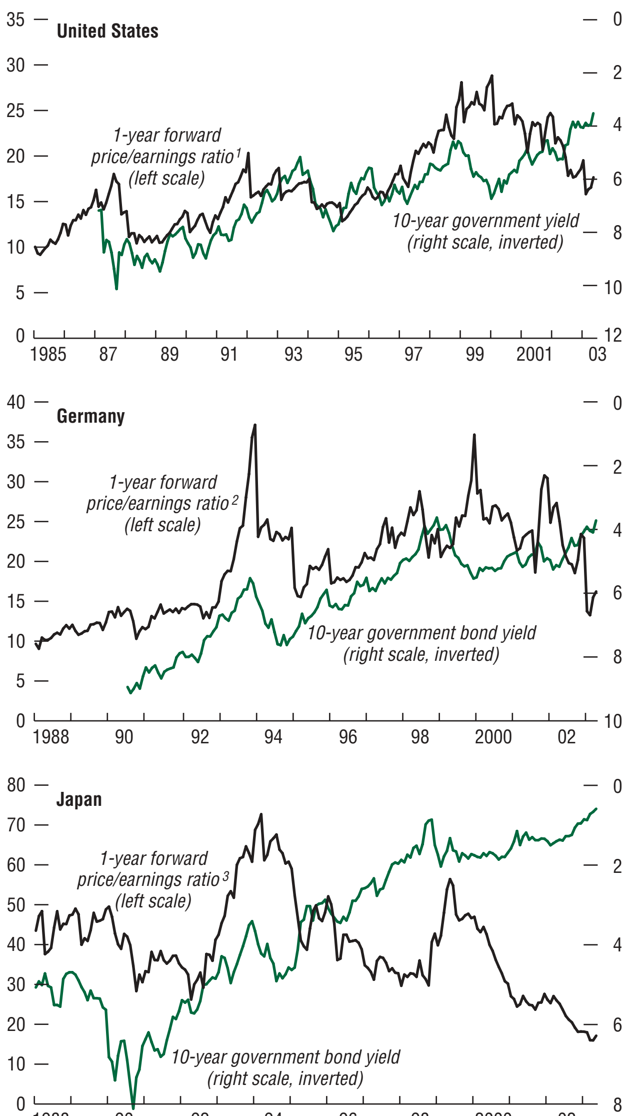
Earnings in the euro area appear also to be showing early signs of improvement, although still lagging the recovery in the United States. Subdued domestic consumption and the weak export prospects resulting from the euro's high exchange rate continue to keep earnings prospects uncertain. Nevertheless, confidence indicators suggest some potential improvement in the retail trade and service sectors.

In Japan, progress has been made in improving company earnings in the face of deflationary pressures. The June Tankan survey showed a 16 percent corporate earnings increase in the year ending March 2003, and a 10 percent projected increase for the following year, helped by a strong export sector and lower oil prices. Nevertheless, sales revenues have continued to fall, suggesting that the burden of adjustment will still fall on cost-cutting. Costs have mainly been cut on the labor side. However, market observers are skeptical whether profitability can continue to be maintained in this way, especially when the current wave of early retirements is completed, and particularly if prices begin to fall more quickly.

Debt service costs have fallen sharply with lower interest rates. But debt levels remain high, and are increased in real terms by deflation. Japanese companies, in aggregate, have not paid off the surge in debt incurred during the bubble years. The persistence of this debt burden remains a continued source of vulnerability for both companies and banks, and action to recognize and deal with nonperforming loans remains as important as ever.

Even bearing in mind possible overestimation, the earnings gains expected by market participants imply average U.S. forward price/earnings ratios are more sustainable at around 18, a level that is close to its historical average and down from the peak of 30 in 2000 (Figure 2.16). In Japan ratios are also around 18, compared with a peak of 50, and in Europe they are around 16, down from 25. The relatively low worldwide level of the alternative yields available on bonds increases the probability that these price/earnings ratios can be sustained, but a further steepening of the yield curve might put pressure on equity prices if not accompanied by a stronger earnings outlook.

Figure 2.16. Forward Price/Earnings Ratios
(In percent)



Sources: I/B/E/S; and Bloomberg L.P.
[1]For S&P 500 index.
[2]For DAX index.
[3]For Topix index.

Market Expectations

Expectations of corporate earnings derived by collating the forecasts of equity analysts can provide a useful assessment of prospects. Such analysts have been accused by observers of being persistently too optimistic on average in the past.[6] But tracking the changes over time in projections of earnings for a particular year provides a useful indicator of changes in overall market view as information becomes available.

Projections of U.S. company earnings for 2003 have remained stable through July 2003, in contrast with recent years when earnings projections for the then-current year were revised down continually during the year (Figure 2.17). Expectations for 2003 had already been revised down by 11 percent in 2001 and a further 16 percent in 2002 from the elevated level at the height of the technol-

[6]Quarterly earnings forecasts are collated by Thomson Financial's I/B/E/S service, using the definition of earnings most frequently used by analysts covering each individual company.

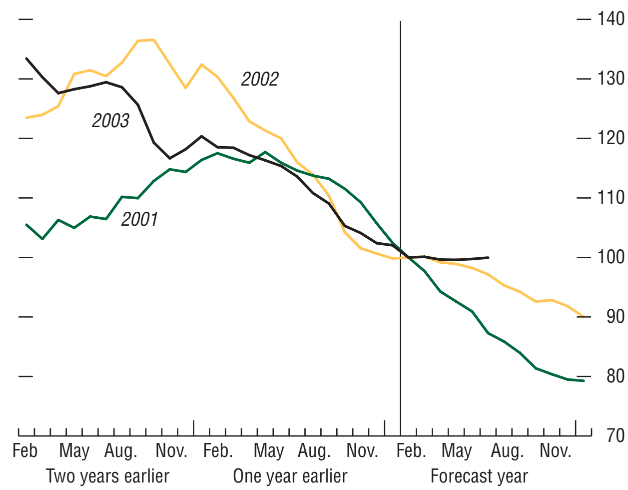
ogy boom. Now, as actual quarterly performance begins to bear out the new more conservative projections, despite continued doubts about the strength of economic recovery, it may suggest that the assumptions underlying equity valuations have become more realistic than in the past.

Longer-term, generally five-year, earnings growth expectations have also been reduced by analysts, from 18 percent growth forecast in 1999 to around 12 percent today (Figure 2.18). Nevertheless, analysts still hold higher long-term earnings expectations than those prevailing before 1996, indicating that views on underlying productivity growth remain relatively bullish. The standard deviation of analyst expectations around each long-run growth estimate is a little larger than before 1999, perhaps reflecting greater uncertainty over the accuracy of reported earnings figures as well as the uncertainty over the economic cycle.

With interest rates at low levels, dividend yields on equities have become more attractive relative to fixed-income securities. Companies and analysts have been increasingly focused on cash flow as a measure of performance, given the accounting concerns about earnings reports, and companies have increased their payments of dividends to demonstrate the solidity of their returns in a period when investors are less confident of future capital gains. The use of dividends will likely increase given the recent dividend tax reduction.

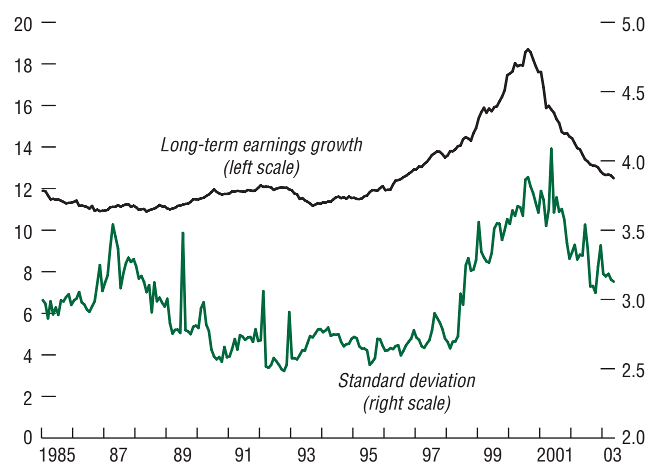
In Europe, strong earnings improvements in 2003 are expected from last year's weak levels. But the dispersion of analysts' projections of average earnings growth has become wider in the last few months, at the same time as median long-term earnings growth rates have been scaled back below 10 percent (Figure 2.19). The continuing low economic growth rate in Europe may be partly responsible for this volatility in expectations (see the discussion of volatility and economic activity in Chapter III).

Figure 2.17. United States: Earnings Expectations for Recent Years[1]
(Forecast in February of the forecast year = 100)



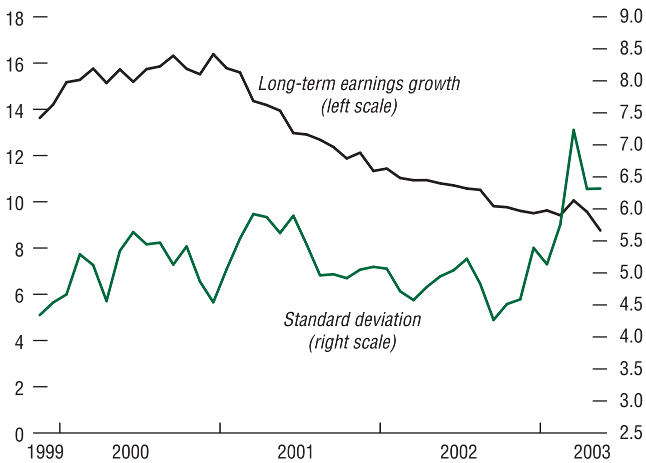
Source: I/B/E/S.
[1]For S&P 500 index.

Figure 2.18. United States: Analysts' Long-Term Earnings Expectations[1]
(In percent)



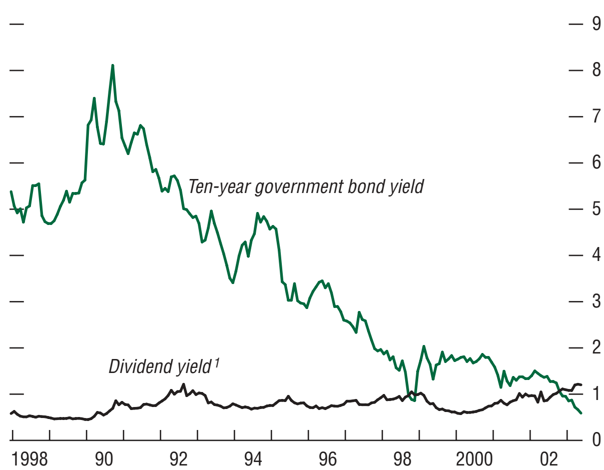
Source: I/B/E/S.
[1]For S&P 500 index.

Figure 2.19. Euro Area: Analysts' Long-Term Earnings Expectations[1]
(In percent)



Source: I/B/E/S.
[1]For Euro Stoxx price index.

Figure 2.20. Japan: Dividend and Government Bond Yields
(In percent)



Source: I/B/E/S.
[1]For Morgan Stanley Capital International (MSCI) Japan equity index.

Dividend yields in Europe are rising, as in the United States. Combined with the fall in government bond yields, this has reached a point where the dividend income from equities almost matches the return on risk-free bonds. This unusual situation suggests that equity earnings, if they turn out to be sustainable, may provide strong support to equity prices as long as further rises in long-term interest rates remain moderate.

In Japan, dividend yields have already risen above government bond yields (Figure 2.20). Equity prices therefore seem well supported in current market conditions, but at the same time could be vulnerable to further large increases in bond yields.

In sum, projections of future earnings in major markets appear to have become more consistent with plausible future increases in productivity and economic activity since 2000. Meanwhile, equity yields have become more attractive relative to government bonds, notwithstanding the recent bond yield increases. If, indeed, this will be enough to sustainably reverse the long slide in global equity values, the improvement in company pension fund investments would provide a second round boost to company earnings. While equity values appear to be well supported under current market conditions, a sudden rise in interest rates that is not accompanied by a stronger economic outlook could change this position.

Favorable External Environment Helped Push Emerging Bond Yields Lower

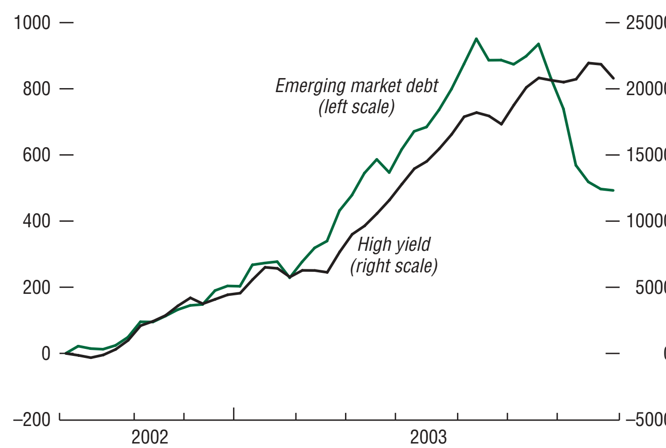
Policy interest rates and government bond yields in the major financial centers that reached near historic lows and improved economic fundamentals in many emerging markets attracted sizable funds into the emerging bond markets during most of the first half of 2003. The resulting rally was led by higher-yielding bonds, particularly those of Brazil—which accounts for one-fifth of the international emerging bond market—as investor attitudes to the new administration there improved. However, the impressive performance gave way to this year's first major consolidation in emerging bond markets following the sharp yield increase in mature bond markets. The global quest for yield abated mid-year as renewed investor appetite for equities triggered outflows from bond funds. Yield spreads on emerging market bonds remained in many cases still well below historical averages, raising concerns about valuation levels, reduced investor discrimination between credit names, and, in particular, the risk of further weakness in emerging bond markets, if yields in the major financial centers were to increase further.

Strong Inflows Contribute to Emerging Market Bond Rally

Flows to the secondary emerging bond market were supported by a global quest for yield that pushed investors out along the credit spectrum (Figure 2.21). This impetus was accentuated through mid-March by the tendency of investors to shun equities. As a result, flows into U.S.-based emerging market bond mutual funds surged during most of the first half of 2003. This surge was largely at the expense of money market mutual funds and, through mid-March, equity mutual funds. In addition, institutional investors—notably U.S. and European pension funds—continued to increase their portfolio allocations. Crossover investors, including managers of corporate bond mutual funds, also stepped up their holdings of emerging market bonds, especially in the second quarter. A high level of coupon and amortization payments provided further technical support to emerging debt markets. By mid-year, emerging market mutual funds, however, began to experience redemptions.

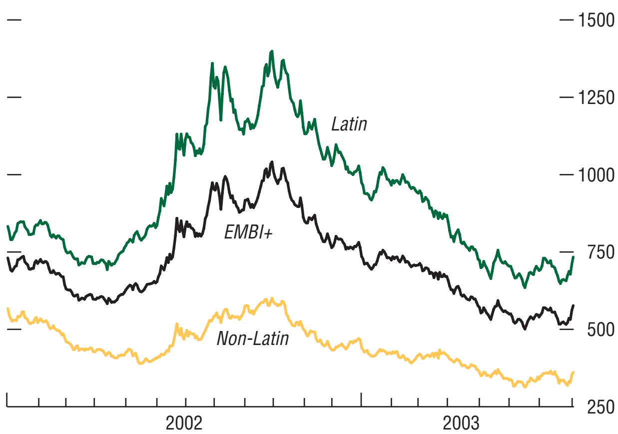
This broad investor interest fueled a strong rally in the emerging bond market. Spreads on the EMBI+ narrowed substan-

Figure 2.21. Cumulative Net Flows to U.S. Mutual Funds
(In millions of U.S. dollars)



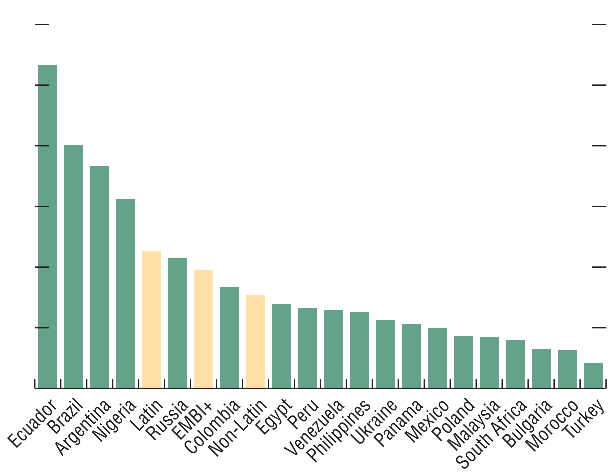
Source: AMG Data Services.

Figure 2.22. Sovereign Spreads
(In basis points)



Source: Capital Data.

Figure 2.23. EMBI+ Total Returns, First Half of 2003
(In percent)



Source: J.P. Morgan Chase.

tially to 547 basis points in the first six months of the year, and the EMBI+ generated a total return of 19 percent (Figure 2.22). The rally that started in October 2002, however, was followed by a consolidation toward the middle of 2003, triggered by concerns over the extraordinary pace of spread compression and the sharp rise in U.S. treasury yields. The sell-off was broad-based, affecting sovereigns with fundamentals as diverse as those of Russia and Brazil. Nevertheless, returns on emerging market bonds during the first seven months of the year continued to compare favorably to other asset classes.

High-yielding credits and the Latin American sub-index outperformed (Figure 2.23) during the first half of 2003. This was indicative of expectations that investors' quest for yield would compress yield spreads of issuers with ratings at the lower end of the credit spectrum faster than spreads of more highly rated issuers. The latter had already fallen in many cases to near-historic lows.

The marked improvement in investor sentiment in Brazil and the stabilization of macroeconomic fundamentals across many emerging market countries helped underpin the broader rally in the emerging bond market. As concerns over the risk of default waned, credit spreads on Brazilian sovereign bonds narrowed sharply and the yield curve disinverted. With the decline in secondary market yield spreads, many emerging market countries regained access to external bond markets.

Global Quest for Yield Extends to Local Emerging Markets

Buoyed by a recovery in risk appetite and scope for policy rates to fall, high-yielding local currency debt markets increasingly attracted foreign inflows. As a result, the ELMI+ index—which measures total returns for local-currency-denominated money market instruments in 24 emerging markets—rose 9 percent during the first half of 2003. Local bonds, however, experienced a consolidation mid-year in tandem with external debt markets.

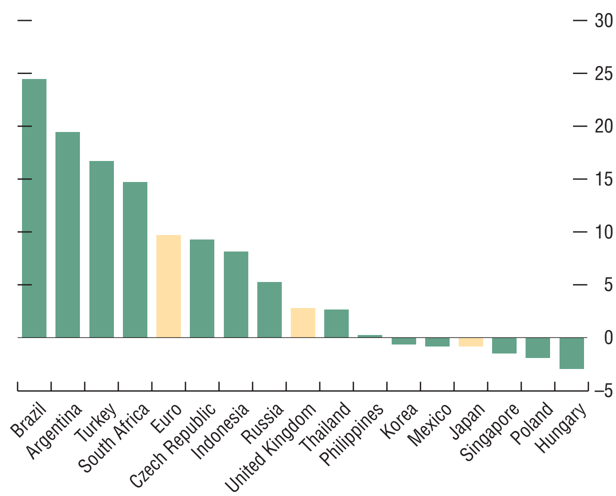
Local debt markets in Latin America attracted considerable interest, especially in Brazil and Argentina (Figure 2.24). The *real* appreciated 25 percent against the dollar in the first half of 2003. Prudent monetary policy and the stronger currency helped to reduce inflationary pressure, allowing the central bank to begin cutting policy rates in June. At the same time, the differential between onshore and offshore interest rates on U.S. dollar financing narrowed, as Brazilian banks borrowed abroad to take advantage of arbitrage opportunities. The spread between offshore and onshore foreign exchange forward contracts also declined considerably, in a further indication of easing concerns over convertibility risk.

In emerging Europe, the Middle East, and Africa, steady declines and the prospects of a significant easing of policy rates attracted considerable inflows into the local currency markets of Turkey and South Africa. In central Europe, expectations for eventual convergence with the European Union have triggered a secular broadening of the investor base, from both crossover investors and dedicated convergence funds. While increasing foreign portfolio inflows allowed governments in central Europe to finance wide fiscal deficits, it also increased the risk of sudden capital outflows and elevated interest rate and exchange rate volatility, underscoring the urgency of fiscal consolidation (see Appendix II).

Outlook Clouded by High Valuations and Prospect of Rising U.S. Interest Rates

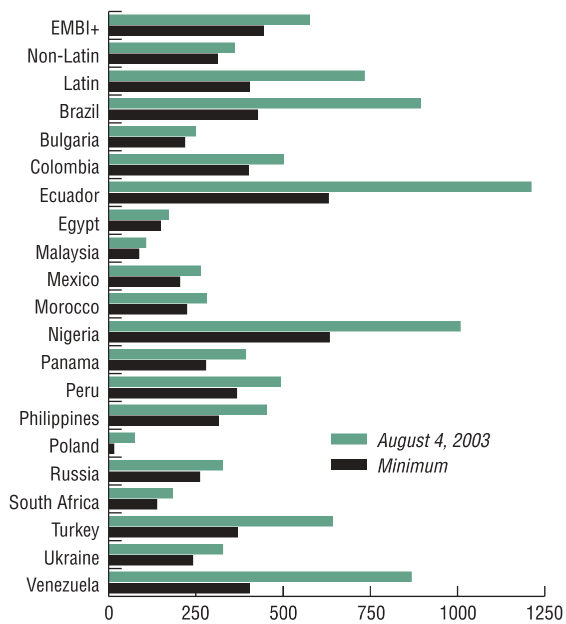
An extended period of strong demand for emerging market bonds has left the asset class susceptible to consolidation. From October 2002 through the end of June 2003, the

Figure 2.24. Currency Performance Versus the Dollar, First Half of 2003
(In percent)



Source: Bloomberg L.P.

Figure 2.25. Sovereign Spreads Versus Historical Lows
(In basis points)



Source: J.P. Morgan Chase.

spread on the EMBI+ index declined substantially by over 500 basis points. As a result, the spreads on most constituents of the EMBI+ were well below historical averages, and in many cases spreads had reached all time lows at the time of the correction that set in mid-year (Figure 2.25).

In light of the risk that yields of mature market bonds may rise further, following the increases observed in the second half of June and July, net flows into emerging market mutual funds and new dedicated emerging market mandates could dry up. Foreshadowing these risks, both emerging market and global bond mutual funds experienced outflows in late June and July.

Dedicated emerging market funds remained overweight in their bond holdings while carrying below average cash positions. Mutual funds appeared to remain optimistic about return prospects and maintained relatively high-beta portfolios, in an attempt to link their returns to broad market movements.[7] This suggests that there remains scope for managers to reduce market exposure should sentiment deteriorate (Figure 2.26), a process that began in July when overweight positions were scaled back.

The vulnerability of the asset class is accentuated by the concentration of crossover allocations to Brazilian bonds. Given the importance of Brazilian bonds for the overall market, a sentiment shift with respect to Brazilian fundamentals could trigger a sizable adjustment for the entire asset class.

The sharp increase in the correlations between the U.S. treasury and emerging bond markets following the spike in U.S. treasury yields mid-year illustrates the risk of

[7]The beta index aims to capture the degree of market exposure of U.S.-based emerging market mutual fund managers. It is a measure of the sensitivity of the portfolio to changes in the market as a whole as proxied by the benchmark index. Exposure can be increased (decreased) by lowering (raising) cash holdings or choosing assets that are more (less) correlated with the underlying benchmark.

Table 2.5. Emerging Market Spread: Coefficients of Variation

	Oct. 31, 2002	Jul. 31, 2003
Mean of EMBI Global (basis points)	611	368
Standard deviation	571	294
Coefficient of variation	0.93	0.80

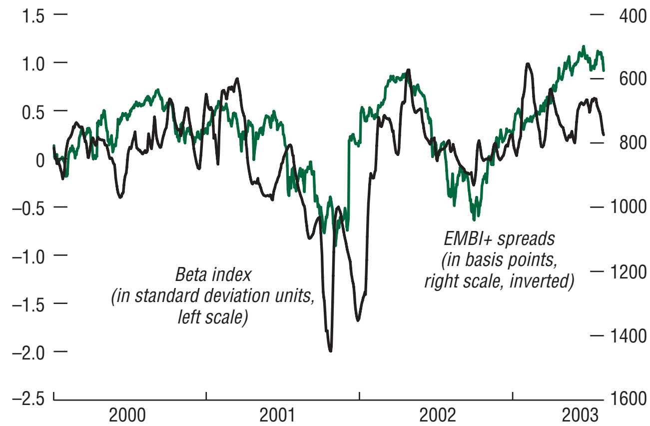
Sources: J.P. Morgan Chase; and IMF staff estimates.
Note: Data exclude Argentina and Côte d'Ivoire.

a sell-off in emerging markets, if yields in the major financial centers were to rise further. (Figure 2.27).

As crossover investors began to reduce their exposure mid-year, the impact of higher U.S. treasury yields weighed disproportionately on higher-rated emerging market bonds, which are perceived as closer substitutes of mature market bonds. But even if mature bond market yields were not to rise further, the steepening of yield curves could result in a shift by emerging market issuers toward more shorter-dated financing in the future, adversely affecting vulnerabilities.

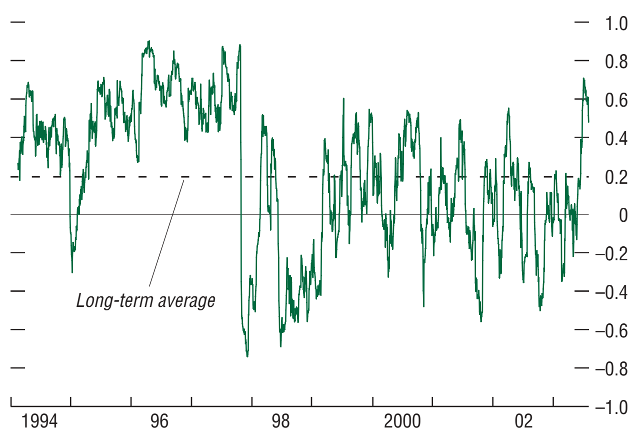
The strong rally in emerging bond markets was driven in large measure by a quest for yield and benefited issuers in an increasingly uniform way, as illustrated by the sharp rise in the average cross-correlation of individual country returns in the EMBI+ (Figure 2.28). The rise in the cross-correlation measure suggests that investors have emphasized asset-class considerations rather than country-specific factors when allocating funds to emerging markets. This is confirmed by the decrease in spread dispersion of emerging market issuers. Between the end of October 2002 and the end of July 2003 the standard deviation of emerging market spreads across issuers fell faster than average spreads, leading to a marked decline in the respective coefficient of variation (Table 2.5). If sentiment were to deteriorate suddenly, emerging markets would therefore face the risk of investors withdrawing from the asset class as uniformly as they entered it.

Figure 2.26. Emerging Bond Fund Beta Index and EMBI+ Spreads



Sources: Bloomberg L.P.; J.P. Morgan Chase; and IMF staff estimates.

Figure 2.27. Correlations of EMBI+ with U.S. 10-Year Treasury Returns



Sources: J.P. Morgan Chase; Merrill Lynch; and IMF staff estimates.

Figure 2.28. Emerging Market Debt Cross-Correlations

Sources: J.P. Morgan Chase; and IMF staff estimates.

Emerging Market Access Improves

Funding for emerging market countries on international capital markets rebounded in the first half of 2003 from last year's lows (Table 2.6). The rebound was largely driven by the marked pickup in bond financing. Bond issuance was strong in the first half of 2003, save for the six-week period surrounding the Iraq war, enabling more than two-thirds of sovereigns to complete their issuance plans for the year. While gross issuance was boosted by sizable liability management operations, net bond issuance also rebounded noticeably. Bank lending to emerging markets recovered in the first half of 2003. In contrast, equity issuance remained negligible, with cumulative placements through mid-year at levels last seen in the early 1990s. Foreign direct investment (FDI) flows to emerging markets continued to weaken in the first quarter this year.

Emerging Market Bond Issuance

Following the reopening of primary bond markets in November 2002, primary market activity remained brisk in the first half of 2003, with uncertainties stemming from the Iraq war dampening primary market activity only temporarily. The pace of issuance quickened, supported by investors' quest for yield and hefty amortization and interest payments, especially in the first quarter.

In all, emerging market bond issuance almost doubled from the low levels that resulted from the drought during most of the second half of 2002. Issuance rose to $45.1 billion in the first half 2003, up from $38.1 billion in the same period last year (Figures 2.29 and 2.30). While the rebound in bond issuance was supported by sizable liability management operations, net issuance also rebounded markedly from last year's depressed values. Preliminary market estimates suggest that net issuance through July 2003 has increased some 14 percent from the same period last year.

Table 2.6. Emerging Market Financing Overview

				2001		2002		2003				
	2000	2001	2002	1st half	2nd half	1st half	2nd half	1st half	Apr	May	Jun	Year to date[1]
						(In billions of U.S. dollars)						
Issuance	**216.4**	**162.1**	**135.6**	**92.7**	**69.4**	**69.9**	**65.7**	**78.1**	**11.9**	**11.1**	**19.1**	**80.5**
Bonds	80.5	89.0	61.6	55.6	33.4	38.1	23.5	45.1	4.8	7.4	12.7	47.2
Equities	41.8	11.2	16.4	7.6	3.7	8.4	7.9	3.1	0.3	0.7	0.9	3.4
Loans	94.2	61.9	57.6	29.5	32.4	23.4	34.2	29.9	6.8	3.0	5.5	29.9
Issuance by Region	**216.4**	**162.1**	**135.6**	**92.7**	**69.4**	**69.9**	**65.7**	**78.1**	**11.9**	**11.1**	**19.1**	**80.5**
Asia	85.9	67.5	53.9	42.4	25.1	25.2	28.7	28.6	2.2	6.0	7.5	30.1
Latin America	69.1	53.9	33.4	30.6	23.3	20.2	13.2	19.6	7.7	0.4	3.2	20.3
Europe, Middle East, Africa	61.4	40.8	48.3	19.8	21.0	24.6	23.8	30.0	2.1	4.7	8.5	30.0
Secondary Markets (end-period)												
Bonds												
EMBI+ (spread in basis points)[2]	756	731	765	766	731	799	765	547	576	553	547	577
Merrill Lynch High Yield (spread in basis points)	871	734	802	736	734	809	802	554	576	612	554	507
Salomon Broad Inv Grade (spread in basis points)	89	78	62	80	78	73	62	51	49	57	51	70
U.S. 10 yr. Treasury Yield (yield in %)	5.12	5.07	3.83	4.93	5.07	4.86	3.83	3.54	3.89	3.37	3.52	4.29
						(In percentage change)						
Dow Jones	−6.2	−7.1	−16.8	−2.6	−4.6	−7.8	−9.8	7.7	6.1	4.4	1.5	10.1
NASDAQ	−39.3	−21.1	−31.5	−12.5	−9.8	−25.0	−8.7	21.5	9.2	9.0	1.7	28.3
MSCI Emerging Market Free	−31.8	−4.9	−8.0	−3.3	−1.7	0.7	−8.7	13.9	8.4	6.9	5.5	20.5
Asia	−42.5	4.2	−6.2	−1.7	6.1	7.7	−12.9	10.0	4.1	8.4	7.6	21.0
Latin America	−18.4	−4.3	−24.8	3.3	−7.4	−16.5	−10.0	21.4	16.9	2.6	2.2	22.6
Europe/Middle East	−23.4	−17.7	−9.1	−18.5	1.1	−10.8	2.0	33.2	17.6	10.7	3.8	28.3

Sources: Bloomberg L.P.; Capital Data; Merrill Lynch; Salomon Smith Barney; and IMF staff estimates.

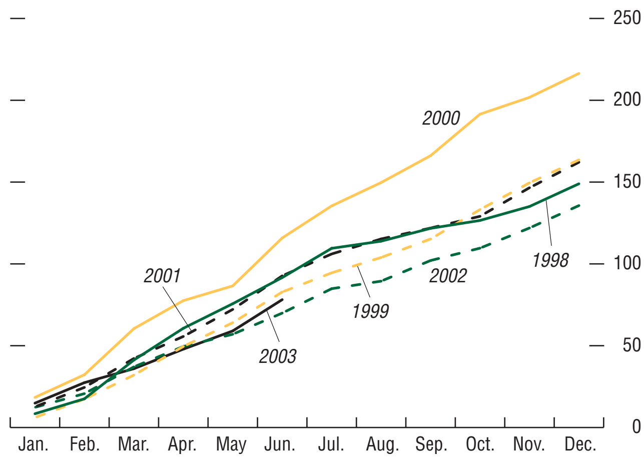
[1]Issuance data are as of July 9, 2003 close-of-business London and secondary markets data are as of August 4, 2003 close-of-business New York.

[2]On April 14, 2000 the EMBI+ was adjusted for the London Club agreement for Russia. This resulted in a one-off (131 basis points) decline in average measured spreads.

Official data for the first quarter 2003 shows that European issuers had accounted for 57 percent of all emerging market net issuance, which compares to a share of 10 percent in 2001 and 22 percent in 2002. While Latin American net issuance of international bonds and notes in the first quarter of the year ($2.5 billion) rebounded sharply from the previous quarter ($200 million), this rebound masked a sharp divergence between countries according to credit ratings. Higher-rated credits like Mexico and Chile were net issuers while several lower-rated countries recorded negative net issuance. Asian bond issuers saw a sharp fall in first quarter net issuance from last year. While the region accounted for some 56 percent of all net issues last year, this share dropped to a mere 12 percent in the first quarter. With net issuance accounting only for some 11 percent of all announced bond issues, compared with 26 percent in the previous quarter, it appears that Asian issuers were particularly active in liability management operations.

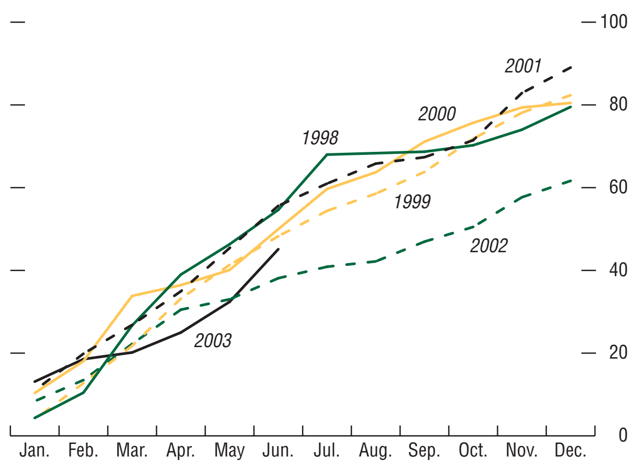
Liability management operations increased in first half of the year. Notably, Mexico announced the retirement of its entire stock of outstanding Brady bonds, partly through the issuance of $3.4 billion in three separate bond deals. Poland repurchased more than $1 billion of its PDI Brady bonds in April, cutting its Brady exposure by almost 40 percent. In both instances, the countries reduced their external debt burden, generated net present value savings, and released the collateral underlying the bonds. These operations were

Figure 2.29. Cumulative Gross Annual Issuance of Bonds, Loans, and Equity
(In billions of U.S. dollars)



Source: Capital Data.

Figure 2.30. Cumulative Gross Annual Issuance of Bonds
(In billions of U.S. dollars)



Source: Capital Data.
Note: Bonds adjusted for Brady exchanges.

followed by exchange offers for Brady debt by both Brazil and Venezuela in July.

Apart from Brady debt exchanges, Uruguay successfully exchanged most of its external debt for bonds with longer maturities at roughly unchanged interest rates, after warning investors it may not be able to continue to service its debt without the proposed exchange. Colombia issued with a view to retiring some of its more expensive dollar-denominated debt, although in small amounts. South Africa used part of the proceeds from a 10-year Eurobond issue in May to retire short-term debt and to eliminate the Reserve Bank's net open forward position. In local markets, Venezuela carried out several exchanges for longer-term bonds to extend the maturity profile of the domestic debt stock.

High-grade borrowers dominated activity in the earlier part of the year, but sub-investment-grade issuers were gradually able to access international capital markets as market conditions improved. Notwithstanding Brazil's return to international capital markets, Latin American borrowers accounted for roughly 30 percent of total issuance during the first half ($13.9 billion), a smaller share of the total than in previous years. This underscored the access difficulties faced by some of the riskier credits.

Sovereign issuance in the first half amounted to $29.9 billion, some 35 percent above the comparable period of 2002 (Figure 2.31).

Supported by strong crossover investor demand, investment-grade borrowers dominated, accounting for 60 percent of the total in the first half. Among the biggest borrowers in the year to date have been Mexico and Poland, which completed their financing requirements for the year and engaged in liability management operations aimed at retiring outstanding Brady bonds.

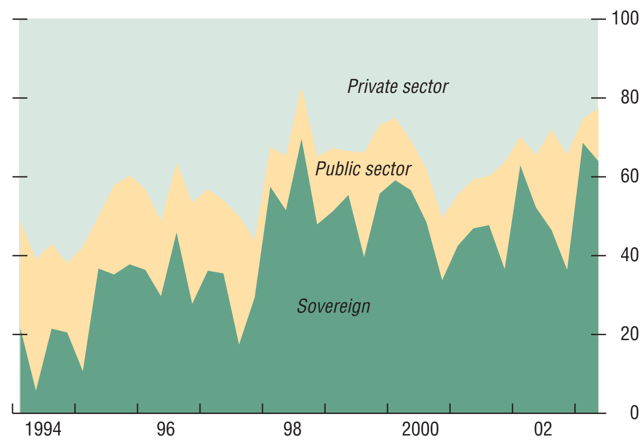
As the top-tier sovereigns completed their issuance plans, amid an improvement in both emerging market fundamentals and market conditions—including ongoing inflows into the asset class by dedicated investors—some of the lower-rated credits launched successful issues. After a notable one-year absence, Brazil returned to the market, with a $1 billion issue in April and a $1.25 billion placement in May; both were heavily oversubscribed. Turkey secured $4 billion in financing, with investors paying little attention to political events and delays in completing the IMF program reviews.

Issuance by emerging market corporates proved disappointing, despite the continued improvement in credit quality and the easing in corporate default ratios in mature markets. Corporate issuance accounted for just over 20 percent of total emerging market bond issuance during the first half of 2003. Financial institutions have accounted for the lion's share of corporate issuance. Banks in Brazil tended to raise short-term financing with a view to take advantage of high onshore interest rates for dollar-denominated financing. Benefiting from strong local investor interest, Russian corporates have been particularly active borrowers, with some "lesser-known" issuers gaining market access. In some of these instances, however, issuance by corporates was viewed as premature.

Euro-denominated issuance revived in 2003, in large part reflecting the comeback of the European retail investor base after an 18-month absence following the Argentine default. Of total issuance in the first half, over 25 percent has been euro-denominated, with the latter part of the second quarter seeing the greatest pickup after Latin sovereigns, which typically issue into the dollar market (Table 2.7).

Another salient development was the much wider inclusion of collective action clauses in sovereign bonds issued under New York law during the first half of 2003. Investment-grade credits—including Mexico, Korea, and South Africa—blazed the trail, followed by some of the sub-investment-grade credits—including Brazil and Uruguay (Box 2.2).

Figure 2.31. Share of Bond Issues
(In percent)



Source: Capital Data.

Table 2.7. Currency of Issuance
(Shares in percent)

	1999				2000				2001				2002				2003	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
U.S. dollars	62	67	59	53	62	51	65	60	57	72	63	72	77	84	83	83	69	70
Euro	26	28	36	37	33	28	18	21	31	17	7	20	16	13	9	6	28	24
Deutsche mark	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yen	2	1	1	8	3	17	14	13	7	6	19	6	1	1	5	6	2	5

Source: Capital Data.

International Equity Issuance

International equity issuance by emerging market companies fell to its lowest level in nearly a decade. The decline reflected relatively low valuations, which persisted in the first half of this year, and continued sluggish equity issuance in mature markets. Issuance in the first half of 2003 totaled just $3.1 billion, less than half that in the same period of 2002. China represented 27 percent of total equity issuance in emerging markets, with the privatization of Sinotrans being the only big-ticket item ($502 million).

Overall, Asia continued to dominate placements, accounting for 70 percent of the total. Notwithstanding, SARS-related worries played a constraining role, with June seeing a pickup in equity issuance amid signs the epidemic appeared under control. Latin corporates have been absent from primary markets this year, except for the sale of a 10 percent stake in Brazilian steelmaker Cia. Siderurgica Nacional for the equivalent of $134 million. Elsewhere, the sale of equity in South Africa's Telkom raised the equivalent of roughly $500 million.

Syndicated Lending

Syndicated lending to emerging markets rebounded modestly from the first half of 2002, with total loan volumes reaching $29.9 billion in the first half of 2003 (Figure 2.32). Concerns about SARS and the global slowdown notwithstanding, lending to Asia rose in the first half of the year to $13.8 billion, further buoying the region's share (Figure 2.33) in lending to emerging markets. In contrast, lending to Latin America remained subdued, while lending to emerging Europe, the Middle East, and Africa declined.

Discrimination according to credit quality remained a prominent feature of the loan market in the first half of 2003. This contrasted with the synchronized reduction in sovereign spreads in secondary bond markets but was in line with the difficulties of some of the riskier issuers in accessing primary markets. While there was little activity by lenders in Argentina and Brazil, investment-grade-rated Mexico and Chile received substantial loan commitments. In Asia, a wide range of Korean, Singaporean, and Malaysian corporates accessed the market at thin margins, while the bulk of financing extended to the Philippines and Indonesia was to public institutions. In central Europe, corporate demand for cross-border funding has risen modestly despite lackluster activity in the euro area and abundant liquidity in local markets. Borrowers have taken advantage of the fine margins offered by international banks. Further afield, banks have been increasingly reluctant to lend cross-border to Turkey's corporates.

Sovereigns were prominent in the loan markets, particularly in the second quarter (Figure 2.34); these included the Dominican Republic (€4 million), Hungary (€500 million), Mexico ($2 billion), Romania (€50 million), and South Africa ($1 billion).

Among corporates, the range of borrowers gaining access to international finance expanded. Until recently, over 90 percent of syndicated lending had been to a small number of top-tier corporates in the energy sector. In a marked shift, however, companies outside the energy sector accessed the loan market with terms beginning to resemble those of the top-tier corporates.

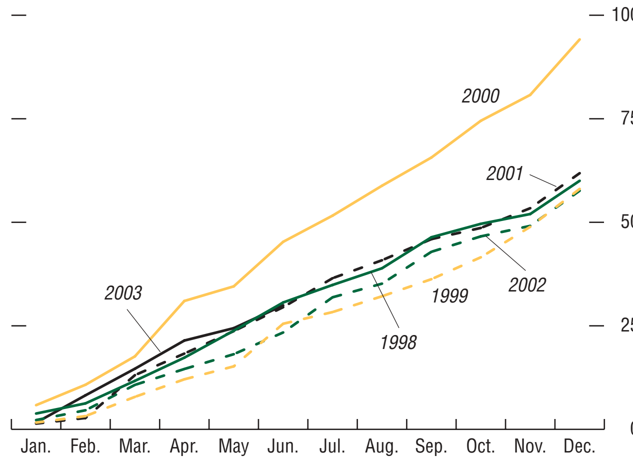
Foreign Direct Investment

Preliminary statistics indicate that FDI flows to emerging market economies declined in the first quarter of this year, continuing a downtrend that began in 2000. The decline was in large part driven by reductions in flows to Latin America, while FDI to Asia and emerging Europe were broadly stable (Figure 2.35). The downtrend is largely explained by cyclical movements reflecting growth trends in the world economy, the fallout from the bursting of the technology and telecommunications bubble, and diminished regional and local growth prospects.

Nevertheless, it also reflects higher perceived risks, in particular unanticipated changes in regulations and contractual arrangements. In the context of a survey conducted by a working group of the Capital Markets Consultative Group (see CMCG, forthcoming). FDI investors underscore that predictable rules for investment and a sound legal framework are important determinants of FDI in emerging market countries. In this context, investors note that the abrogation of contracts in Argentina and a variety of regulatory difficulties in a number of countries have somewhat undermined their FDI prospects, notably in the banking and utilities sectors.

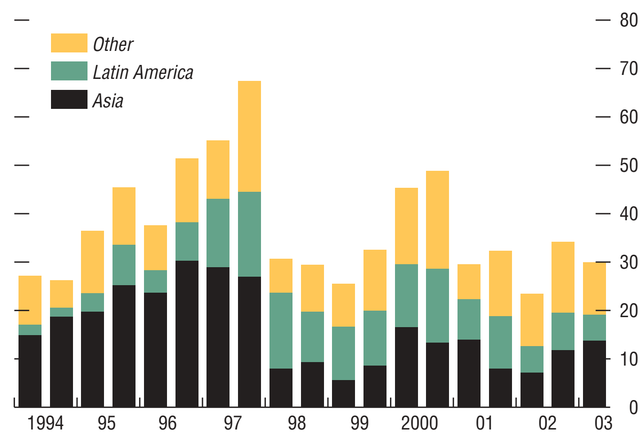
In Latin America, FDI flows fell in the first quarter this year compared with 2002 in all the larger countries with the exception of Chile. The declines ranged from a modest 1 percent in Mexico to about 80 percent in Columbia. Of particular concern was the 57 percent reduction in FDI flows to Brazil. Although FDI in Argentina declined by 60 percent in the first quarter compared with

Figure 2.32. Cumulative Gross Annual Loan Issuance
(In billions of U.S. dollars)



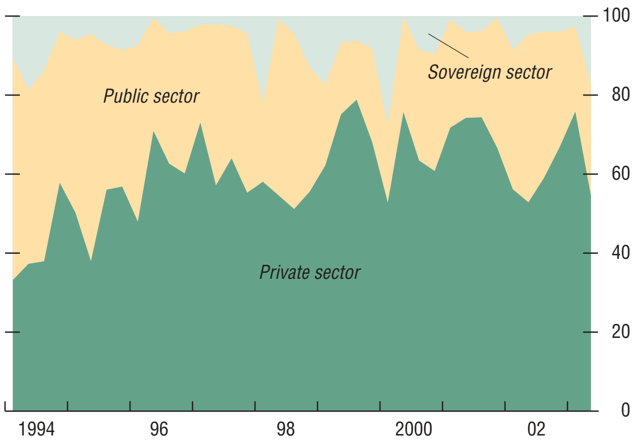
Source: Capital Data.

Figure 2.33. Syndicated Loan Commitments
(In billions of U.S. dollars)



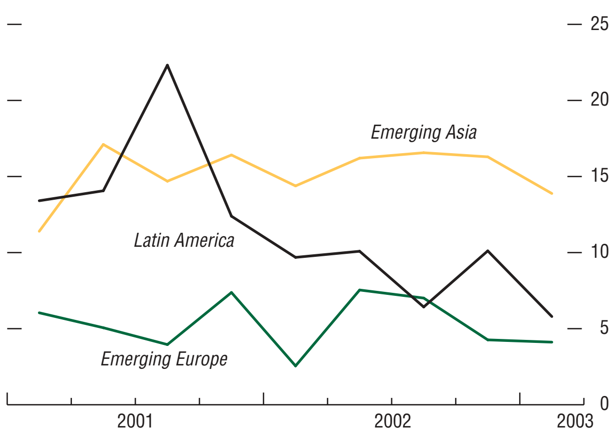
Source: Capital Data.

Figure 2.34. Share of Loan Issues
(In percent)



Source: Capital Data.

Figure 2.35. Quarterly FDI Inflows for Selected Emerging Market Countries
(In billions of U.S. dollars)



Source: World Bank.

a year ago, this represents something of an upturn since it was about 100 percent above the total for the entire second half of last year.

Asia continues to receive the major share of FDI to emerging markets, and aggregate flows have remained quite stable in recent years. However, this masks the rising importance of China, which received more than half of all FDI to emerging markets in the first quarter this year. Despite the outbreak of SARS, FDI to China remained strong in the first quarter. Elsewhere in Asia, first quarter FDI flows were less than half the levels recorded a year earlier in India, Korea, Malaysia, and the Philippines.

FDI flows to emerging Europe were somewhat higher in the first quarter this year than in the same period last year. Particularly noteworthy was the 300 percent increase of FDI to Russia, notably in the oil sector.

Emerging Market Banking Sector Performance and Risks

The distress in banking systems in some emerging markets has eased since the March 2003 GFSR. The instability stemming from shifts in confidence and contagion has subsided, but financial systems in several countries remain vulnerable to adverse macroeconomic developments. Economic slowdown is straining sectoral balance sheets in some countries, and in others rapid credit growth is raising concerns about potential credit quality problems. Deep-seated structural problems persist, especially where public sector institutions suffer from impaired asset quality and operational inefficiencies dominate. These inefficiencies are of particular concern in countries characterized by poor governance and weak public sector finances.

The global picture masks wide inter- and intraregional variations in developments in financial soundness indicators, financial strength ratings, market valuation measures,

Box 2.2. Collective Action Clauses—Recent Developments

The first half of 2003 has seen a shift in the use of collective action clauses (CACs) in international sovereign bonds. Most new issues of bonds governed by New York law, which traditionally used majority enforcement provisions but not majority restructuring provisions, have now included both types of CACs, as has been the market practice for English and Japanese law governed bonds (see the Table).[1] In March and April 2003 Mexico was the first major emerging market country to issue bonds governed by New York law with CACs. It was followed by Brazil, South Africa, and the Republic of Korea. All these issues were successful in that they were oversubscribed, and analysis provided no evidence that the price, either at the launch or in secondary market trading, included a yield premium for the inclusion of CACs. By the time Korea issued, market analysts virtually ignored the inclusion of CACs, instead focusing on Korea's economic fundamentals and the scarcity of Korean paper in the markets. Subsequently, Belize issued also with CACs and Mexico and Brazil followed with subsequent issues using CACs. Investment bank representatives have indicated that they expect new sovereign issues in New York to include CACs. CACs have also been included in the new bonds governed by New York law resulting from Uruguay's recent debt exchange.

[1]An exception was a bond issued by the Philippines under New York law without CACs.

A number of mature market countries have also taken steps to introduce CACs in their international sovereign bonds. Most recently, the EU member countries committed to include, beginning in June 2003, in bonds issued in foreign jurisdictions CACs that reflect the recommendations of the G-10 Working Group on Contractual Clauses. Italy has already issued such bonds.

The main features of the CACs in the bonds issued recently under New York law are as follows: the voting threshold for an amendment of payment terms is set at 75 percent of outstanding principal for the Mexican, South African, Korean, and Italian issues, and at 85 percent for those of Brazil and Belize; and the voting threshold for acceleration is set at 25 percent and for de-acceleration at 50 to 66⅔ percent. With the exception of the new bonds resulting from the Uruguay debt exchange, which use a trust structure, the others are issued under a fiscal agency agreement. Uruguay's new bond instruments also contain an aggregate voting clause.

During the same period, a number of bond issues using CACs took place under English and Japanese law, as has been traditional market practice in these jurisdictions. The emerging market countries among these issuers included Bahrain, Croatia, Hungary, Lithuania, the Philippines, Poland, Romania, the Slovak Republic, Thailand, Tunisia, and Ukraine.

Emerging Markets Sovereign Bond Issuance by Jurisdiction

	2001				2002				2003[1]		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
With CACs[2]											
Number of issues	14	10	2	10	6	5	2	4	9	15	0
Volume of issues (in billions of U.S. dollars)	5.6	4.8	1.8	2.2	2.6	1.9	0.9	1.4	5.6	11.6	0.0
of which: New York law		1.5							1.0	5.9	
Without CACs[2]											
Number of issues	16	17	6	18	17	12	5	10	14	5	3
Volume of issues (in billions of U.S. dollars)	6.7	8.5	3.8	6.1	11.6	6.4	3.3	4.4	8.1	3.4	1.0

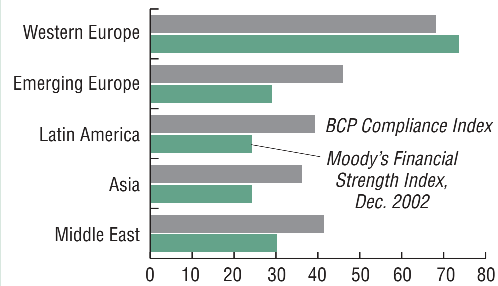
Source: Capital Data.
[1]Data for 2003:Q3 are as of July 15, 2003.
[2]With CACs are English and Japanese law bonds, and New York law bonds where relevant. Without CACs are German and New York law bonds.

Box 2.3. Basel Core Principles Compliance and Banking System Financial Strength

Effective regulation and supervision are critical for the health of a banking system. An analysis of broad measures of supervisory compliance with international norms and indicators of institutions' financial strength points to a strong correlation between the two. The analysis gauges banks' soundness by the Moody's Financial Strength Index and the degree of compliance with the Basel Core Principles (BCP) of Effective Bank Supervision by a BCP Compliance Index. The BCP Compliance Index is constructed by assigning a numerical score to each of the 25 BCPs. The overall score equals 100.

The analysis is based on BCP assessments for 46 emerging market and industrialized countries undertaken mostly as part of the IMF's Financial Sector Assessment Program. The countries are grouped geographically by regions (see the Figure). The index for Western Europe reveals a high degree of compliance, meaning that on average, the supervisory frameworks and practice of many countries assessed thus far adhere to the Basel Core Principles. For other regions, deficiencies exist. Standard deviations of the assessments were similar across the regions with the exception of Asia, which shows a higher heterogeneity of the individual assessments.

Basel Core Principles Compliance Index and Moody's Financial Strength Index



Sources: Basel Core Principle Assessments; Moody's; and IMF staff estimates.

Although there are some noticeable differences for individual countries, the two indices have a correlation as high as 0.72, while the regional averages of the BCP Compliance Index and Moody's Financial Strength Index have a correlation of 0.97. These results underscore the importance of the quality of bank supervision for the health of the banking sector.

and credit to GDP growth (Box 2.3).[8] Notable differences in average performance persist across regions. In particular, financial soundness indicators continue to improve in Asia and Eastern Europe, while structural weaknesses remain in the banking systems in several countries in Latin America. Intraregional variations in performance remain high in all regions except in Eastern Europe, where improvements have continued in the past six months, albeit at a slower pace than previously.

Latin America. Recent indicators of financial soundness and market valuations in the region show moderate improvement, dominated by developments in a few countries. While a degree of stability has returned to the banking systems that were rocked by collapse

[8]Financial soundness indicators refer to aggregate information on financial institutions, including indicators of profitability, measured by return on assets (ROA); loan quality, given by the ratio of nonperforming to total loans (NPLs); capitalization, measured by the ratio of shareholders' equity to total assets (EA). Financial strength ratings (FSR) are based on analysts' evaluation of the financial health and prospects of institutions, and market valuation (MV) is derived as the ratio of banks' stock index to broader market index.

of confidence and contagion, a more fundamental strengthening of financial positions has not yet taken place, in part reflecting the challenges posed by dollarization. In Argentina, the liquidity situation of banks has improved, but there is little progress in the implementation of a bank restructuring strategy, and the solvency situation of the system continues to be uncertain in the absence of meaningful data on financial soundness indicators. The banking system in Venezuela remains susceptible to instability in the context of worsening of profitability and loan quality. Significant weaknesses also remain in the banking systems in Bolivia, Ecuador, Paraguay, and Uruguay, where loan portfolios and profitability continue to suffer from high proportions of nonperforming loans.

By contrast, the situation in Brazil remains sound, in part supported by the recovery in asset prices as a result of favorable sentiment in international capital markets and greater confidence in the economic policies of the new government. Indicators of profitability, loan quality, capital adequacy, and relative market valuation of bank stocks improved in 2002 compared with the year before. Also, despite pressures on profitability due to a weakening economic environment, financial systems in Chile and Mexico remain sufficiently robust.

Among some of the smaller countries in the regions, concerns have emerged due to the high exposure to government debt of banks in Jamaica, in view of an exceptionally high and rising public debt ratio. In the Dominican Republic, pressures stemming from the incidence of fraud at one bank have highlighted supervisory weaknesses and undermined confidence in the health of the banking system.

Europe. Financial soundness and market valuation indicators point to a pause as recent improvements in the banking systems in Eastern Europe are consolidated. In some countries rapid credit expansion in the context of a weaker global economic environment and a high degree of dollarization is raising concerns about increasing credit risks. Turkey has made significant progress in bank restructuring since the crisis, and the vulnerability of its system now seems less pronounced, although financial strength ratings have slightly declined. In Israel and Poland, banks' profitability and loan quality have been under pressure, but their capital positions seem adequate.

Asia. A generally improving trend is evident in financial systems in the emerging markets in the region, although significant weaknesses remain in some countries. Indicators of profitability, loan quality, and capital adequacy on average have been strengthening steadily and financial strength ratings have improved. In particular, financial soundness indicators have stabilized in Indonesia in recent months, while reform priorities are focused on bank divestment and restructuring and strengthening of banking supervision and the regulatory framework. In the Philippines, despite the improvements in profitability, loan quality, and capital adequacy indicated by recent data, the banking system still faces substantial structural, governance, and supervisory weaknesses.

Financial indicators remained broadly unchanged in Korea, with moderate improvement in the nonperforming loan ratio. Some nervousness in the financial system was evident early this year with the revelation of accounting fraud at one institution, which affected the relative market valuation of Korean banks. The problem has since been contained. Banking systems in Thailand and Malaysia are benefiting from progress in restructuring and reforms, although this is not as yet fully reflected in aggregate indicators. Bank profitability in Thailand shows some improvement, but banks' balance sheets remain weak. The rehabilitation of banks' balance sheets and reforms are more advanced in Malaysia, which achieved better profitability and loan quality as well as a higher financial strength rating.

In India, financial indicators for the banking system have generally strengthened. The system remains exposed to significant credit and interest rate risk, however, in the context of long-standing asset quality problems at public sector banks. Analysis of banking trends in China is hampered by a paucity of data. Generally, state-owned financial institutions remain burdened by poor profitability and weak balance sheets. Weak economic conditions, partly reflecting the effects of SARS, are undermining the financial performance of otherwise strong and resilient financial systems in Hong Kong SAR and Singapore. Banks in these countries continue to be well capitalized and the quality of their loan portfolio has steadily strengthened in recent years.

Middle East. Banking systems in a number of countries in the region are faced with structural weaknesses, although near-term stability is not threatened. Despite recent efforts to recapitalize public sector banks in Egypt, banks' capital adequacy and earnings performance could be strengthened. The financial situation of both banks and the government has improved in Lebanon. However, banks remain significantly exposed to sovereign risk and nonperforming loans have recently increased, but so has provisioning coverage. Banks' profitability remains high. In Morocco, while financial soundness indicators of commercial banks are generally strong, the balance sheets of two state-owned specialized banks could be strengthened even though these do not raise systemic concerns. The privatization and restructuring of balance sheets of public sector banks in Pakistan are planned, but remain to be fully implemented. These problems, however, are long-standing and are not likely to be a source of systemic instability in the near term. The banking systems in Saudi Arabia and other oil rich states of the Gulf Cooperation Council remain highly liquid, profitable, and well capitalized. This generally robust picture is clouded only by the risk of an economic slowdown and geopolitical uncertainties.

Africa. Data limitations, distortions related to the rapid growth in banks' assets and high inflation in some countries, and differences in loan classification criteria in others make developments in financial soundness indicators for the region difficult to interpret. Recent measures of banks' profitability show some improvement in South Africa, where the quality of data is of lesser concern. Loan quality and capital adequacy of banks in the country stabilized in early 2003 and their financial strength ratings and relative market valuation improved. Turbulence due to insolvency and liquidity problems in some of the smaller banks in 2002 has subsided following the prompt actions taken by the authorities.

Appendix I: Regulatory and Supervisory Challenges and Initiatives

The blurring of the boundaries between insurance companies and other financial institutions and insurers' (and reinsurers') increased participation in complex financial markets have heightened the importance of the insurance industry for systemic stability.[9] The resulting regulatory and supervisory challenges for the insurance and reinsurance industry are outlined in the first part of this Appendix. In the second part, the Appendix more broadly reports on the recent regulatory responses to market developments, such as the equity market decline and the rapid growth of the credit risk transfer market, and describes initiatives to strengthen international regulatory standards and best practices. While regulators have begun to move their focus from individual institutions to a more systemic view, a stronger policy response is still required.

Insurance: Regulatory and Supervisory Challenges

Insurance and Systemic Issues

Financial problems in the insurance industry, particularly life insurance, have tradition-

[9]This Appendix was prepared by the IMF's Monetary and Financial Systems Department.

ally been viewed as unlikely to jeopardize systemic stability. However, as insurers intensify their financial market activities and build up considerable counterparty relationships with banks, they are becoming increasingly important to systemic stability. This comes at a time when solvency margins are under pressure from several sources, including the increased frequency and severity of catastrophic claims, escalation of asbestos liabilities, and the depressed stock markets. This calls for a stronger supervisory focus on insurer's financial risks, in addition to traditional underwriting risks.

The increased importance to financial stability mainly arises from three factors: (1) increased investment by insurers in equities; (2) consolidation between banks and insurers; and (3) insurers' role as intermediaries of credit and market risk.[10] As a major source of long-term capital, the industry can be viewed as a stabilizing element. It funds its relatively long-term liabilities with long-term investments (mostly bonds and loans, and also equities). In some countries, however, there was a tendency to cover a greater proportion of long-term liabilities with equity investments. Recent developments have demonstrated that life insurers may be prompted—in part by regulations—to sell equities into declining markets, possibly amplifying the effect of equity price declines.

The traditional view that the primary cause of insurer failure is due to underwriting losses is also changing. Recent events have shown that asset price shocks can rapidly pose a severe threat to solvency. EU supervisors have, however, identified poor corporate governance as the most common cause of insurer failure because it generates weaknesses, including poor pricing or investment strategies.[11] Triggers may be sudden, such as a catastrophic event or a sharp dip in equity values, or slower acting, such as the cumulative effects of underpricing or underreserving risks. Supervisors should therefore examine the strength of internal controls and the susceptibility to triggers. For example, underpricing could be detected by comparing prices on a range of similar products between companies and between jurisdictions.

The increasing importance of insurance for financial stability puts greater emphasis on insurance regulation and supervision. Supervisors need to make sure that insurers are well equipped to manage the new financial risks they assume, that they understand the international exposures they take on, and that the negative effects of regulatory arbitrage are prevented. Trigger events are becoming gradually more severe—for example, surges in asbestos claims and equity price volatility. If these trends persist, underlying weaknesses are likely to become exposed more frequently. Supervisors and insurers alike need to take effective measures to prevent more frequent insolvencies.

This Appendix explores insurance regulatory and supervisory vulnerabilities identified by recent assessments of major insurance markets under the IMF's Financial Sector Assessment Program (FSAP), as well as the current work in strengthening insurance regulation at the international level. It identifies gaps in regulatory or supervisory policy and suggests priority actions. While a number of these issues are being dealt with at the national level and within the International Association of Insurance Supervisors (IAIS), a stronger and a more cohesive regulatory policy response is required.

[10]For more details of the systemic implications of insurance, as well as an overview of recent insurance failures, see Das, Davies, and Podpiera (2003), who point out the need for more work on preventing and managing insurance insolvency, especially cross-border.

[11]See the report of the Conference of the Insurance Supervisory Services of the Member States of the European Union (2002).

Principal Regulatory and Supervisory Vulnerabilities

The assessments carried out under the FSAP provide oversight and a means of peer review of regulatory and supervisory regimes. Analysis of the assessment findings and recommendations for a selected group of countries indicates that the most frequent supervisory concerns relate to prudential rules (covering the valuations of assets and liabilities that underpin solvency and the vulnerabilities arising from asset price shocks), solvency calculations, corporate governance, and organization of the insurance supervisor. Three other common issues are the need for greater cooperation between supervisors of conglomerates, improvements to financial reporting, and regulation and supervision of reinsurers.[12]

Prudential Rules

Prudential rules for the holding and valuation of assets need to be strengthened. The decline in the value of equities has hurt insurers' balance sheets in some countries, threatening the ability of many companies to meet solvency requirements. Additionally, some national life markets provide guaranteed rate products and in recent years companies have not been able to achieve a return sufficient to meet these guarantees. The negative spread has caused insurers to consume capital.

The situation is being dealt with in different ways. In the United Kingdom, the Financial Services Authority (FSA) temporarily relaxed the application of its resilience tests on life insurers. In Japan, legislation has been passed that will allow life companies to cut payouts below the level originally contracted. In Switzerland and Germany, where life insurers pay a guaranteed minimum payout on life policies, regulators have proposed lowering the guaranteed payouts to below government bond yields on new contracts. Also in Germany, insurers have been allowed to value equities (subject to certain conditions) at their estimated ultimate realizable value. Changes in valuation methods and suspension of resilience tests can be seen as forms of forbearance that do not address the underlying increased vulnerabilities due to more complex risk profiles.

Moreover, stock market volatility is leading insurance companies to reduce their equity investment.[13] If this process continues, then there may be a knock-on effect to stock exchange activity and liquidity.

The market for long-term savings and investment products is increasing in many countries in response to the increasing need to self-finance retirement income. This places new demands on life insurance companies to supply attractive products in competition with other types of suppliers—notably, equity-linked products. However, the decline in share prices is causing insurance companies and capital markets to rethink some of the basic design and pricing features of these investment products. The prudential rules for the holding and valuation of assets therefore need to be revisited to ensure the robustness of insurers' balance sheets to equity price fluctuations.

Reform of Solvency Regime

Insurance regulation lacks a detailed internationally accepted standard for setting the level of required capital and solvency for insurance companies. Assessments reveal a large diversity in regulations. There are no detailed standards for valuing assets or policy and other liabilities that underpin solvency calculations. Furthermore, capital adequacy

[12]The current version of the Insurance Core Principles issued by the IAIS does not cover the supervision of reinsurers. The FSAP reporting of this issue has therefore been marginal. The revised Insurance Core Principles, due for adoption later in 2003, apply to reinsurers, whose financial strength is relevant for stability.

[13]The OECD estimates that insurers' equity investment as a percentage of total assets declined from 32 percent to 21 percent between end-1999 and end-2002. In countries with high equity investment (Sweden and the United Kingdom) the drop was from 53 percent to 29 percent.

requirements in many jurisdictions almost exclusively reflect insurance risks—the liability side of the balance sheet—ignoring the growing investment risks.[14]

In an effort to address this problem, the IAIS issued a paper on the principles of capital adequacy and solvency (IAIS, 2002a). This paper has provided more detailed criteria but still does not define the specific details of a required capital formula and this leaves scope for countries to adopt a regime that meets the general requirements of the principle without achieving consistency between countries. The European Union is revising its solvency regime and, as input to the process, has studied risk-based solvency systems in other jurisdictions and sectors.

Setting a uniform capital and solvency standard for insurance companies does pose several difficulties. Such a standard would need to take into account the diversity of insurance risk contained within the underwriting process, in addition to asset, credit, market, operational, and other risks. Despite the difficulties, the IAIS should press on with these tasks vigorously to ensure that companies have enough capital to meet the normal range of contingencies and volatility that arise as a result of each firm's profile.

Organization of the Insurance Supervisor

The organization and staffing of insurance supervisory authorities is a pervasive concern. The assessments continue to emphasize the need to increase the independence of the authority and to enhance levels of expertise. The organization of supervisory authorities, including their independence and accountability, is improving slowly, but accountability without susceptibility to political influence is sometimes difficult to achieve, and work is needed (say, by the IAIS) to devise a model terms of reference for a supervisory authority. In a great many jurisdictions, including some of the major ones, the need to increase staffing and expertise is being highlighted in most assessments. Without sufficient resources, there is a risk that corporate governance and other prudential requirements may not be properly implemented and enforced.

Risk Management Practices

Several deficiencies remain in the risk management practices within the insurance sector. Many insurers rely on the underwriting expertise of internationally active reinsurance companies. But in several markets they are not required to adopt sound practices for underwriting or other forms of risk management. In some markets, regulation of internal controls and corporate governance concepts are not well established within the insurance sector. In some cases, this is because they have been developed for closely held and publicly traded insurance companies (Germany provides a good example of the latter). The involvement of external auditors does, however, provide some comfort that internal controls work effectively, although it could lead to concerns about overreliance on external auditors on the part of some insurance authorities.

In several markets, insurance companies are getting more actively involved in nontraditional business activities, such as products that transfer the credit risk from banks to the insurance sector. While innovation and competition can improve efficiency and spread risk, some of the innovations are a challenge to measure, manage, and supervise. This is a particular concern in companies and markets that do not have sound risk management practices in place. Innovative transactions are

[14]A small number of major jurisdictions (Australia, Canada, and the United States) have, however, developed sophisticated risk-based solvency systems. A comparative qualitative study indicates that they are quite dissimilar, dealing with risks in different levels of detail, partly because each is directed toward the particular features of the local market. A detailed quantitative study of companies under the various systems might reveal a greater level of convergence than is evident from a qualitative study and could be used as a starting point for gathering consensus on quantitative best practices.

often routed through jurisdictions with a relatively light supervisory touch. To address this, standards have also been developed for offshore insurance activities through solvency requirements for captive insurers and exchange of information among offshore insurance supervisors.

Insurance supervisors are implementing corporate governance practices for insurance companies, but progress has been slow. Strong corporate governance is an overarching control and its development within the insurance sector should be prioritized. The IAIS needs to develop a model regime.

Financial Conglomerates and Supervisory Cooperation

Financial conglomerates represent a supervisory challenge for insurance (and banking) supervisory authorities in many countries. In countries where there are strict supervisory rules limiting intercompany transactions between related parties, these risks can be controlled. Likewise, such risks can be monitored by risk-based supervision, and a cross-sectoral regulatory approach. However, not all countries have rules or integrated approaches of these types. Whereas there is an emerging trend toward the development of unitary supervisory authorities, frameworks for cross-border supervisory cooperation and information exchange have yet to fully develop. Cooperation between EU supervisors, under the Insurance Groups Directive, is an example of increased regional coordination and is a good example of what can be achieved given the correct framework. Such cooperation will be extended to financial conglomerates with the EU Financial Conglomerates Directive.

Cooperation between supervisory authorities in different countries has improved, with more insurance supervisors entering into memoranda of understanding with their foreign counterparts. Other initiatives include the IAIS Standard on Exchange of Information and the OECD Decision of the Council on the Exchange of Information on Reinsurers.

There has been a trend toward greater cooperation between banking and insurance supervisors and increased harmonization of supervisory practices. In some important financial markets (Germany, Japan, and the United Kingdom), the banking and insurance supervisory functions have been combined into a single authority. In other cases, this type of consideration has resulted in a formalization of interagency relations.

Insurance supervisors generally share experiences and good practices with other supervisors more than they did a few years ago and this benefits many supervisors as they work to strengthen the regime in their country. This does, however, place a burden on supervisory authorities in the major markets. As an alternative, a formal body could be set up to provide information and training to supervisors of all jurisdictions.

Financial Reporting and Disclosure

In general, much less is known about the financial activities of insurance and reinsurance companies than that of commercial and investment banks.[15] This is in part because the regulatory and supervisory framework for insurance has traditionally been oriented toward policyholder protection and less focused on how insurance companies manage their financial risks. As these risks gain importance, the focus of insurance supervision needs to shift toward their assessment. Also, disclosure and transparency of financial market activities of insurance companies at present appears to be insufficient given their increased financial activities. The increasing role of insurers as intermediaries of financial risk should go hand in hand with increased disclosure of their financial and underwriting

[15]See the June 2002 issue of the *Global Financial Stability Report* (IMF, 2002).

risks—both for on- and off-balance-sheet exposures.

Accounting and financial reporting standards for insurance enterprises continue to vary significantly between countries. The IAIS issued a Guidance Paper on Public Disclosure by Insurers (IAIS, 2002b) that calls for supervisors to ensure that companies disclose relevant and timely information on the financial position of the company. This guidance in turn would lead to a greater level of consistency and scope in reporting that would provide FSAP assessors a better opportunity to identify vulnerabilities and recommend improvements.

Likewise, supervisory reporting standards and formats vary greatly. This may contribute to the relatively low volume of information exchange. Assessors sometimes receive comments from internationally active companies that the lack of standardization of supervisory reporting is a bureaucratic barrier to cross-border business. In addition, the International Accounting Standards Board (IASB) insurance project, whose phased implementation begins in 2005, applies primarily to annual reports and will not necessarily assist in harmonizing supervisory reporting. No work is currently under way to harmonize supervisory reporting.

Reinsurance

Reinsurers are systemically important to insurers, they provide protection by covering peak exposures, and are often parts (or even the dominant business) of conglomerates. In addition to the same risks faced by primary insurers, reinsurers face two additional risks. First, reinsurers protect the peak exposures of the primary market and consequently experience greater volatility in results and therefore need greater capitalization. Second, reinsurers often are the top trading company in a group structure and hold the group's capital. In such a position, they may be called upon to support ailing insurance or noninsurance subsidiaries, and thus may transmit systemic shocks within or between sectors.[16]

In many jurisdictions, including some of the major ones, reinsurers are supervised with a lighter touch than primary insurers despite their more complex risk profile. Yet their financial health can only be assessed by detailed risk-based supervision, and the potential for contagion assessed during both the licensing process and ongoing supervision.

The IAIS Reinsurance Subcommittee has drafted a standard on the supervision of internationally active reinsurers, including effective supervisory coordination. The IAIS and Financial Stability Forum Task Force on Transparency and Disclosure in Reinsurance is currently formulating a supervisory reporting package designed to enable supervisors to better understand concentrations of risk and conduits for systemic contagion.

Regulatory Response to Market Developments

In addition to addressing the specific insurance issues discussed above, regulatory and supervisory agencies have responded to recent trends in other financial products and markets, including the role of financial analysts and audit firms, securities market fragmentation in the European Union, and

[16]The 2002 report of the Conference of the Insurance Supervisory Services of the Member States of the European Union cited earlier argues that companies rarely fail unless the major shareholder withdraws support. Worryingly, it reports that "we sense changing shareholder attitudes, with a tendency to prefer higher returns on capital in the short term and to have less concern for the long-term impact on their reputation of withdrawing support from a firm in trouble, increasing the risk of the firm's failure."

As an example of the range of pressures reinsurers can face, a large European reinsurer, Gerling Global Re, recently ceased underwriting due to three triggers—increased U.S. asbestos liabilities, increased claims on credit insurance business, and claims from the September 11 attacks. Despite raising capital, the group's primary insurers were downgraded and a major banking shareholder wrote off the value of its investment in the group.

cross-sector (banking and insurance) issues, including the growth of credit risk transfers. Supervisory practices are being strengthened as a result of regional convergence, greater cooperation, and the dissemination of guidance on good practices by standard setters. This has been visible across financial sectors, as well as in accounting and auditing.

Securities Markets and Regulation

Accounting and auditing standards are under review by securities regulators, particularly in the United States and Europe. The International Organization of Securities Commissions (IOSCO) and the International Federation of Accountants (the body responsible for standards on auditing) are discussing the structure of the audit industry—in particular, the concentration of audits in the big four accounting firms.

IOSCO has also developed a methodology for the assessment of the Objectives and Principles of Securities Regulation (the original Principles were published in 1998). The final methodology, which has not yet been approved by IOSCO's full membership, is a major undertaking that will add depth and detail to the international consensus on minimum standards of securities regulation.

Securities and investment analyst conflicts of interest are being addressed in the United States following the decision to take criminal action against several large investment banks. That action has resulted in large global financial settlements and in changes in internal structures of research at investment banks. There has also been pressure to improve governance structures of companies and stock exchanges, including over conflicts of interest.

The European Union is finalizing an amended Investment Services Directive (ISD), which is aimed at strengthening and harmonizing the European regulatory framework for securities markets. The ISD has raised a number of important questions regarding market fragmentation and competition between markets for liquidity. There is an intense debate among member countries, with some countries favoring a greater protection of exchanges. The European Union has also finalized the new Market Abuse Directive, which members will begin implementing, and the Prospectus Directive is in place and is being implemented by member countries.

The debate is intensifying on the role of hedge funds in the financial system and whether they should be directly regulated. In most jurisdictions, hedge funds are exempt from requirements applicable to investment funds, primarily because they focus on sophisticated and institutional investors rather than the retail market. The U.K.'s FSA took the lead by issuing a discussion paper arguing that, while current regulation of hedge funds is sufficient, they should become more transparent to lenders, and lenders in turn should better account for the risks in extending credit to highly leveraged hedge funds.[17]

Credit Risk Transfers

Efforts are being made to gain a better understanding of the use and extent of credit risk transfers (CRTs) and risk management by banks and insurance firms.[18] Since transparency and data on the size of the CRT market are insufficient, information on the distribution of CRT risks is poor. It is widely acknowledged that the regulatory framework

[17]The discussion paper is available at http://www.fsa.gov.uk/pubs/discussion/dp16.pdf.

[18]See for example the Committee on the Global Financial System, *Credit Risk Transfer,* available on the Internet at http://www.bis.org/publ/cgfs20.pdf; also, the IAIS Paper on Credit Risk Transfer Between Insurance, Banking and Other Financial Sectors, available at http://www.iaisweb.org/content/03pub/03fsfcrt.pdf. In addition, an IAIS subgroup has been set up to follow developments on alternative risk transfer products. An issues paper on insurance securitization has been drafted, and the group has begun work on the effectiveness of hedging.

and supervisory skills for assessing financial institutions' risk management systems and controls on CRT activities are not sufficiently developed. One concern is that use of CRTs may partly reflect differences in the regulatory treatment of credit risks between different types of financial institutions. Regulatory concerns would also increase considerably if information became available that suggested that use of CRTs was leading to undue concentration of risk, or was resulting in a significant fall in the amount of system-wide capital to support a given quantity of aggregate risk.

Work is being done on the involvement of EU banks in the credit risk transfer market and implications of structural relations between banking and insurance. This work follows from the EU Financial Conglomerates Directive.[19]

Financial Conglomerates

Prompted by consolidation in the financial sector, in particular between banking and insurance companies, the Joint Forum is examining the cross-sectoral implications of extreme exogenous shocks to financial conglomerates. Work is currently under way on risk aggregation across multiple businesses and risk categories; operational and credit risk management and the transfer of these risks; and the disclosure of financial risks (following up on the recommendations of the Multidisciplinary Working Group on Enhanced Disclosure—the Fisher Report—published by the Committee on the Global Financial System).

Banking Supervision—Further Convergence and Cooperation

In April 2003, the Basel Committee on Banking Supervision issued the third, and presumably final, consultative paper on the new Basel Capital Accord (Basel II). The new Accord is intended mainly to address internationally active banks in the G-10 countries, but is also expected to maintain its global reach as supervisory standard.

Even as national discussions have been focused on the implications of Basel II, the European Union has taken initiatives to promote regulatory convergence and efficiency. A major overhaul of European regulatory and supervisory structures is under way following the Ecofin Council's endorsement in December 2002 of a report on financial regulation, supervision, and stability in Europe. The Lamfalussy framework already in place in the securities sector will be extended to other financial sectors, including banking. It envisages the establishment of "level 2" (regulatory) and "level 3" (supervisory) committees. The reform aims at speeding up the European Union's legislative process, promoting convergence in supervisory practices, and increasing accountability.

Initiatives on information sharing have further underpinned convergence. Cooperation among banking supervisory authorities and the central banks of the European Union has been strengthened through additional Memoranda of Understanding on high-level principles of cooperation in crisis management situations and on the exchange of information among credit registers operated by EU central banks. Protocols on information sharing have been signed with EU accession countries. More generally, both EU and South East Asia, New Zealand and Australia (SEANZA) supervisors have been seeking to address concerns in establishing Memoranda of Understanding with third-party countries, including issues of confidentiality of information, the examination rights of home supervisors, and the legal ability to exchange information.

Outside the European Union, supervisors are also seeking to promote regional convergence. Efforts of Eastern and Southern

[19]Directive 2002/87/EC of December 16, 2002

African supervisors are focused on developing an onsite supervisory model for the region, standardizing licensing standards, and developing a unified approach to the supervision of microfinance institutions. Association of Supervisors of Banks of the Americas members have issued implementation guidelines for the Basel Core Principles of Effective Banking Supervision. At the same time, the Caribbean and Central American supervisory groups are working to harmonize regulations.

Accounting Standards and Practices

The evolution of accounting standards in recent years has reflected an emerging strategic focus on global convergence between national regulators and supranational bodies. Of key importance is the agreement reached between the IASB and the U.S. Financial Accounting Standards Board (FASB) on projects for eventual convergence of their respective financial reporting standards. Also, the European Union has decided that listed companies must prepare consolidated financial statements in accordance with International Financial Reporting Standards (IFRS)[20] by 2005. This follows IOSCO's endorsement of IAS as the accounting standard for companies listing on its member exchanges. The recent corporate failures and consequent investigations by national regulatory bodies also have given impetus to convergence, including through a reexamination of the relevant merits of rules-based versus principles-based standards.

The IASB has accelerated its work program. One of its key projects is to develop a comprehensive standard on financial instruments, which has seen wide-ranging consultation between the IASB and interested parties, including financial institutions and regulators. The IASB is also as a high priority addressing issues raised by corporate scandals, including treatment of off-balance-sheet vehicles and income and expense recognition.

In the United States, steady progress is being made in implementing the Sarbanes-Oxley Act. A Chairman for the Public Company Accounting Oversight Board established to oversee auditors was named in May 2003. The SEC concluded a staff study in July 2003 mandated by Sarbanes-Oxley on the possible adoption of a principles-based accounting system in the United States. The study favors a principles-based system, as it believes that rules-based systems encourage financial engineering aimed at avoidance. But it suggests that some principles-based systems provide too little guidance or structure. It therefore recommends that the FASB continue to move toward consistently developing an "objectives-oriented" approach, where the accounting objectives and model are sufficiently detailed to give managers and auditors a framework to apply the principles underlying standards. The SEC has reconfirmed FASB as the U.S. accounting standards setter, and the FASB is working actively on enhancing standards, including on accounting for stock options, accounting for defined-benefit pension plans, off-balance-sheet items, and consolidation of special purpose entities.

Accounting issues for the global insurance industry related to the implementation of "fair value" accounting remain highly contentious in work organized by the IASB. The IAIS has raised several issues relating, in particular, to the definition of insurance contracts, embedded derivatives, measurement of assets, credit insurance, and participating contracts. Issues have also been raised on assets backing insurance contracts and on disclosure.

The insurance industry is questioning the proposed changes, arguing that the volatility of reported earnings will increase with a consequent increase to the cost of capital. The

[20]IFRS includes International Accounting Standards (IAS) issued by the predecessor organization to the IASB.

accounting changes would involve most investments being valued at market prices and the elimination of claims-equalization reserves so that they would no longer be available as a profit smoothing mechanism. The increased earnings volatility will be largely due to fluctuating asset and liability valuations and will highlight the vulnerabilities associated with risk sharing over time. Risk sharing over time (as opposed to traditional risk pooling) is particularly relevant where life policyholders are given rates of return that are more stable over time than the investment returns of the insurer.

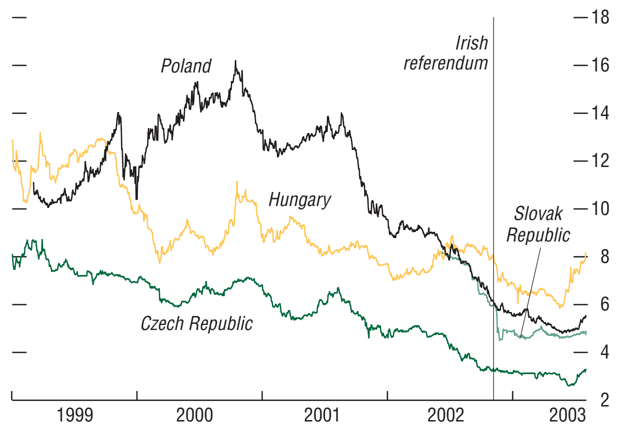
Appendix II: Convergence in Central Europe—Setbacks and Perspectives

Despite the devaluation of the Hungarian forint in June 2003 and a marked rise in risk premiums this year, Economic and Monetary Union (EMU) entry expectations for the Czech Republic, Hungary, Poland, and the Slovak Republic remain firmly embedded in market prices. Nevertheless, the scope for financial market volatility has risen. EMU entry is widely seen as delayed to the end of the decade, and reliance on foreign portfolio financing in Hungary and, to a lesser extent, in Poland has risen. These developments underscore the need for tightening the region's large fiscal deficits to support the conduct of monetary policy.

Fading Exuberance Amid Deteriorating Fundamentals

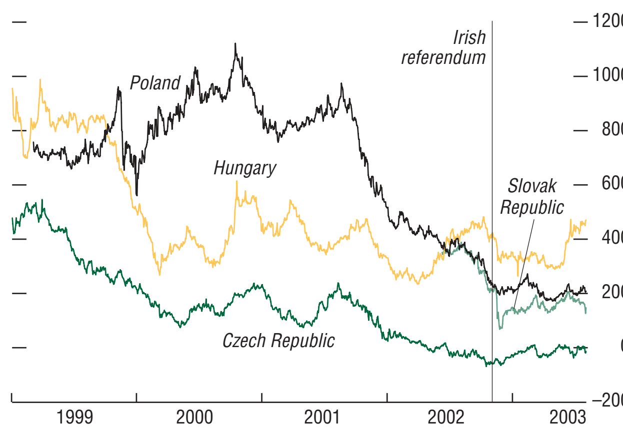
The passage of the Irish referendum on October 19, 2002, completed the ratification of the Nice Treaty, with markets anticipating European Union accession to occur on schedule on May 1, 2004. As a result, risk premiums—measured as the spread of local currency bond yields over German Bund yields—fell substantially across the region in 2002 (Figures 2.36 and 2.37). These premiums reflect a variety of risks, including

Figure 2.36. Five-Year Benchmark Yields
(In percent)



Source: Bloomberg L.P.

Figure 2.37. Five-Year Benchmark Spreads over Bunds
(In basis points)



Sources: Bloomberg L.P.; and IMF staff estimates.

exchange rate, interest rate, and sovereign risks.

Exuberance, however, gave way to concerns over fundamentals in 2003. The region's continued fiscal laxity, rapidly rising debt burden, and overall weak policy coordination raised doubts over the prospects for early EMU entry and the outlook for exchange rates. Against this background, yield spreads widened anew across central Europe during the first half of 2003. Hungarian yield spreads rose to levels not seen since the Irish referendum following the 2.26 percent devaluation of the forint on June 4 and two subsequent interest rate hikes of a cumulative 300 basis points. Nevertheless, spreads in Poland and the Slovak Republic at the end of June remained below the levels that preceded the referendum, while interest rates in the Czech Republic remained below those in Germany.

Nevertheless, most foreign and, to a lesser extent, domestic investors expect interest rate convergence to advance over the medium term. Investors emphasize that markets learned from the tightening of spreads triggered by the creation of the euro in 1999 as well as EMU entry by Greece in 2001.

EMU Entry Timing is Increasingly Viewed as Back-Loaded

Expectations for the timing of euro adoption have shifted toward the end of the decade from 2007/08 previously. By June 2003, market participants expected Hungary, Poland, and the Slovak Republic to adopt the euro in 2008 or 2009, with an increasing bias toward 2009. The Czech Republic was widely expected to adopt the common currency only in 2010. While investors have thus far been unperturbed by these "delays," the convergence process is widely viewed as far from complete. Box 2.4 discusses a simple econometric model in support of this view.

- The region's fiscal laxity is widely seen as clouding the prospects for early EMU entry. Investors are concerned that the region's large structural deficits may not be sufficiently tightened near-term, with parliamentary elections scheduled in Poland for 2005 and in the Czech Republic, Hungary, and the Slovak Republic for 2006. Unless the bulk of the fiscal adjustment is undertaken in 2004, investors will tend to see little scope for early EMU entry. In this context, market participants tend to point to the fiscal slippage preceding Hungary's elections in 2002.
- Government debt levels pose another potential concern. The debt ratio of the Czech Republic has risen, albeit from a relatively low level, and there are concerns that the Maastricht ceiling on general government debt may be breached in Hungary and Poland (Figure 2.38). Citing concerns about reform fatigue, Standard and Poor's lowered in June 2003 its outlook on Poland's sovereign rating (BBB+) to negative, warning that that the debt-to-GDP ratio may rise above 60 percent by 2006.
- Investors are also concerned about inadequate policy coordination that risks clouding the exchange rate outlook and the eventual fulfillment of the stability criterion. The region's wide fiscal deficits are viewed as having overburdened monetary and exchange rate policy. Investors generally perceive the inflation target as having been subordinated to exchange rate considerations in Hungary, following the speculative attack in January and the June devaluation.

EU Entry Prospects, However, Unlock Access to Broader Pool of Portfolio Capital

The local currency debt markets in central Europe have experienced a secular broadening of their investor base. In the expectation that EU membership will trigger the inclusion of the accession countries in mature bond market indices, albeit at relatively small weightings, convergence countries have increasingly attracted investments from crossover investors, proprietary trading desks of investment banks, as well as hedge funds. Meanwhile, dedicated convergence and emerging market funds, which traditionally had provided most of the portfolio investments to the region, continued to experience steady and sizable inflows for most of the first half of 2003.

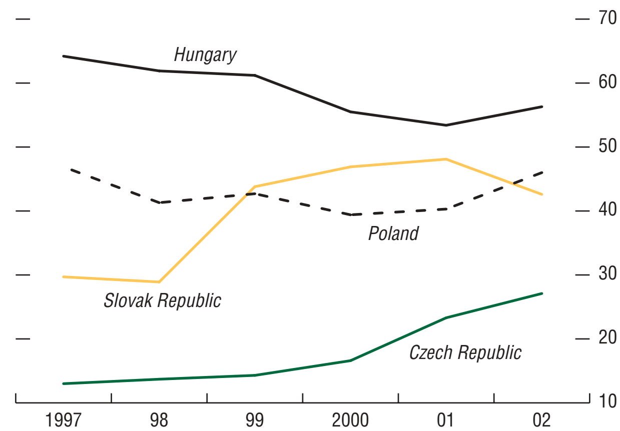
Foreign Investor Participation in Local Debt Markets Rises

Consequently, foreign investor participation in the region's local bond markets surged. The key beneficiaries have been Poland and Hungary, with investors underscoring the importance of the relatively larger size and liquidity offered by these markets. In Hungary, the foreign share in government bonds rose from 39 percent in December 2001 to 47.5 percent in May 2003 (Figure 2.39). The share of Polish government securities held by foreign investors is estimated to have risen to 18 percent in April from 13 percent in December 2001, notwithstanding the relatively higher volatility of the Polish zloty. The Slovak Republic's inverted yield curve continued to attract firm interest, but the market's limited liquidity deterred foreign inflows. In the Czech Republic, foreign investor involvement is also small, estimated near 7 percent, given that local currency bond yields are near Bund yields.

Signs of Overreliance on Foreign Portfolio Flows

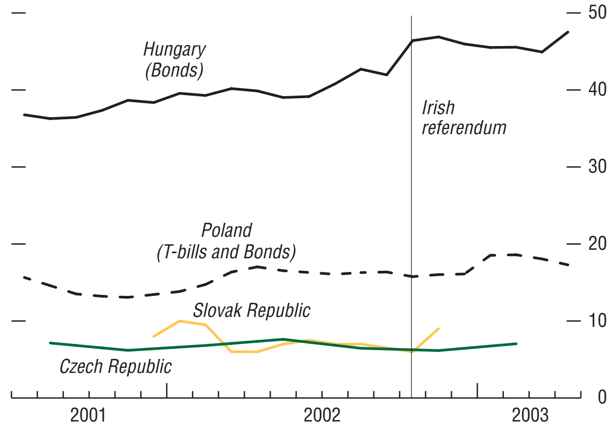
Foreign portfolio flows have been the primary source of external financing in Hungary since 2001 and have begun to rival FDI flows in Poland in 2003 (Figure 2.40). Foreign direct investments slowed amid rising concerns over Hungary's competitiveness and political uncertainties in Poland. The dependence on portfolio flows has risen sharply in Hungary and, to a lesser extent, in Poland. Poland's external financing requirements have fallen, as the current account deficit has halved since 1999. In

Figure 2.38. Government Debt as a Percentage of GDP



Sources: Eurostat; and IMF staff estimates.

Figure 2.39. Foreign Ownership of Government Securities
(In percent)



Sources: National authorities; and IMF staff estimates.

Box 2.4. Yield Compression in Central Europe: Convergence Expectations Versus Macroeconomic Fundamentals

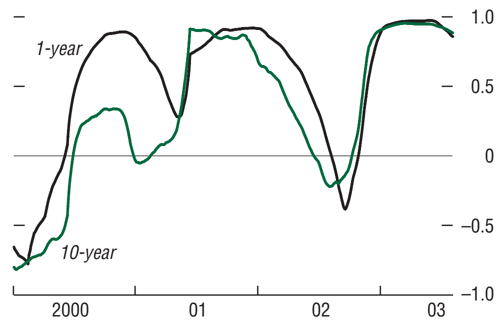
The sharp decline of local currency bond yields in central Europe in recent years has been widely attributed to convergence expectations. We test this view with a simple econometric model. We find that domestic macroeconomic fundamentals and inflation, in particular, have remained the overriding driver of central Europe's recent yield compression. In contrast to the national bond markets in the euro area, we find little statistical evidence that Bund yields have significantly affected yields in the convergence countries. This provides further evidence that convergence is far from complete and emphasizes the need for prudent macroeconomic policies, including fiscal consolidation and improved policy coordination.

Bund Yields Versus Fundamentals

The convergence of interest rates has created strong linkages between the national bond markets in the euro area. National bond yields exhibit an almost perfect correlation with Bund yields and can be decomposed into in Bund yields and spreads over Bund yields. The latter can be positive or negative, depending on relative credit fundamentals.

The sharp decline of local currency bond yields in central Europe has been widely attributed to convergence expectations. Not unlike the experience of Greece in the run-up to EMU entry in 2001, the correlations of interest rates in central Europe with benchmark interest rates in the euro area have however remained highly volatile. This juxtaposition suggests that Bund yields have not yet become the primary driver of the local currency bond markets in the convergence countries. Such a finding would provide statistical evidence that convergence is far from complete, underscoring the vulnerabilities of the financial markets in the convergence countries to domestic policy shocks (see the Figures).

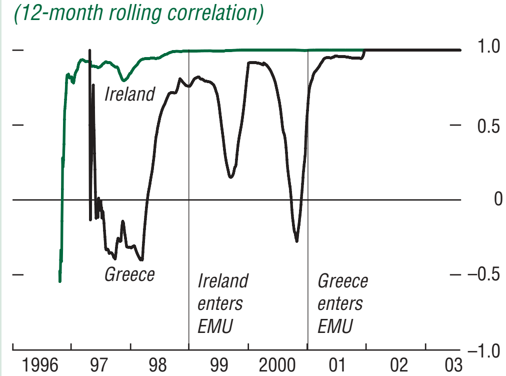
Correlation Simple Averages of CE3 and German Interest Rates
(12-month rolling correlation)



The Model

Against this backdrop, we present a simple econometric model to test whether Bund yields or domestic macroeconomic fundamentals have been the key drivers of yield developments in the Czech Republic, Hungary, and Poland (the CE-3). We approximate domestic fundamentals by inflation ($\overline{INFL_t}$) and retail sales ($\overline{RS_t}$), with the latter providing a proxy for consumption and

Correlation of 10-Year Local and German Interest Rates
(12-month rolling correlation)



Estimation Results
(t-values between parentheses)

	1-year rates	5-year rates	10-year rates
$\Delta INFL_t$	0.516 (13.4)	0.298 (8.93)	0.266 (11.0)
ΔRS_{t-3}	0.0692 (2.31)	0.0284 (1.15)	0.0491 (2.83)
R^2	0.82	0.57	0.67

domestic demand.[1] We regress local currency bond yields ($\overline{Y}_t$) on domestic fundamentals and Bund yields ($\overline{Y}_t^{GE}$).

$$\overline{Y}_t = \overline{\gamma} + \overline{\alpha} \cdot t + \beta^1 \cdot \overline{INFL}_t + \beta^2 \cdot \overline{RS}_{t-3} + \beta^3 \cdot \overline{Y}_t^{GE}, \quad (1)$$

Most of the series, however, exhibit unit roots. The model is therefore estimated on the basis of first differences for one-, five-, and ten-year maturities.

The Results

German yields are found to be either insignificant, or as having a negative coefficient when significant. A possible explanation for the latter phenomenon is that correlations between interest rates in central Europe and Germany have broken down at various stages, as illustrated in the Table. The data, therefore, do not appear to support the hypothesis that central European yields movements are primarily driven by Bund yields.[2] Coincidentally, bond traders confirmed that correlations tend to break down and that Bund yields tend to matter most during times of high volatility or times of little market specific news. German yields therefore are removed from the model and the model is reestimated (setting $\beta^3 = 0$).

The results shown in the Table indicate that yields in central Europe remain largely driven by domestic macroeconomic fundamentals and, in particular, inflation. While cyclical developments had a statistically significant effect on bond yields, inflation was found to have been a much more powerful explanatory variable across the maturity spectrum. These findings emphasize the extent to which further interest rate convergence in central Europe hinges on prudent policies and price stability. Given the current policy mix, price stability depends upon fiscal consolidation as well as an improved policy coordination.

[1]For reasons of data availability, we use swap rates instead of bond yields for the Czech Republic and Poland. These are almost perfectly correlated with bond yields. The Slovak Republic is omitted from the analysis owing to data limitations. The estimations rely on three months lagged retails sales ($\overline{RS}_{t-3}$) rather than current sales. All trend variables were found to be negative.

[2]A separate econometric analysis of Greek and Irish bond yields confirms these are driven by German Bund yields, with coefficients close to 1.

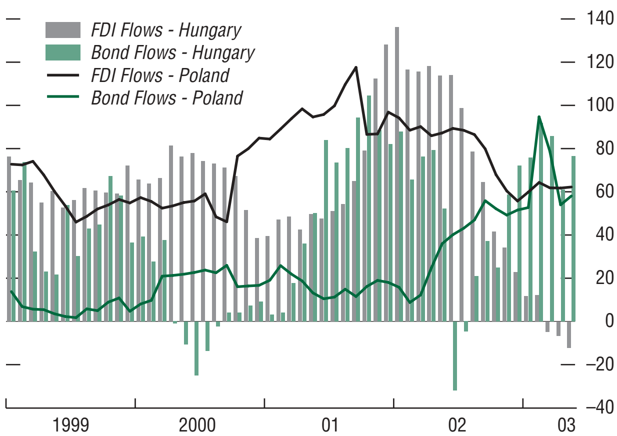
contrast, Hungary's external imbalances have begun to widen again in 2002, further raising the need for attracting foreign financing.

In contrast, FDI flows have been the primary source of external financing, and have overfinanced the current account deficits by a wide margin in the Czech Republic and the Slovak Republic in recent years. While privatization receipts have boosted FDI flows, the Czech Republic and, to a lesser extent, the Slovak Republic have also benefited from green field investments (Figure 2.41).

Financial Market Vulnerabilities and Policy Conclusions

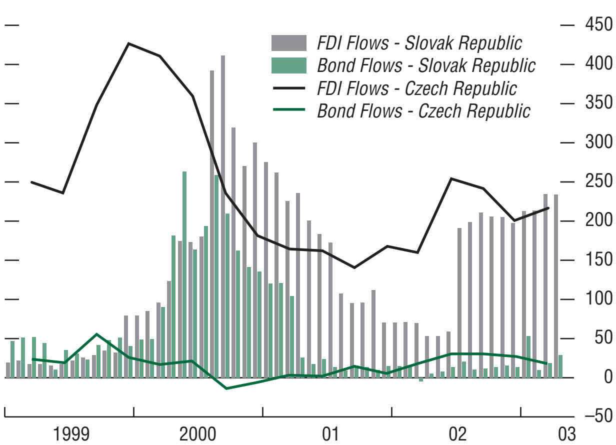
- Expectations of EU accession in May 2004 have spurred a secular broadening of the investor base. While this has allowed governments in central Europe to finance wide fiscal deficits at favorable interest rates, the increasing reliance on foreign portfolio flows, especially in Hungary and, to a lesser extent, in Poland, has raised the risk of sudden capital outflows, and interest rate and exchange rate volatility. This underscores the urgency of fiscal consolidation in

Figure 2.40. Percentage of FDI and Bond Flows in Current Account
(In percent, 12-month moving totals)



Sources: National authorities; and IMF staff estimates.

Figure 2.41. Percentage of FDI and Bond Flows in Current Account
(In percent, 12-month moving totals)



Sources: National authorities; and IMF staff estimates.

central Europe, regardless of the targeted EMU entry date.

- The scope for volatility has increased as a result of the changing investor base. Trading strategies of proprietary desks, crossover investors, and leveraged investors tend to be more focused on short-term developments than the strategies of dedicated investors, increasing the potential for volatility.
- With fiscal deficits deemed excessively large across the region, investor confidence has predominantly relied on the transparency of interest rate and exchange rate policies. The devaluation of the forint, however, has heightened market concerns that exchange rate policy might remain subordinated to inflation targeting in Hungary. In Poland, the need to reconstitute the Monetary Policy Council in early 2004 when the terms of all current members will expire is seen as creating policy uncertainty.
- The broadening of the investor base also leaves local bond markets in central Europe more vulnerable to global market forces, especially a continued weakening of mature government bond markets or a shift out of high-yielding currencies.

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