CHAPTER II

KEY DEVELOPMENTS AND SOURCES OF FINANCIAL RISK IN THE MAJOR FINANCIAL CENTERS

The global financial system has experienced a number of challenges: economic recessions and growth slowdowns in various countries, the bursting of the technology, media, and telecom (TMT) bubble and more widespread equity price declines, uncertainty created by corporate accounting irregularities, and significant financial losses in the key sectors of the global economic and financial system. A considerable retrenchment of risk taking has accompanied these adjustments, reflecting heightened perceptions of risk or risk aversion and the unwinding of some of the excesses of the bubble period.[1] Remarkably, the global financial system has remained resilient and financial stability has so far been maintained. This resilience is attributable to several factors: progress made in strengthening financial infrastructures in the major international financial centers; advances by financial institutions in pricing and managing financial risks; and the increased ability—through information and computer technologies—to repackage and distribute financial risks more broadly.

In many countries, financial sectors have remained resilient, but their robustness to shocks and ability to cope with further losses have probably been reduced somewhat. Sharp declines in equity prices, widening credit-market spreads, and record defaults caused losses to both retail investors and financial institutions and have added to the cumulative losses associated with the bursting of the TMT bubble and the global slowdown. Meanwhile, and reflecting their exposure to deteriorating markets, financial institutions saw their stock prices come under increasing pressure, falling by 30 percent or more this year for some institutions. Thus, as this report went to press, the main sources of risk to global financial stability seemed to be associated with a further significant and excessive cutback in risk taking in financial markets and in lending to less creditworthy borrowers, including in emerging markets, which could have potential implications for the global economy.

This chapter's analysis aims to shed light on these risks. First, it briefly sketches market developments that reflected and/or fostered a retrenchment of risk taking. Second, the chapter discusses how major financial institutions are changing their business strategies in response to declines in their own stock prices and the deteriorating operating environment, and analyzes how these changes may influence credit conditions and capital flows going forward. Third, the chapter steps back to identify and analyze important sources of risk to global financial stability emanating from the mature markets, bearing in mind that the adjustment that has taken place since 2000 partly reflects the unwinding of past excesses of risk taking. The analysis focuses on the most likely sources of a further and excessive cutback in risk taking in each of the major financial centers: the household sector in the United States (and to a lesser extent the financial sector); the financial sector in Europe; and the combination of weaknesses in corporate and financial sectors in Japan.

The U.S. household sector remains critically important to the global financial system's capacity to assume and intermediate risks, and a widespread rebalancing of household portfo-

[1] This assessment is consistent with the U.S. Federal Open Market Committee statement on November 6, accompanying its decision to lower the federal funds rate by 50 basis points: ". . . incoming economic data have tended to confirm that greater uncertainty, in part attributable to heightened geopolitical risks, is currently inhibiting spending, production, and employment."

lios would have wide-ranging effects. So far, U.S. households have continued to underpin economic activity and bear financial risks, domestically and globally, despite significant losses from the deterioration in financial markets that in the end derive from the fact that households own (directly or indirectly) the lion's share of U.S. corporate and financial sector risks in the form of bond and equity investments. Reflecting their crucial role in the U.S. economy, both from a U.S. and global perspective, a withdrawal from risk taking by U.S. households could significantly affect a wide range of markets.

While European households have increased their exposure to corporate risk, mostly through equity ownership, and while European companies now borrow directly from European and international capital markets, the share of households and companies doing so, and the size of their exposures, are still relatively small. Thus, in Europe, financial institutions have retained a significant share of exposures to the corporate sector, both through credit markets and (notably in Germany) their substantial cross-shareholdings. As yet, despite well-publicized problems in individual financial institutions, most European financial systems have weathered the global downturn and market deterioration reasonably well, and market participants and authorities do not have serious concerns that the problems these financial systems face could lead to systemic risk. Nonetheless, the worsening economic and financial environment has aggravated long-standing structural weaknesses in some European financial systems. This could in the future affect their willingness and ability to continue to own and manage corporate and sovereign risk, particularly exposures to high-risk borrowers within both mature and emerging markets.

Finally, the Japanese financial system continues to struggle with long-standing structural problems relating to the nexus between the corporate and financial sectors. Previous issues of this report have discussed this in detail, so the discussion here is brief.

Key Developments

The Retrenchment of Risk Taking in Global Markets

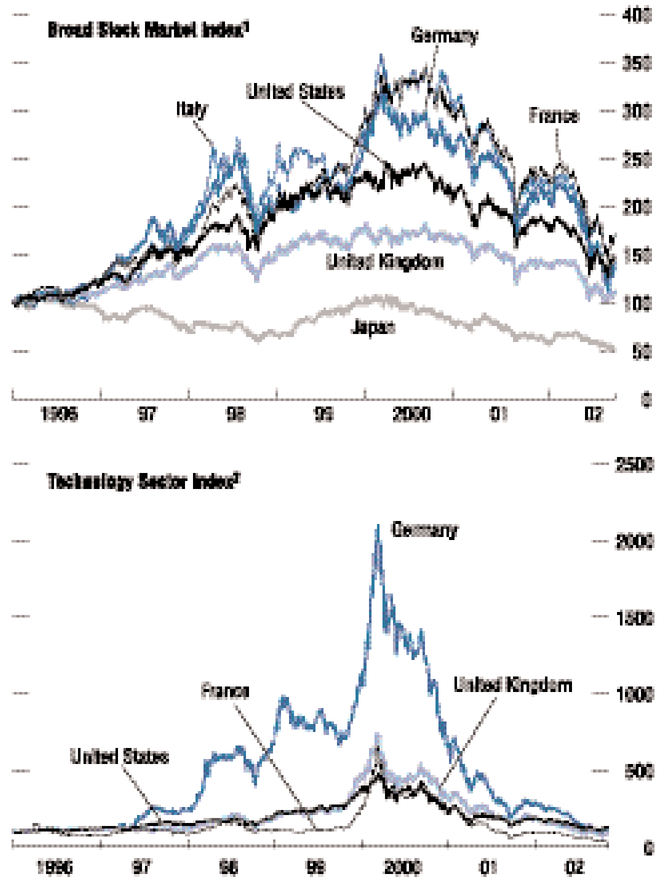
The period under review was characterized by a further retrenchment of risk taking (see Box 3.1), with portfolio adjustments and associated price fluctuations and increases in volatility in the major equity, credit, and foreign exchange markets.

- Equity markets declined for a second consecutive quarter. Major stock indexes fell to the lowest levels since 1997 in the United States and Europe and 1984 in Japan (Figure 2.1). Declines in Japanese stocks seemed to reflect policy announcements (discussed later). European stock indexes were especially hard hit, and plunged to 50 percent below their 2000 peak levels. In the TMT sector, European stocks declined to well below their 2000 peaks—for example, the Neuer Markt fell to 5 percent of its peak value and is to be closed by the end of 2003. The global sell-off was driven by concerns about future corporate revenues and earnings, as the expected year-on-year increase in third-quarter S&P 500 earnings was halved to 7.3 percent.
- The decline has put prices closer to historical average measures of value. In addition, the decline in nominal interest rates to historically low levels has worked to support equity valuations, notwithstanding uncertainties about corporate earnings going forward. At the same time, U.S. market price/book and price/earnings ratios have ranged from 10 to 15 percent above levels attained during the prior recession, leading some analysts to suggest that markets may still be overvalued.
- The decline in equities markets eroded the assets in defined benefit pension plans. The pension plans of S&P 500 firms are estimated to have shifted from a combined surplus to deficit, estimated at $200 billion to $300 billion. Private pension plans in the United Kingdom and other countries have experienced similar losses. The situation

remains fluid, and full information is not yet available, but these losses add to concerns about corporate earnings as firms may need to top up pension plans.

- Partly offsetting investor unease about earnings, concerns about corporate governance problems and accounting irregularities seemed to abate as revelations of new incidents subsided and the momentum for reform was seen as being sustained. On July 30, the Sarbanes-Oxley Act became law in the United States. The Act strengthens oversight of accounting, notably by establishing a Public Company Accounting Oversight Board. On August 14, the deadline for the executives of selected listed U.S. companies to certify their financial accounts passed uneventfully, as most of the companies complied, relieving some market concerns about corporate financial accounts (Box 2.1 in the September issue of the *Global Financial Stability Report* discusses corporate governance and accounting issues in more detail; see IMF, 2002c).
- Net flows into global equity and high-yield mutual funds turned negative in July and August, and continued to decline in September, although at a more subdued pace. Consistent with a shift to quality, flows into investment-grade bond funds picked up sharply, and in the week of August 7 reached \$3.4 billion, the highest since 1992.[2]
- Amid low short-term yields, some money market mutual funds waived expense charges in order to keep net asset values from falling to below \$1 per share, which would impose losses on investors. This raised concerns that investors might no longer perceive money funds as a highly safe investment.
- In global credit markets, investment-grade spreads widened and high-yield spreads hit a new record (Figure 2.2), as government

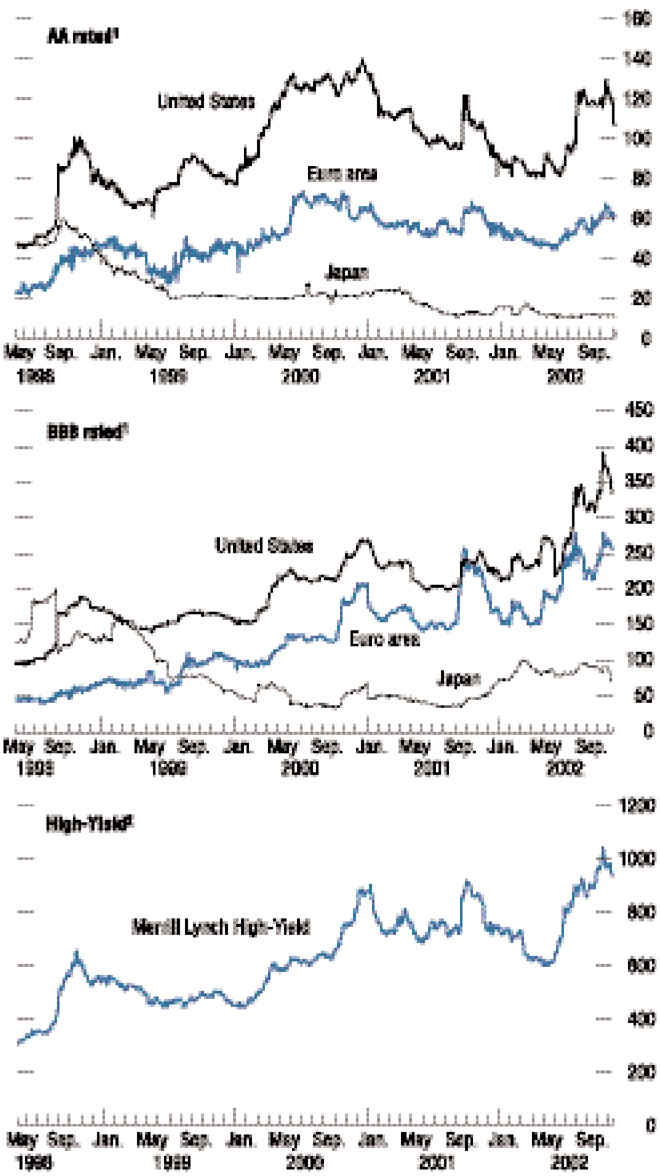
Figure 2.1. Stock Prices in Selected Major Industrial Countries
(January 1, 1996 = 100)



Source: Bloomberg L.P.
¹For United States, Standard & Poor's 500; for United Kingdom, FTSE 350; for Germany, Dax 100; for France, SBF 250; for Italy, MIB 30; and for Japan, Topix.
²For United States, Nasdaq Composite; for United Kingdom FTSE techMARK 100; for Germany, Nemax All-Share; and for France, Nouveau Marché. Data for Nemax All-Share and Nouveau Marché start in March 1997 and March 1996, respectively. Therefore these indices are rebased to the level of the Nasdaq on these dates.

[2]These data indicate retail investor flows, which probably lag institutional investor flows; anecdotal evidence suggests that institutional flows may have followed similar patterns to retail flows.

Figure 2.2. United States, Euro Area, and Japan: Nonfinancial Corporate Credit Spreads
(In basis points)



Sources: Merrill Lynch; and Bloomberg L.P.
[1]Merrill Lynch option adjusted spreads, calculated against government bonds of similar maturities.
[2]Spread over 10-year U.S. treasury bond.

bond rates fell sharply, with 10-year U.S. treasury securities rates dropping to a 40-year low. Meanwhile, borrowing costs for risky borrowers increased and issuance plunged as the value of defaulted corporate debt reached $140 billion, beating the 2001 record. In Japan, 10-year Japanese Government Bond (JGB) yields retraced earlier declines after the Bank of Japan announced a plan to buy stocks from banks. At the subsequent September 20 auction, for the first time, the total bid for 10-year JGBs fell short of the offering amount.

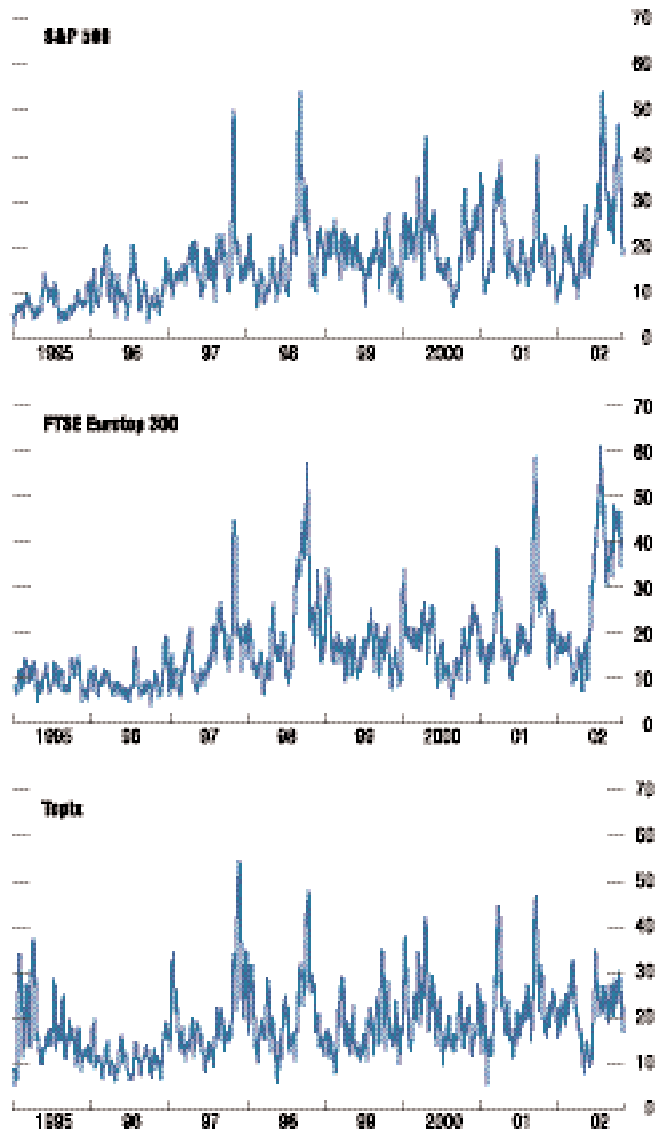
- Notwithstanding the high volume of defaults, the ratio of credit downgrades to upgrades declined in the third quarter, partly reflecting reduced corporate leverage, particularly in Europe. Telecom, high-tech, energy, and utility companies accounted for two-thirds of nonfinancial corporate downgrades, while insurance companies accounted for more than two-thirds of third-quarter financial sector downgrades.
- In the major currency markets, an international shift into the relatively deep and liquid U.S. treasury and agency securities markets may have lent support to the dollar. During the second quarter (latest available data), net foreign purchases of U.S. long-term securities picked up from $94 billion to $135 billion. Reflecting continued demand for high-quality U.S. assets, three-quarters of the pickup comprised net foreign purchases of U.S. treasury and agency securities.
- During the reporting period, volatility increased substantially. Historical and implied (forward-looking) volatility spiked in fixed-income, credit, and equity markets and hit high levels in some segments (Figure 2.3). Currency options and “risk reversal” prices suggest that, during the third quarter, investors saw heightened uncertainty about future exchange rates among the three major currency areas (albeit not at historically high levels) and an increased probability of a dollar depreciation (Figure 2.4).

Pressures on Banks and Financial Institutions

The further cutback in risk taking, the associated selling pressures in markets, and lingering effects of, and uncertainties about, the credit cycle were reflected in a global sell-off in equity- and debt-market valuations of global and regional financial institutions, such as commercial and investment banks and insurance and reinsurance companies (see Table 1.1 in Chapter I). The 7 percent decline in U.S. bank stocks since the end of March—and more severe declines for some institutions, along with pressures on funding costs—may have reflected litigation and reputational risks that loomed over some of them, relating to the bundling of financial services and attendant conflicts of interest. In addition, uncertainty prevailed about whether their business models could generate sufficient revenues in a slow-growth environment. Meanwhile in Europe, widespread market pessimism about banks and financial institutions was evident in the 20 percent decline in bank stocks since the end of March, as discussed in more detail later in this chapter. In Japan, official announcements of measures aimed at stabilizing and revitalizing the financial system were followed by movements in bank stock prices, which rose in mid-September after the Bank of Japan announced it would buy shares from banks, then retreated after a new Minister for Financial Services was appointed.

The decline in global stock markets had severe repercussions for financial institutions that either strongly depended on equity-related businesses, especially investment banking, or experienced losses on their asset portfolios, such as insurance and reinsurance companies.[3] Those institutions' stock prices came under considerable selling pressure, particularly after one of the two major U.S. banking conglomerates experienced both a downward revision to its earnings outlook and a

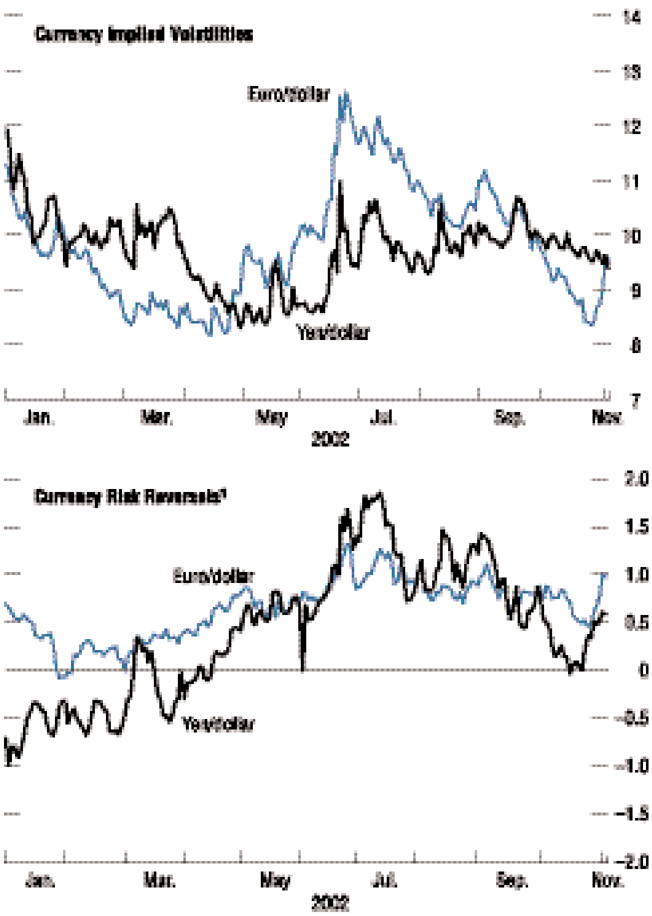
Figure 2.3. Historical Volatility: Major Stock Market Indexes[1]
(In percent)



Sources: Bloomberg L.P.; and IMF staff estimates.
[1]Ten-day rolling standard deviation; annualized.

[3]The June issue of the *Global Financial Stability Report* (IMF, 2002b) extensively analyzes the financial market activities of insurance and reinsurance companies. Precise data on the effects of stock market declines on the value of asset holdings are elusive, because reporting of hidden reserves is limited.

Figure 2.4. Currency Derivatives
(January 2002)



Source: Reuters.
[1]Positive number implies dollar expected to depreciate. Data for yen are multiplied by minus one.

downgrade of its credit rating during September–October. Insurance stocks have substantially underperformed broader markets since September 2001. The erosion of net capital, estimated at a cumulative $170 billion for the global insurance and reinsurance industry over the past three years, led several companies to raise capital in the markets (see the discussion later in the chapter). Meanwhile, the two largest global reinsurance companies lost their AAA ratings.

Implications of Financial Institutions' Strategic Responses

Across the major markets, the decline in financial-institution stock prices and the deterioration in the economic and financial environment have drawn attention to a variety of weaknesses in institutions that could adversely affect markets, including vulnerabilities to credit shocks, as revealed by Argentina's default and fragilities in the telecom sector; regulatory accusations of improper research practices and allocation of initial public offerings (IPOs), and associated reputational risks; and cumulative losses or subpar profits on some business lines. Accordingly, financial institutions are rethinking their strategies and considering several structural adjustments. Although these adjustments are still under way and may take some time to fully play out, taken together they could change financial institutions' willingness or capacity to intermediate risks as they have in the recent past—including to riskier borrowers, such as those in emerging markets.

First, financial institutions are re-evaluating strategies, aimed at creating synergies between commercial and investment banking, that failed to deliver as expected on the promise they held during the late 1990s boom. (Falling stocks also led nonfinancial firms to re-evaluate strategies; see Business Council, 2002.) In particular, attempts by banks to offer clients low-cost (and low-profitability) loans in order to attract their more profitable investment-banking business met with limited success. More generally, banks appear to be apprehensive about the reputational and legal risks involved in deals that cross business lines, in light of the heightened regulatory and investor scrutiny of commercial and investment-banking practices (such as IPO spinning) and potential conflicts of interest. For example, there is anecdotal evidence to suggest that some institutions are withdrawing from areas such as structured finance.

Second, some of the major financial institutions are moving to a smaller "platform" for financial intermediation, perhaps on a more permanent basis, reducing their cost bases and shedding excess capacity (and particularly headcount). Cost cutting has been most vigorous in investment banking, where activity is expected to remain muted into 2003, then resume at well below boom (1998–2000) levels (third-quarter mergers and acquisitions, or M&A, activity was about two-thirds of the third quarter 2001 value). In New York alone, for example, employment in the securities industry dropped by some 20,000 jobs (about 10 percent) in the past year. Looking ahead, firms are expected to continue to shed labor and reallocate resources across business lines for several more quarters. The depth and extent of the adjustment to come is still unclear, as firms struggle to distinguish the structural and conjunctural factors affecting the demand for financial services.

Third, financial institutions are striving to improve how they manage and price credit and other risks. Partly reflecting the effects of recent credit shocks, banks are moving toward an active "credit portfolio" approach, rather than using their balance sheets as a passive repository of credit risk.[4] This ranges from more aggressive management of wholesale and retail loan exposures, to greater attention to counterparty risk exposures in the interdealer over-the-counter (OTC) derivatives market (where anecdotal evidence suggests that the major, internationally-active OTC derivatives dealers have been tightening counterparty credit terms by demanding more collateral and charging higher spreads). Over time, the process of improving credit risk management will no doubt make financial sectors more resilient.[5] It may also influence the growth and development of segments of the international capital markets and cross-border capital flows, including flows to emerging markets. In effect, these changes are all part of a broader process of deleveraging.

Over the medium term, heightened attention to credit risk management could have three main consequences for financial market conditions and flows. First, credit terms for riskier borrowers may become more risk sensitive to cyclical conditions and therefore more procyclical. That is, during periods of slower economic growth, terms and conditions on credit extension could tighten more than would be expected purely based on the change in the business cycle. As a consequence, during periods of subpar growth some borrowers may have a harder time obtaining financing on past terms—including emerging market borrowers. Consistent with this notion (and the weaker economic environment), during the first quarter of 2002, U.S. banks' consolidated cross-border claims on developing economies contracted by 3 percent to about $250 billion.[6] Meanwhile, European banks' cross-border claims on developing economies declined by 0.7 percent to about $832 billion. Second, banks may be less apt to underprice loans, particularly as part of an effort to attract clients' capital markets business. Some market participants suggest that syndicated loans to investment-grade borrowers are still commonly underpriced in the primary market, as reflected in narrower primary market spreads

[4]The forthcoming revisions to the Basel Capital Accord (to be finalized in 2003) are also encouraging improvements in the private management of credit risk.

[5]See Greenspan (2002). Heavier reliance on credit risk transfer vehicles also underscores the importance of careful supervisory and regulatory attention to how these markets are functioning and the need for improved disclosure and transparency about where the attendant exposures are held (see the March issue of the *Global Financial Stability Report*; IMF, 2002a).

[6]These BIS figures partly reflect changes in exchange rates.

compared to secondary market spreads for the same credit (although this could also reflect asymmetric information or other factors).

Third, improved credit risk management will mean greater reliance on credit derivatives markets. In the first half of 2002, global notional outstanding amounts in the credit derivatives market rose by 44 percent to $1.6 trillion (according to the International Swaps and Derivatives Association). In recent months, liquidity in the credit derivatives market has reportedly been maintained, and transactions and settlements have taken place smoothly, despite remaining concerns about unresolved documentation issues, high levels of volatility, and sharp blowouts in spreads for specific names (Douglas-Jones, 2002; and the March issue of the *Global Financial Stability Report*; IMF, 2002a). Looking ahead, global outstandings are expected to rise to $4.8 trillion in 2004 (according to the British Bankers Association).

The Capacity of Key Sectors to Intermediate and Bear Financial Risks

In view of developments, and in order to assess the sources of risk that, if realized, could lead to a further, excessive retrenchment of risk taking, this section tries to assess the remaining financial resilience of key financial institutions and investors in the major financial centers in the United States, Europe, and Japan. While household, corporate, and financial sectors have been adversely affected in all three of these financial centers to varying degrees, the most important sectors are the household sector in the United States (the financial sector is also discussed for completeness); the financial sectors in Europe; and the nexus of the corporate and financial sectors in Japan.

Overall, the analysis here leaves the broad impression that, in the United States in particular, the adverse effects of stock market declines on households' financial conditions have been at least partly offset by a combination of strongly rising real estate prices and low and/or declining interest rates.[7] Likewise, while borrowing costs have gone up for riskier borrowers, low and still declining interest rates have mitigated corporate interest burdens globally to some extent. However, there remain two key risks in this environment. First, the present supportive housing price and interest rate environment (including accommodative monetary stances in some countries) is likely to reverse course in the future once economic recovery is firmly established, at least outside Japan. (Employment and income growth could mitigate the impact of higher interest rates under such a scenario.) Second, if downside risks to the economic outlook materialized, higher unemployment and slow or negative real income growth would adversely affect the financial resilience of highly-indebted households. (Subpar economic growth would also affect the financial strength of corporate borrowers and increase the credit risks to banks that have extended loans to corporations.) Moreover, further declines in equity valuations cannot be ruled out, particularly if interest rates rise. In the meantime, the financial conditions of commercial and investment banks, insurance and reinsurance companies, pension funds, and financial/nonfinancial hybrids also have continued to be adversely affected by the global economic slowdown, credit market deterioration, and asset-price adjustments, in some cases severely. This has added to the difficulties of some financial institutions that are struggling under long-standing structural problems in particular countries.

U.S. Households and Financial Institutions

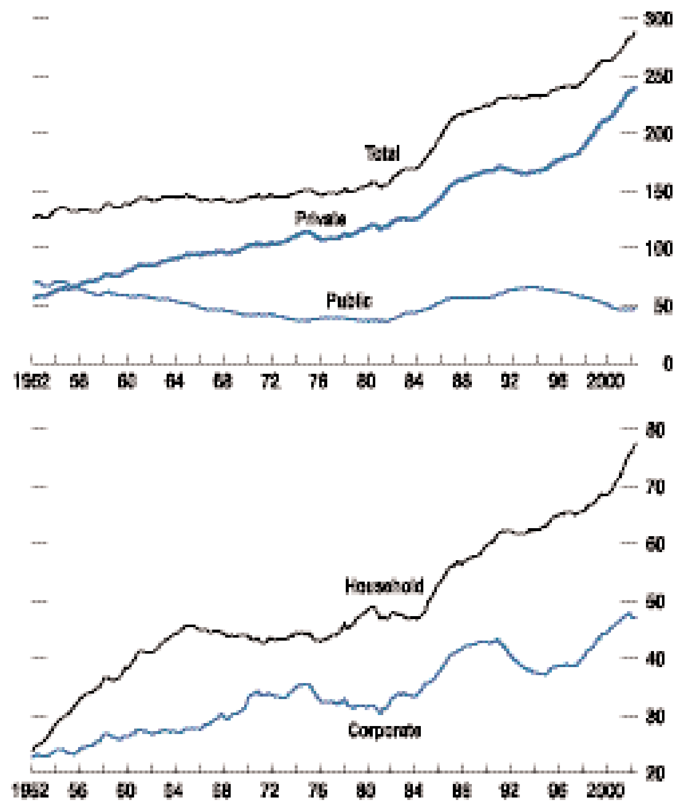
As noted earlier, a deterioration in U.S. household financial conditions could pose the risk that households cut back further in risk taking, adversely affecting a wide range of markets. This

[7]These effects have been seen to a lesser extent in Europe, consistent with a much smaller equity, wealth effect on private consumption (Case, Quigley, and Shiller, 2001; and the March issue of the *Global Financial Stability Report*; IMF, 2002a). In Japan, households have minimal direct exposure to the stock market.

is a serious concern, given that they hold significant amounts of corporate and financial-institution securities. As one possible source of vulnerability, household debt picked up rapidly during the 1990s to a new postwar high of 68 percent of GDP by 1999 (Figure 2.5; see also Chapter III in the March issue of the *Global Financial Stability Report*—IMF, 2002a). The rise in debt was accompanied by a boom in assets held by U.S. households. During 1997–99, household equity holdings (including mutual funds) nearly doubled in value to over $12 trillion. On balance, and despite rapid debt growth, household leverage declined modestly—net worth increased relative to assets—amid the stock market boom and rising housing prices (Table 2.1). Much of the household debt accumulation of the 1990s represented growth in mortgage debt to finance rising real estate holdings and a rise in mortgage refinancing in an environment of declining long-term interest rates.

Since the 2000 peak in equity markets, through the subsequent recession, and into 2002, household debt has continued to grow rapidly and reach successive new highs relative to GDP. To a significant extent, this continued strong debt growth has reflected sustained mortgage refinancing activity, which attained new records as rates hit multidecade lows (similarly, corporations have locked in low-cost funding by refinancing short-term debt). Despite record levels of household liabilities, low interest rates and continued strong income growth have supported households' ability to service their debt (although the debt service burden—which includes principal and interest on consumer debt—has fallen only slightly from its recent peak). In addition, by allowing households to "lock-in" low mortgage rates, refinancing has reduced their exposure to any near-term interest rate increases (and mitigated the credit risks to institutions that lend to households). During the first half of 2002, about 80 to 85 percent of refunding has locked in low long-term interest rates (by the same token, the financial institutions on the other side of these transactions—

Figure 2.5. United States: Debt Outstanding by Sector
(Percentage of GDP)



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

Table 2.1. United States: Sectoral Balance Sheets
(In percent)

	Pre-Boom 1995–97	Peak 2000	Post-Peak Average 2001	Latest[1] 2002
Corporate sector				
Debt/equity	40.2	36.4	45.2	54.6
Short-term debt/total debt	41.1	39.8	34.6	32.6
Interest burden	10.9	15.2	17.8	17.2
Household sector				
Net worth/assets	84.8	84.9	83.6	82.8
Equity/total assets	26.3	30.8	26.4	. . .
Equity/financial assets	38.7	45.0	40.1	. . .
Home mortgage debt/total assets	10.0	9.9	10.9	11.7
Consumer credit/total assets	3.4	3.2	3.5	3.5
Total debt/financial assets	22.4	22.0	24.8	26.8
Debt-service burden[2]	13.2	13.9	14.4	14.1
Banking sector				
Credit quality				
Nonperforming loans/total loans	1.1	1.0	1.3	1.5
Net loan losses/average total loans	0.5	0.6	0.8	1.1
Loan-loss reserve/total loans	2.0	1.7	1.7	1.9
Net charge-offs/total loans	0.6	0.7	1.0	1.1
Capital ratios				
Total risk-based capital	12.5	12.1	12.7	13.0
Tier 1 risk-based capital	9.9	9.4	9.9	10.1
Equity capital/total assets	8.2	8.5	9.1	9.2
Core capital (leverage ratio)	7.6	7.7	7.8	8.0
Profitability measures				
Return on assets (ROA)	1.2	1.2	1.2	1.4
Return on equity (ROE)	14.6	14.0	13.1	14.9
Net interest margin	4.3	4.0	3.9	4.1
Efficiency ratio	60.6	58.4	57.7	55.0

Sources: U.S. Board of Governors of the Federal Reserve System, *Flow of Funds*; U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Federal Deposit Insurance Corporation; and U.S. Federal Reserve Bank of St. Louis.
[1]For 2002, data refer to 2002:Q2.
[2]Ratio of debt payments to disposable personal income.

which experienced a rise in prepayment risk as rates fell—may now be more exposed to interest rate risk).[8] Both low rates and refinancing flows have supported the household sector's ability to bear financial risk and reduced any propensity to shed riskier assets (such as equities) to preserve their net wealth. Some have suggested that households used the proceeds of mortgage refinancing to finance stock market investments during the boom years, essentially leveraging their household equity. However, at mid-2002, owners' equity as a percent of household real estate (57 percent) was virtually unchanged compared with the end of 1996. Taken together, these factors have helped households to maintain consumption at its present pace and thereby support the recovery.

On the asset side of household balance sheets, since the end of 1999 the value of household equity holdings has fallen by some $4.4 trillion. Net selling of equities may have contributed marginally to the decline as suggested by cash outflows and rising redemptions from mutual funds (although these figures are small relative to overall household holdings of equities and appear to have declined during 2002). However, the erosion of household equity portfolios has been partly offset by rising housing prices, and the increasing value of real estate holdings has added $2.8 trillion to household wealth over the

[8]Data on the *stock* of debt contracted at fixed-rate terms, which would permit a more refined analysis of the risks, are unavailable.

same period. On balance, and taking into account changes in other assets and liabilities, U.S. households' net worth has fallen by about $2.3 trillion since the end of 1999 (and shifted into somewhat less liquid assets—real estate). To put this figure in perspective, it represents a decline of about 5 percent—and household net worth is still over $40 trillion. In addition, U.S. household net worth stands at 5.15 times household income, which is still well above the average of 4.75 attained during 1990–95.

The considerable rise in U.S. housing prices during recent years, which occurred in an environment of strong housing demand and historically low and falling interest rates, has raised questions about whether this rise is sustainable or whether it is displaying characteristics of a "bubble" (concerns have also arisen about European housing prices, which in some countries have risen more than in the United States).[9] These questions are important, because so far (as noted earlier) rising housing prices have bolstered household wealth, helping to offset the erosion of net worth from falling equity prices. Accordingly, a downturn in housing prices—possibly sparked by higher interest rates—could add to downward pressure on net wealth, and might reduce household willingness to take financial market risks.

While the risk that U.S. housing markets are experiencing an unsustainable bubble cannot be ruled out, several factors suggest that the strength in U.S. residential real estate markets reflects economic and demographic factors, and therefore fundamental strength in demand for housing, rather than speculative and unsustainable demand:[10]

- Since 1996, 7.1 million new households have been formed, broadly in line with the 7.3 million unit increase in the housing stock.
- Changing tastes, higher incomes, and low mortgage rates have led new households to increasingly opt to own rather than rent their dwellings. The home ownership rate reached a record 68 percent in 2001, after ranging from 63 to 64 percent since 1970.
- Housing prices when properly adjusted for quality increases may not have risen as much as headline figures. Changing tastes and higher income have led households to demand larger, better equipped single-family homes, boosting housing-price indexes, which by and large are not fully adjusted for changes in quality.
- Housing affordability rose during 2001 (measured by the National Association of Realtors' Index), as lower mortgage rates and higher median family income more than offset the rise in home prices, and remains high by historical standards. The index current level of 138 indicates that the median family had 138 percent of the income to finance a median-priced home.[11]
- The median age of the population rose from 33 to 35 years during 1990–2000, supporting an increase in home ownership rates (which tend to rise after age 35).

In sum, the combination of U.S. household balance sheet adjustments and present household financing conditions suggests that the main financial risks to the future resilience of the sector and its ability to bear financial risk center on the sustainability of housing and equity prices and low interest rates. Considering that equity and real estate holdings comprise a substantial share of household assets, a key risk is that stock and housing prices could grow more slowly or decline if downside risks to the economic outlook are realized, adding to the adverse effects of higher unemployment and slower income growth.

Another risk is that, with debt at record levels, an increase in retail interest rates—owing to either higher consumer risk premiums, or to a sustained sharp rise in oil prices that could lead markets to expect less accommodative monetary

[9]By contrast, the U.S. commercial real estate market seemed to have weakened recently, as reflected in rising vacancy rates during 2002.

[10]The following draws upon analysis in J.P. Morgan (2002).

[11]At the same time, affordability for first-time buyers has remained low (about 75 percent).

policy—could increase the household debt burden. Refinancing activity at fixed rates has reduced vulnerability to this risk, moving interest rate exposure into the financial sector, so that even a steep increase in long-term interest rates might not significantly affect the interest burden. Moreover, if higher interest rates coincided with economic recovery, stronger income growth would alleviate the financial pressure on households. Nevertheless, rising interest rates could also dampen equity and real estate prices, potentially eroding household assets. Particularly if the economy is in an environment of softer income growth and heightened employment uncertainty, any of these outcomes could reduce U.S. households' ability and/or willingness to take financial market risks, or in a worse case scenario could even lead households (and/or the institutions that administer their pensions) to shed riskier assets to safeguard net wealth.

Meanwhile, despite the deterioration in markets, U.S. bank earnings and credit quality have fared reasonably well, reducing the risk of a broader withdrawal from risk taking by the sector (see Table 2.1). U.S. banks avoided the worst effects of credit shocks because of earlier and ongoing adjustments they made, as they disintermediated credit risk to markets and investors, syndicated loan risks to overseas banks, and diversified loan credit risk across firms and sectors. Reflecting these factors, nonperforming assets have remained relatively low by historical standards, and capitalization ratios are high by international norms. Bank earnings were supported by low interest rates, a steep yield curve, a shift of household funds into deposits (providing ample low-cost funding, amid retail investor concerns about the performance of stock markets), and still-profitable retail franchises. Accordingly, a reversal of any of the underlying conditions—say, a steep increase in interest rates or a sharp deterioration in the credit quality of retail portfolios—could adversely affect U.S. bank earnings and asset quality, thereby increasing the chance that they cut back further in risk taking. Moreover, a more general investor retrenchment of risk taking could limit banks' ability to continue to lay off credit risks in the markets.

European Financial Systems

By contrast with the situation in the United States—where households are bearing the brunt of the deterioration in asset values through their broad direct and indirect ownership of traded financial assets (including through defined contribution pensions)—in Europe, a wide range of financial institutions are being adversely affected by the deterioration in wholesale and retail credit quality caused by the weak economic environment.[12] Many of these institutions, which collectively intermediate and hold the lion's share of financial risk in Europe, have been adversely affected by declining revenues, rigid cost bases, and a sharp rise in provisions. More generally, in some European financial systems a lack of progress in addressing structural inefficiencies has led to a situation in which low profitability (particularly a lack of profitable domestic retail operations) is limiting the scope for some key institutions to earn their way out of problems associated with the deteriorating wholesale business environment. In Germany, persistent pressure on profitability could discourage financial institutions from risk taking in wholesale markets.[13] System-wide problems are seen as unlikely by market participants and authorities, and this process is not expected by European authorities to result in a credit crunch (as consistent with the present positive credit growth in European countries). Nevertheless, a retrenchment of risk taking could have negative repercussions for financial institutions and markets, including those outside Germany. As evidence of this,

[12]Owing to the lack of timely, aggregate European financial accounts, this section is mainly based on national data for France, Germany, Italy, and the United Kingdom.

[13]During the year ending March 2002, German private sector credit grew more slowly than would be expected given GDP growth and interest rates. For more information, see Box 2 in the IMF's 2002 Country Report on Germany (IMF, 2002d).

Table 2.2. Europe: Sectoral Balance Sheets
(In percent)

	Pre-Boom 1995–97	Peak 2000	Post-Peak Average 2001	Latest 2002
Corporate sector[1]				
Debt/equity	81.8	92.7	95.0	. . .
Short-term debt/total debt[2]	46.9	48.4	49.0	. . .
Interest burden[3]	17.4	18.8	19.6	. . .
Debt/operating profits[4]	249.9	305.0	318.2	. . .
Memorandum items:				
Financial assets/equity[4]	1.7	2.1	1.9	. . .
Liquid assets/short-term debt[2]	71.3	76.4	76.5	. . .
Household sector[1]				
Net worth/assets	87.3	87.2	. . .	. . .
Equity/net worth	14.8	19.5	. . .	. . .
Equity/net financial assets[2]	38.9	45.7	40.9	. . .
Interest burden[3]	6.3	6.6	6.4	. . .
Memorandum items:				
Nonfinancial assets/net worth	60.2	57.3	. . .	. . .
Debt/net financial assets[2]	22.8	21.3	26.0	. . .
Debt/income	69.4	81.5	82.2	. . .
Banking sector[5]				
Credit quality				
Nonperforming loans/total loans	5.0	5.0	4.6	. . .
Loan-loss reserve/nonperforming loans	74.3	70.9	75.7	. . .
Loan-loss reserve/total loans	3.7	3.5	3.5	. . .
Loan-loss provisions/total operating income	13.2	7.6	11.5	. . .
Capital ratios				
Total risk-based capital	10.7	10.4	10.4	. . .
Tier 1 risk-based capital	7.2	7.2	7.1	. . .
Equity capital/total assets[6]	4.1	4.4	4.5	. . .
Capital funds/liabilities[6]	6.4	6.7	6.8	. . .
Profitability measures				
Return on assets, or ROA (after tax)	0.3	0.7	0.5	. . .
Return on equity, or ROE (after tax)	7.6	15.8	12.2	. . .
Net interest margin[6]	1.4	1.4	1.3	. . .
Efficiency ratio	64.6	64.3	65.0	. . .

Sources: Bankscope; ECB Monthly Bulletin, August 2002; and IMF staff estimates.
[1]GDP-weighted average for France, Germany, Italy, and the United Kingdom, unless otherwise noted. Corporate equity adjusted for changes in asset valuation.
[2]GDP-weighted average for France, Italy, and the United Kingdom.
[3]GDP-weighted average for France, Germany, and the United Kingdom.
[4]GDP-weighted average for France and the United Kingdom.
[5]Fifty largest European banks; data for “Pre-Boom” category are from 1997.
[6]Pre-boom data.

German banks have about $2 trillion in consolidated cross-border claims on all countries, according to Bank for International Settlements (BIS) statistics. In addition, they have $190 billion in claims on developing economies—more than any other European banking system.

In the recent period, a number of European banks that had international exposures, significant capital-market activities, or linkages with insurance companies faced pressure on profits from all these business lines—raising questions about their willingness to continue to take the associated risks. Although declining short-term interest rates generally supported profits, major credit events such as the WorldCom collapse and Argentina’s default implied substantial losses for internationally active banks. By contrast, domestic credit quality held up relatively well in most countries in 2001, implying a smaller increase in credit costs for local and regional banks. On balance, 2001 loan-loss provisions have risen by about 50 percent relative to total operating income for the 50 major European banks (Table 2.2). In the first half of 2002, loan-loss concerns have intensified as the hoped for economic recovery has not materialized and banks continue to write off some of last year's credit costs. The sharp decline in global equity markets has impinged mainly on larger, more internationally active financial institutions, reflecting a drop in equity-related businesses and losses on equity holdings. Some banks also had to provide capital support to affiliated insurance companies that experienced severe losses in their equity portfolios (see the discussion later in the chapter). Accordingly, banks' return on equity dropped by about one-third in 2001, and interim results for 2002 indicate a further decline.

Despite the adverse effects of deteriorating economic and financial conditions, an improvement in underlying profitability has enabled many European banks to maintain regulatory capital ratios at relatively comfortable levels. This situation reflects significant improvements in credit risk management, earnings diversification, and operating efficiency in recent years in many, although not all, European countries:

- Although they continue to bear the lion's share of credit risk, European banks have increasingly moved such risk off their balance sheets. Securitized credit issues have grown markedly over the past few years—by 20 percent in 2001 alone—and euro-area banks also account for about one-third of the rapidly expanding global credit derivatives market. Similarly, syndicated lending expanded briskly during the late 1990s, albeit mostly to finance corporate reorganization and investment in the TMT sectors. Owing to the active use of these instruments, nonperforming loan ratios declined in 2001 even as provisioning levels increased markedly.
- On the earnings side, European banks have made inroads into fee-based businesses, either by leveraging off their existing retail branch networks (for example, in asset management) or by widening their wholesale businesses. As a result, their revenue structures became more diversified. In the recent period, profits on some of these business lines have come under pressure. Retail brokerage commissions have declined, although the slump may be temporary. It is less clear whether profits on investment banking activities—in particular for medium-sized banks—will over time rebound to a level that generates a reasonable return on capital.
- Many European countries have also seen significant banking system restructuring (although progress has been uneven across countries). The resulting two-tiered banking structure—a top tier of several larger universal banks with national franchises, and a bottom tier of many smaller regional and local players (Table 2.3)—has meant (in most countries) a more efficient use of banking capital.

This progress has helped some European banks post strong financial results, supporting their ability to intermediate and bear risks. The U.K. banking system has enjoyed solid profits in recent years (notwithstanding a 2001 decline in profits owing to higher provisions), is generally well capitalized, and is relatively insulated from international shocks. The French, Italian, and Spanish banking systems have also seen substantial improvements in capital levels, asset quality, and profitability. Banking reforms in France were particularly successful. In Italy, the consolidation process has progressed, but some banks remain significantly exposed to large industrial borrowers (partly reflecting recent mergers; Italian banks are in the process of unwinding these exposures). Spanish banks have become highly profitable in domestic markets during recent years and the two largest banks are both profitable and strongly capitalized (Table 2.3). Remaining concerns about the major internationally active banks focus mostly on emerging market exposures, which account for a substantial share of bank assets (around 25 percent of assets for the two major internationally active banks). These exposures relate mainly to Mexico, Brazil, and Chile.[14]

[14]Mexico and Chile are investment grade credits and account for about 70 percent of the exposure to Latin America.

Table 2.3. Europe: Selected Financial Indicators for the 20 Largest Banking Groups, 2001
(In percent, unless otherwise noted)

	Assets (millions of euros)	Net Return on Equity	Interest Margin (percentage points)	Cost/ Income	Impaired Loans/Gross Loans	Reserves/ Impaired Loans	Tier 1 Capital Ratio
Belgium							
Fortis Bank	377,919	12.65	1.24	74.23	. . .	. . .	8.5
France							
BNP Paribas	825,288	16.29	0.60	63.63	5.33	86.0	7.3
Crédit Agricole[1]	563,289	9.23	1.22	67.71	4.91	66.8	10.8
Société Générale	512,499	13.26	1.07	73.18	4.49	91.0	8.4
Germany							
Bayerische Hypo-und Vereinsbank	715,860	3.94	0.99	68.08	2.99	97.5	6.0
Commerzbank[2]	500,981	1.20	0.74	85.83	3.13	80.2	6.0
Deutsche Bank	917,669	0.42	0.93	87.91	4.07	51.7	8.1
Dresdner Bank[2]	506,346	1.24	0.84	95.34	3.92	75.4	5.5
Italy							
IntesaBci	313,220	5.85	2.16	71.39	9.64	56.9	6.0
Netherlands							
ABN Amro Holding	597,363	18.90	1.77	74.93	. . .	. . .	7.0
ING Bank	443,356	9.14	1.40	84.67	. . .	. . .	7.0
Rabobank Group	363,619	7.77	1.43	80.31	. . .	. . .	10.2
Spain							
Banco Bilbao Vizcaya Argentaria	305,470	15.04	3.01	57.07	1.72	221.6	8.5
Santander Central Hispano	355,903	12.25	2.92	61.87	2.17	135.8	7.5
Switzerland							
Credit Suisse Group	681,387	4.41	0.67	89.86	4.82	66.5	9.5
UBS Group	835,179	11.15	0.69	80.82	3.53	87.0	11.6
United Kingdom							
Barclays	573,486	16.38	1.59	57.88	2.88	52.9	7.8
HSBC plc	327,353	11.46	1.89	66.52	2.75	81.7	6.8
Lloyds TSB Holding	312,889	23.43	2.79	49.18	0.98	125.9	8.4
Royal Bank of Scotland Group	590,034	10.93	2.10	63.93	2.03	92.8	7.1

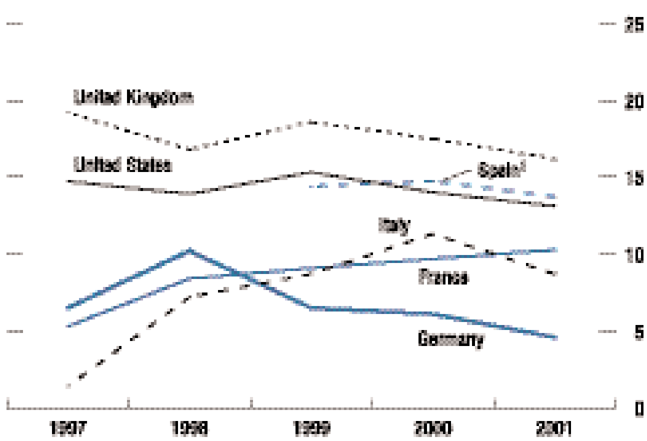
Source: FitchRatings.
[1]International Accounting Standards (IAS) figures.
[2]Reserves include only specific provisions.

In addition, analysts suggest that major banks may decide to inject fresh capital into Argentinean subsidiaries in order to preserve market franchises.

Despite these favorable results, further progress can be made in addressing structural problems in European financial systems and bolstering their financial strength and resilience:

- Market efficiencies deriving from intra-European competition have yet to be fully realized. Bank restructuring through M&A has taken place mostly within national borders, and further consolidation among the larger institutions could further reduce the extent of domestic competition. In addition, cross-border merger synergies have been hampered by cultural, legal, and political obstacles (Berger, DeYoung, and Udell, 2001), as well as an economic slowdown. Moreover, evidence suggests that most cross-border financial M&A has so far generated negative value for shareholders (Campa and Hernando, 2002).
- Most European banks lack a strong pan-European operational base, which from an investment banking perspective may have limited their competitiveness in the global

Figure 2.6. U.S. and European Banking Systems: Return on Equity
(In percent)



Sources: Data prepared by national authorities; and Bankscope.
[1]Fifty largest banks.

wholesale fee business vis-à-vis global U.S. financial institutions and therefore their profitability.[15]

- As a result of these factors, overcapacities in European banking persist as potential returns to scale remain unexploited. A recent estimate suggests that, in corporate and institutional banking alone, about a fifth of aggregate bank capital would have to be withdrawn in order to return profitability to levels that prevailed at the end of the 1990s (Oliver, Wyman & Company, 2002).
- Although banking consolidation has often involved a reduction in public ownership in larger banks, small local banks with public sector affiliations continue to dominate the retail banking sector in many countries.
- Finally, and despite significant job cuts by some banks, the cost bases of many European banks have remained high, owing to steep labor costs, underinvestment in technology, and the difficulty of downsizing through labor shedding.

Partly as result of these factors, and notwithstanding a pickup in some continental European countries, both profitability and rates of return on equity have remained below U.K. and U.S. levels in many continental European countries (Figure 2.6). Meanwhile, the public savings banks, which are generally the most profitable banks in Germany, have seen their profitability drop in recent years on falling interest margins and higher loan losses. Even at the height of profitability in the mid-1990s, the public savings banks' return on assets has remained well below that achieved by comparable U.S. savings banks.

Among the major European countries, the earnings power and asset quality of the German

[15]For example, U.S. investment banks quadrupled their market share in the lead management of euro-area corporate bond issues to 40 percent during 1995–2001 (European Central Bank, 2002). Efforts of European banks to attain a leading position in global investment banking have met with limited success, and some have recently abandoned or scaled back their presence in this area.

financial sector has perhaps been under the most pressure, mainly reflecting that widespread domestic banking system restructuring has yet to begin in earnest. In addition, the asset sides of balance sheets have also been adversely affected by declining credit quality during the downturn, the continuing property slump (also affecting collateral values), and equity losses. As a result of all these factors, profit margins have deteriorated steadily (remaining well below those in other European countries), and a number of institutions have failed or received public capital injections. Over the medium term, the phaseout of public guarantees for the Landesbanks and public savings banks beginning in 2005 could relieve some of the pressure on the private banks, by forcing a large part of the German banking system to compete for market funds on competitive terms. As a consequence, some of the Landesbanks could in turn withdraw from riskier activities, including overseas lending. More generally, although the systemic stability of the German financial system is not in question, further shocks, such as prolonged asset price declines or a worsening of the credit cycle, could reinforce a retrenchment of risk taking and affect borrowers in a variety of domestic and international markets, including emerging markets.

The economic downturn and market deterioration have also put pressure on European insurers, which are major investors and risk takers in European capital markets.[16] To reduce pressure on solvency margins, many insurers have cut back their purchases of equities or reduced equity holdings outright, which may have reinforced the downward trend in global equity markets. They have also sought to raise up to €10 billion in new capital. In addition, supervisory authorities have adjusted rules related to the valuation of stock holdings.[17] Finally, close linkages between some banks and insurance companies in *bancassurance* groups have in some cases raised questions about cross exposures and possible arbitraging of accounting and regulatory regimes.

Looking ahead, the European banking and insurance sectors as a whole appear strong enough to withstand the current cyclical downturn and continue to bear and intermediate risks to a reasonable extent. Nevertheless, a further slump in equity prices as well as higher credit costs (including from emerging market exposure) could yet lead to more widespread losses, and possibly further significant restructuring. The financial strength of the German banking system has become of particular concern, partly because ambitious steps toward the restructuring of the fragmented and weakly profitable banking sector have yet to be taken. Meanwhile, although its systemic stability is not in question, the German financial system could become increasingly vulnerable to market shocks that could trigger a further cutback in risk taking and affect market conditions and credit availability in the real economy—domestically and internationally. Similarly, the systemic stability of European insurance sectors is generally not in doubt, but severe losses on asset holdings have weakened insurers, especially in Germany, Switzerland, and the United Kingdom. If failures or distress sales become unavoidable, portfolio unwinding could put downward pressure on markets.

Japan's Financial System

In Japan, the financial system's risk-bearing capacity continues to be impaired by ongoing asset-price deflation and severe economic weakness, which have exacerbated the banks' longstanding problems related to the bubble period

[16]European insurers hold about 20 percent of their assets in equities (see the June issue of the *Global Financial Stability Report*; IMF, 2002b).

[17]In July, the U.K. Financial Services Authority (FSA) changed its "resilience tests" on equity portfolios to allow insurers to base the tests on the three-month average of past equity prices, rather than the current price (see IMF, 2002c). The FSA also stepped up its surveillance of the sector. In Germany, in late 2001 the government changed the accounting basis for stockholdings from mark-to-market to an impairment rule, requiring valuation changes only for "permanent" declines in asset values. Many insurers used this rule to meet solvency requirements in 2001; therefore significant writedowns could occur if stock markets do not recover by the end of 2002.

Table 2.4. Japan: Sectoral Balance Sheets
(In percent)

	Pre-Boom	Peak	Post-Peak Average	Latest
Corporate sector	**1980–85**	**1989**	**1992–2001**	**2001**
Debt/shareholder's equity (book value)	232.7	224.7	198.3	156.0
Short-term debt/total debt	48.7	45.9	39.8	36.8
Interest burden	67.3	49.8	48.6	32.3
Debt/operating profits	787.8	959.9	1,496.2	1,480.0
Memorandum items:				
Debt/net worth	57.6	29.5	89.6	120.1
Net worth/assets	46.8	65.3	39.8	31.6
Household sector	**1980–85**	**1989**	**1992–2000**	**2000**
Net worth/assets	86.6	88.6	85.7	85.6
Equity	4.0	9.2	4.1	4.2
Real estate	47.2	52.9	41.7	36.5
Interest burden	5.4	5.7	5.3	4.5
Memorandum items:				
Debt/equity	263.7	103.1	301.8	296.3
Debt/real estate	22.0	17.9	29.1	34.0
Debt/interest payment	63.9	92.1	96.4	99.0
Debt/net worth	12.0	10.7	14.0	14.5
Equity/net worth	4.6	10.4	4.8	4.9
Real estate/net worth	54.5	59.7	48.6	42.6
Banking sector	**1983–85**	**1989**	**1992–2001**	**2001**
Credit quality				
Nonperforming loans/assets	. . .	. . .	3.28	5.57
Capital ratio				
Stockholders equity/assets	2.66	3.04	3.87	3.85
Profitability measures				
Return on equity (ROE)	6.54	7.66	–5.36	–16.91

Sources: Ministry of Finance, *Financial Statements of Corporations by Industries*; Cabinet Office, Economic and Social Research Institute, *Annual Report on National Accounts*; Bank of Japan, *Financial Statements of Japanese Banks*; and Financial Services Agency, *The Status of Nonperforming Loans*.

and led to the emergence of fresh nonperforming loans (see Chapter III in the March issue of the *Global Financial Stability Report,* IMF, 2002a; and Chapter II in the June report, IMF, 2002b). In fiscal year 2001, amid stricter asset assessments, major banks' nonperforming loans increased by 40 percent to ¥28 trillion. In addition, massive loan-loss provisioning and write-offs reduced major banks' shareholder equity by 27 percent, a loss that exceeds the fiscal year 1999 public capital injection. Meanwhile, low profitability, weak capitalization, and a considerable and growing overhang of nonperforming loans—now equivalent to some 10 percent of GDP (Table 2.4)—continue to exert a drag on the sector's financial condition. These problems, particularly low profitability and the continued accumulation of nonperforming loans, reflect persistent financial weaknesses in the corporate sector that have yet to be squarely resolved.[18] The quality of bank capital remains weak as well: deferred tax assets account for half of shareholder equity.

The banks' ongoing difficulties have also fostered a further withdrawal from risk taking in domestic and international markets. Amid shrinking capital, weak credit demand, and stock market losses, major banks' assets contracted by 9 percent over fiscal year 2001, and are now 22 percent below their 1989 peak. Japanese banks have cut back their overseas exposures by 16 percent on a globally consolidated basis (by 10 per-

[18]Although a framework for dealing with these problems is in place, incentives for banks to apply it remain weak. See IMF (2001).

cent on an unconsolidated basis for the banks located in Japan), unwinding a rapid increase in preceding years. Lending to emerging markets has steadily shrunk to less than half the amount outstanding at the time of the Asian crisis, although Japanese banks still have substantial consolidated overseas exposure amounting to some $1 trillion.

The government has responded to financial system weaknesses with a series of measures (as noted earlier, these events seem to have been followed by significant movements in Japanese stock prices during the recent period). In mid-September, the Bank of Japan announced that it would purchase stocks from major banks to reduce their vulnerability to declining stock prices; at end-September, the Minister for Financial Services was replaced by the Minister for Economic and Fiscal Policy (who is seen in the markets as likely to pursue bank restructuring more aggressively); and in October, the government postponed the withdrawal of blanket guarantees on demand deposits for two years.

In addition, the Bank of Japan issued a report that highlighted the continued emergence of nonperforming loans. The report emphasized the close linkage of the nonperforming loan problem with structural problems in the financial and corporate sectors, including low profitability. It advocated a comprehensive approach to resolving the nonperforming loan problem, including stricter loan evaluations, prompt disposal of bad loans, and measures to bolster corporate and bank earnings power. The report also called for steps to encourage banks to reduce shareholdings, and proposed injections of public capital if banks became undercapitalized as a result of more aggressive provisioning.

At the end of October, the government released a Financial Reconstruction Program aimed at addressing banking sector weaknesses and resolving Japan's nonperforming loan problem by end-fiscal year 2004. Elements under consideration include provisioning based on more strict and forward-looking loan assessments; acceleration of nonperforming loan sales; and the creation of an industrial reconstruction corporation.[19] The program also proposed that undercapitalized financial institutions would receive prompt capital injections, with their nonperforming loan books separately managed under a new account. In addition, the Resolution and Collection Corporation (RCC) would be expected to play a more active role in catalyzing nonperforming loan sales. The Financial Services Agency aimed to announce, by the end of 2002, a work program that included concrete details and timetables for implementation of measures.

In the meantime, the financial sector remains in a precarious condition, with considerable exposure to market risk. Falling stock prices and rising interest rates could generate losses on banks' equity, bond, and swap positions. Rising interest rates (albeit unlikely in the near term) would also increase the corporate debt burden and heighten the credit risk faced by banks. Falling stock prices and rising interest rates would also create further losses for the weakened life insurers that hold about half of their assets in domestic stocks and bonds (about 15 percent of which is in stocks). Moreover, failures of life insurance companies could significantly impair bank capital through cross-gearing. Any of these outcomes could spur a further retrenchment by banks of lending in domestic and overseas markets, with possible spillovers to other markets (IMF, 2002b). It could also increase the risk that banks and insurance companies would unwind their equity and JGB portfolios in a disorderly fashion, raising the risk of sharp price movements and turbulence in Japanese financial markets.

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