

Global Financial Stability Report

Market
Developments
and Issues



September 2006

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International Monetary Fund
Washington DC

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Production: IMF Multimedia Services Division

Cover: Phil Torsani

Photo: Padraic Hughes

Figures: Theodore F. Peters, Jr.

Typesetting: Choon Lee

ISBN 1-58906-582-4

ISSN 0258-7440

Price: US\$57.00

(US\$54.00 to full-time faculty members and
students at universities and colleges)

Please send orders to:

International Monetary Fund, Publication Services
700 19th Street, N.W., Washington, D.C. 20431, U.S.A.

Tel.: (202) 623-7430 Telefax: (202) 623-7201

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The following symbols have been used throughout this volume:

. . . to indicate that data are not available;

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

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

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

“Billion” means a thousand million; “trillion” means a thousand billion.

“Basis points” refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to $\frac{1}{4}$ of 1 percentage point).

“n.a.” means not applicable.

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

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

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PREFACE

The *Global Financial Stability Report* (GFSR) assesses global financial market developments with a view to identifying potential systemic weaknesses. By calling attention to potential fault lines in the global financial system, the report seeks to play a role in preventing crises, thereby contributing to global financial stability and to sustained economic growth of the IMF's member countries.

The report was prepared by the International Capital Markets (ICM) Department, under an Editorial Committee comprising Hung Q. Tran (Chairman), Peter Dattels, Todd Groome, and Ceyla Pazarbasioglu, and it benefited from comments and suggestions from Axel Bertuch-Samuels and Charles R. Blitzer. Other ICM staff who contributed to this issue include Jochen Andritzky, Geoffrey Bannister, Brian Bell, Nicolas Blancher, Elie Canetti, Marcelo Carvalho, Mangal Goswami, Dale Gray, François Haas, Kristian Hartelius, Andreas Jobst, John Kiff, Peter Kunzel, William Lee, Cheng Hoon Lim, Carlos Medeiros, Paul Mills, Chris Morris, Shinobu Nakagawa, Michael Papaioannou, Bozena Radzewicz-Bak, Parmeshwar Ramlogan, Jack Ree, Paul Ross, Mustafa Saiyid, Hemant Shah, G. Edwin Smith III, Christopher Walker, Mark Walsh, and Luisa Zanforlin. A staff team led by Daniel Hardy and including Sean Craig, Edward Frydl, and Antonio Garcia Pascual from the Monetary and Financial Systems Department (MFD) contributed on banking sector developments in emerging markets. Udaibir S. Das and Kristian Flyvholm (also MFD) contributed on asset management issues. Martin Edmonds, Patricia Gillett, Ivan Guerra, Silvia Iorgova, Oksana Khadarina, Yoon Sook Kim, Ned Rumpeltn, and Peter Tran (all ICM), as well as Kalin Tintchev (MFD), provided analytical support. Caroline Bagworth, Norma Cayo, Vera Jasenovc, Natasha Mingos, Elsa Portaro-Cracel, and Ramanjeet Singh provided expert word processing assistance. Archana Kumar of the External Relations Department edited the manuscript and coordinated production of the publication.

This particular issue draws, in part, on a series of discussions with commercial and investment banks, securities firms, asset management companies, hedge funds, insurance companies, pension funds, stock and futures exchanges, credit rating agencies, and academic researchers, as well as regulatory and other public authorities in major financial centers and countries. Unless indicated otherwise, the report reflects information available up to July 14, 2006.

The report benefited from comments and suggestions from staff in other IMF departments, as well as from Executive Directors following their discussion of the *Global Financial Stability Report* on August 23, 2006. However, the analysis and policy considerations are those of the contributing staff and should not be attributed to the Executive Directors, their national authorities, or the IMF.

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EXECUTIVE SUMMARY

International financial markets experienced a pullback in prices and an increase in volatility during May–June 2006. Industrial country markets subsequently recovered. In emerging markets (EMs), the correction followed advances that had lifted benchmark indicators to record highs. Viewed in this context, the recent market turbulence was modest in scale.

This modest rise in financial market volatility reflected greater investor uncertainty about risks to the economic outlook and the likely policy response. That investors would harbor doubts about market prospects is not surprising. After all, the combination during the past few years of strong global growth with relatively low core inflation, despite surging energy and commodity prices, and limited exchange rate volatility, despite record current payments imbalances, has no clear precedent.

According to the global forecast presented in the September 2006 *World Economic Outlook*, the most likely outcome will be a continuation of solid growth and contained inflation. The normalization of monetary policy in the key market economies is expected to proceed along the lines already reflected in market pricing. More broadly, favorable global financial market conditions appear to be consistent with the *World Economic Outlook's* baseline scenario.

Assessing the Risks to the Baseline Scenario

The September 2006 *World Economic Outlook* also points to the most prominent risks to the baseline forecast. These include an intensification of inflation pressures (perhaps reflecting a new energy price surge), which would elicit more monetary policy tightening than is anticipated currently. They also include a more

pronounced economic slowdown in the United States (perhaps accompanied by a rapid weakening of the U.S. housing market), which could slow global growth.

If any of these—or other—risks materialize, financial market conditions could deteriorate. As has been noted widely, the unexpected resilience of global growth over the past few years—at least relative to the then-prevailing market consensus—has been associated with a decline in both risk premiums and market volatility. In these circumstances, it is reasonable to wonder whether financial markets might react to less favorable developments in a way that would amplify—rather than dampen—the emerging risks. In particular, concerns have been raised about the potential for illiquidity to emerge in response to unexpected stress in markets for new and complex financial instruments, such as structured credit products. Furthermore, some emerging market economies with large current account deficits are reliant on portfolio capital inflows from international investors; these could diminish sharply in a more volatile market environment.

Faced with these uncertainties, it is especially important that policymakers undertake the required policy adjustments to bolster prospects for a sustained global expansion. As well, supervisory and regulatory authorities need to continue to strengthen financial market infrastructure to underpin the resilience of the financial system.

Financing of Global Imbalances

The variety of instruments available—together with the depth and liquidity of U.S. financial markets—has attracted capital inflows from both foreign official and private entities. Annex 1.4 shows that the structural strength of U.S. financial markets has no doubt

enhanced the scale and sustainability of the U.S. current account deficit. The continuing confidence of international investors in U.S. markets supports the prospects of orderly adjustments in current imbalances. However, structural improvements in financial markets elsewhere could influence the future relative terms for cross-border capital flows, by boosting these markets' attractiveness to investors relative to U.S. markets. In addition, as international reserve holdings continue to set record highs, it is possible that portfolio choices of reserve managers could shift away (at least in relative terms) from traditional high-liquidity, low-risk instruments.

In this respect, the future demand for U.S. assets is also likely to be affected by the broad trend toward liberalization and diversification of capital outflows in Asia, a region whose authorities hold more than half the world's net international reserves (see Annex 1.5). It will depend increasingly on the portfolio allocation choices of oil-producing nations, which have amassed substantial reserves in the last two years or so. Accordingly, while relative price adjustments between asset classes are likely to be smooth, there may be some shift in demand away from the highly liquid, short-duration, fixed-income assets typically held in official reserves portfolios. Over the longer run, when portfolios adjust fully and have exploited diversification and growth opportunities, net foreign asset positions will likely stabilize, and global imbalances will decline to more sustainable levels.

Still, during this transition, there remains a risk that a dollar decline could become disorderly. Data on foreign holdings of U.S. securities show that foreign investors' exposures to losses from a dollar decline are potentially large and, importantly, continue to increase. Although the baseline market view is that dollar adjustment will remain orderly, the risks of a disorderly adjustment would be reduced by appropriate policy actions by the authorities in countries that are the main counterparts to global current account imbalances.

Growth in Emerging Market Household Credit

Household credit is growing rapidly, albeit from a low base, across many EM countries. Chapter II—which assesses recent trends in household credit—argues that greater access to credit helps smooth household consumption, improves investment opportunities, eases constraints on small and family-owned businesses, and diversifies assets held by household and financial institutions. However, a rapid increase in household credit, without adequate risk management and prudential infrastructure, can weaken household balance sheets, contribute to asset price bubbles and deterioration of external current account, and create vulnerabilities for financial systems in some EM countries.

In most EM countries, retail credit expanding from relatively low levels—compared with more developed countries—is desirable and does not pose a direct threat to financial stability. However, household credit has grown in EM countries during a period of low mature market interest rates and falling EM interest rates; thus household balance sheets may come under pressure as these conditions reverse. Under more adverse circumstances, the weaknesses in household balance sheets could increase stress on the financial sector, weaken property prices, and slow down consumption spending. There are also important localized concerns. For example, in some emerging European economies, credit-driven consumption has led to a deterioration of external balances, with household borrowers exposed to potentially large interest and exchange rate risks and declining house prices.

EM policymakers can take several steps to prevent or mitigate risks associated with a buildup in household credit. These include adopting prudent macroeconomic management that can help lower the risk of large shocks to household incomes, exchange rates, or interest rates; introducing sound prudential norms for household credit and encouraging good origination standards and information sharing

by banks; and developing the necessary legal and regulatory framework and infrastructure. While EM countries have made improvements in recent years, substantial progress remains to

be made in all three areas. These measures will allow EMs to reap the substantial benefits of developing this market, while avoiding boom-bust cycles during the formative years.

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The global economy and international financial markets have been performing strongly in recent years, thanks in large part to low interest rates in mature markets. As a result, corporations and financial institutions in many mature and emerging market (EM) countries have been quite profitable. Their balance sheets have been significantly strengthened, with many accumulating substantial liquid assets. Many EM countries have prudently used the recent period of strong global growth and supportive financing conditions to improve their fiscal accounts, accumulate reserves, and strengthen public debt structures.

Improved fundamentals of many corporate and EM sovereign borrowers have helped them weather well the recent market volatility. During May and June, international financial markets corrected from valuations that had arguably become stretched in some instances, as investors scaled back their exposures to high-yielding assets. Subsequently, markets have recovered much of their earlier losses, making the correction fairly modest. The correction mainly reflected an increase in investors' risk aversion in the face of monetary tightening around the world.

The baseline global economic outlook, as presented in the September 2006 *World Economic Outlook*, is for a continuation of favorable developments, in both growth and inflation. Under this scenario, corporate earnings growth would remain healthy and default rates low, and EM sovereign finances, if coupled with appropriate policies, should continue to improve—thus continuing to support international financial markets.

However, as outlined in the *World Economic Outlook*, there are risks to the global economic outlook that have tilted to the downside. They include an intensification of inflation pressures,

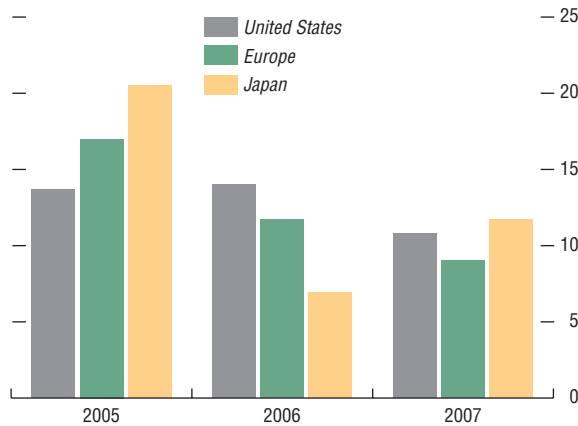
requiring more monetary tightening than currently expected; further increases in oil prices because of ongoing geopolitical uncertainties; and a more rapid cooling-off in the U.S. housing market, leading to a pronounced slowdown of the U.S. economy. The potential for a disorderly unwinding of global imbalances remains a concern.

Under these risk scenarios, international financial markets could undergo more severe corrections, especially because markets appear to be pricing in the baseline growth scenario with little provision for risk. Indeed, term structure and credit risk premiums have been at record lows. Financial volatilities have also remained low from a historical perspective, even though volatility increased somewhat in May–June. In addition, markets are concerned about the possibility of illiquid market conditions for some of the new and complex financial instruments, such as structured credit products. While these instruments have helped to distribute credit risk more broadly, these market features could act to amplify a market downturn. Moreover, some EM countries with large current account deficits that are heavily reliant on international portfolio capital flows would be vulnerable to volatile market conditions.

The recent market turbulence is a timely reminder for authorities to strengthen macroeconomic policies and persevere with needed structural reforms, in order to reduce the downside risks to the baseline growth scenario, and for market participants to heighten risk management efforts. Financial supervisors need to continue to improve market infrastructure so as to limit the scope for amplifying market volatility. With less accommodative external financial conditions, EM countries that still rely heavily on external financing need to continue to reduce vulnerabilities and pursue reforms that will help sustain their current growth performance.

Global Financial Markets Remain Strong; Downside Risks Increase

Figure 1.1. Corporate Earnings Growth
(Percent change year-on-year)



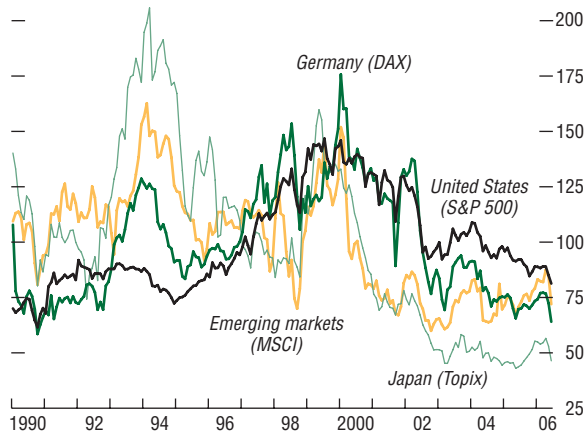
Sources: Nomura; Standard & Poor's; and Thomson Financial.
Note: Data for 2006 and 2007 are forecasts. Japanese data correspond to fiscal years.

International Financial Markets Have Performed Strongly

As documented in recent issues of the *Global Financial Stability Report* (GFSR), global financial markets have performed strongly in recent years, exhibiting resilience through several market corrections, with exceptionally low market volatility. Even throughout the recent market correction, global growth remained strong and continued to become more balanced, providing a broad underpinning for financial markets.¹

Corporate fundamentals are also still solid. Most companies are still expecting respectable growth in earnings over the next year or so, even after very strong growth in recent years (Figure 1.1). Moreover, from a historical perspective, equity valuations are not stretched in most equity markets (Figure 1.2); the recent widening of corporate bond and credit default swap (CDS) spreads across mature markets (MMs) was gradual and mild, and spreads remain near historic lows (Figure 1.3).

Figure 1.2. Global Equity Markets: Price/Earnings Ratio Indices
(3-month moving average)



Sources: Thomson Financial I/B/E/S; and IMF staff estimates.
Note: Indices represent 12-month forward earnings estimates rebased relative to period average (January 1990–June 2006) = 100.

Major financial institutions in mature and emerging markets are also healthy, having remained profitable and well capitalized.² Also, global default rates remain near record low levels. These facts suggest that the financial sectors in many countries are in a strong position to cope with any cyclical challenges and further market corrections to come.

Finally, the housing markets in key countries are showing signs of only gradual slowing. While house price growth in some of the markets that had seen the largest increases over recent years—Australia, the United Kingdom, and the United States—has declined, house price deceleration has been limited and, hence,

¹See discussion in Chapter I of the September 2006 *World Economic Outlook* (IMF, 2006c).

²See Annex 1.2 on financial systems in mature and emerging markets.

the negative growth impact of this development has been moderate so far.³

Recent Financial Market Corrections Have Been Fairly Modest

As the global economy expanded, accompanied by rising oil and commodity prices, inflation pressures increased, leading in turn to greater uncertainty about the extent of monetary tightening needed to keep inflation under control in major countries (Figure 1.4). This raised investors' aversion to risk, leading to a correction in prices of risky assets and a rise in underlying volatility beginning in May 2006.

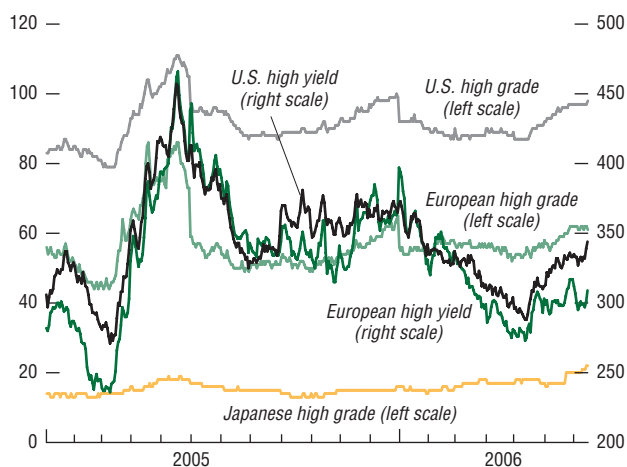
Rising interest rates altered incentives for investors, as they changed the perceptions of the balance of risks and rewards (Figure 1.5). Low rates had encouraged a wide array of risky investment strategies as low funding costs reduced the opportunity cost of capital for leveraged investors. As rates rose in the United States, Europe, and, more recently, Japan,⁴ the appeal of carry trade strategies declined, sparking an unwinding of positions in the more popular high-yield markets, including initially in Iceland and New Zealand, and later in emerging markets. The prospect of further tightening, particularly in the United States, caused many investors to consider downside risks to their global growth projections on the basis that the recoveries in Europe and Japan, and ongoing growth in emerging markets, would be difficult to sustain in the face of a steeper-than-expected slowdown in the United States. Oil price volatility and geopolitical developments further accentuated downside risks. In

³In the September 2006 *World Economic Outlook's* baseline U.S. growth forecast, the assumed slowing house price growth is estimated to imply a drag on domestic demand of approximately one-half percentage point in each of 2006 and 2007, though if existing home price growth were to fall to zero, this could subtract an additional one percentage point from GDP growth relative to the baseline. See also Bank of England (2006, Chapter 1) for additional discussion.

⁴See Box 1.1 (p. 17) on evidence and implications of the yen carry trade.

Figure 1.3. Corporate Bond Spreads

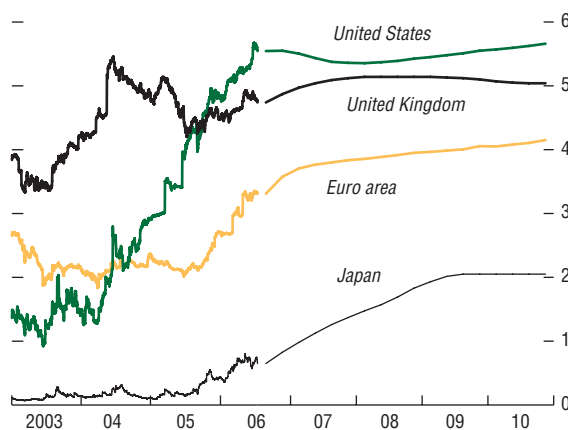
(In basis points)



Sources: Bloomberg L.P.; and Merrill Lynch.

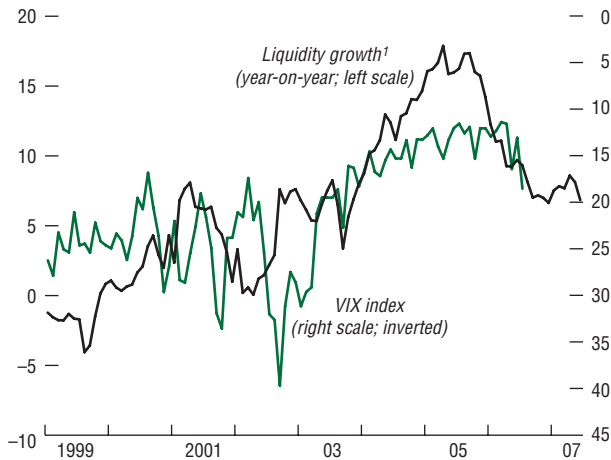
Figure 1.4. Term Structure of Interest Rate Expectations

(In percent; 3-month LIBOR futures yields as of July 14, 2006)



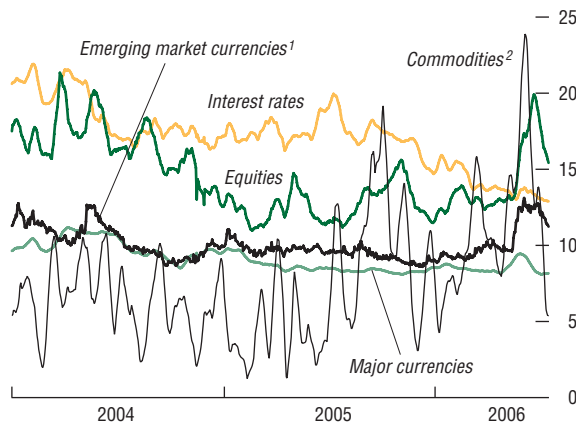
Source: Bloomberg L.P.

Figure 1.5. Liquidity Measure and Market Volatility
(In percent)



Sources: Bloomberg L.P.; and IMF staff estimates.
¹Includes the U.S. monetary base and foreign official holdings at the Federal Reserve Bank of New York, leading 12 months.

Figure 1.6. Implied Volatilities
(In percent)



Sources: Bloomberg L.P.; Commodity Research Bureau (CRB); and IMF staff estimates.
¹Simple average of currencies of Brazil, Hungary, Mexico, Philippines, South Africa, and Thailand.
²10-day moving average of 10-day historical volatilities of CRB index.

line with tighter global liquidity and increased risk perception, underlying volatility, as derived from options prices, increased in some asset classes, especially commodities and equities (Figure 1.6). Renewed attention to the specter of global imbalances raised global currency market concerns.

Equity markets were among the most sensitive to these changing perceptions, prompting a wave of selling of global equities, albeit from multiyear highs (Figure 1.7). In the first half of this decade, investors viewed rising yields as driven by strong noninflationary growth a favorable outcome for equities. Recently, however, equity price declines often coincided with declines in U.S. treasury prices, with the correlation between the two prices turning positive after several years of being negative (Figure 1.8).

Risks to Baseline Global Economic Outlook Could Spill Over to Financial Markets

The baseline scenario outlined in the September 2006 *World Economic Outlook* assumes that inflation pressures will be successfully contained with modest interest rate increases by G-3 central banks, that the composition of demand in the advanced economies will become more balanced, and that emerging market and developing countries will largely avoid capacity bottlenecks. Moreover, recent corrections have reduced risks to financial markets as excessive valuations in some sectors have been reduced. This baseline scenario would support international financial markets.

However, there are risks to the baseline economic outlook, and the balance of risks is now slanted to the downside, according to the *World Economic Outlook*. A key risk is a greater probability that global growth may falter, whether because of tighter monetary policy in response to inflationary risks, geopolitical turmoil, or a greater-than-expected cooling of the U.S. housing market. In addition, a disorderly adjustment of global imbalances still presents a risk. How have these risks been reflected in

financial markets? Some key questions in this regard, most of which were highlighted in the April 2006 GFSR (see IMF, 2006a), are assessed below.

Did the Recent Market Corrections Signal the Beginning of a Protracted Downturn in the Global Economy and Financial Markets?

What did the rise in market volatility signal? The recent turbulence is probably not a harbinger of a protracted downturn, but is more likely a normalization of volatility as this cycle moves into its later stages (Figure 1.9).⁵ Consensus estimates for global growth also appear to reflect this, as they were little affected by the rise in volatility. Moreover, a wide range of leading indicators in mature markets has remained stable, or even improved (Figure 1.10). In fact, as Figure 1.6 showed, the spike in volatility was relatively short lived, and markets returned close to pre-correction levels by early July.

Nonetheless, were market corrections to persist, or even intensify (for example, because of heightened geopolitical tension), business confidence and consumer sentiment could be undermined, leading to a reduction in investment and consumption. In addition, higher interest rates and a faster deceleration of house price growth still have the potential to increase the financial burden of highly indebted households in many countries—leading to a more pronounced slowdown in personal consumption.⁶

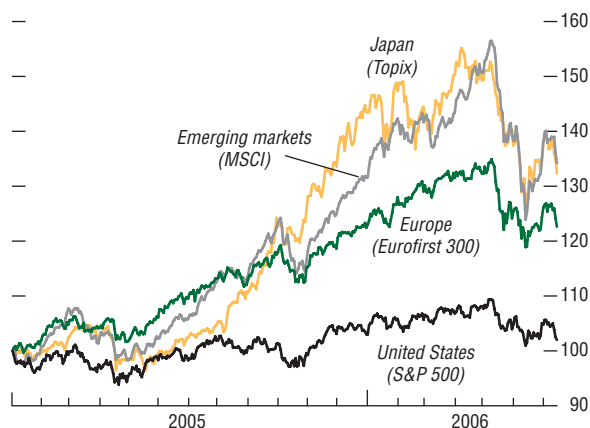
Have Downside Risks from Interest Rates and Risk Premiums Increased?

Sustained high rates of global growth have absorbed spare capacity, raising inflation pressures. Indeed, there has been a moderate rise in headline and core inflation in the United States and Europe, to above the authorities’

⁵See Box 1.2 (p. 28), which explores the relationship between equity market volatility and the business cycle.

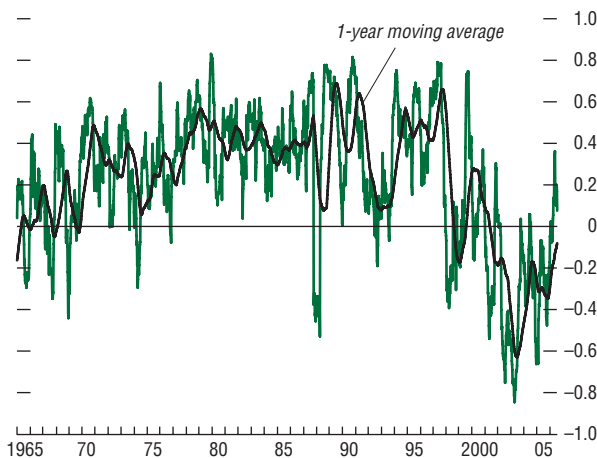
⁶See Chapter I of the September 2006 *World Economic Outlook* (IMF, 2006c) for a discussion on housing sector developments and Chapter II of this GFSR for a discussion on household debt in many emerging market countries.

Figure 1.7. Equity Market Performance
(December 31, 2004 = 100)



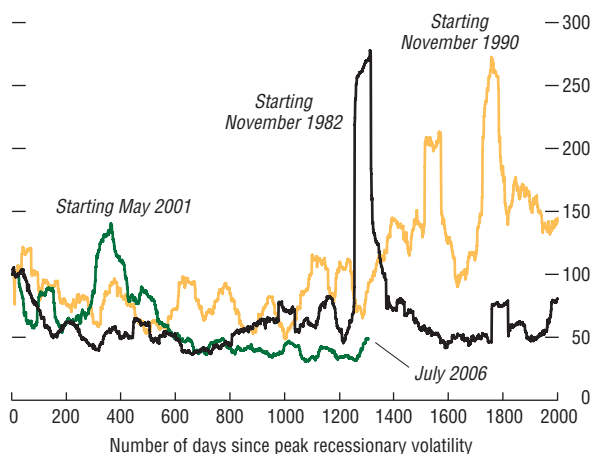
Sources: Bloomberg L.P.; and Morgan Stanley Capital International.

Figure 1.8. Price Correlations Between Treasuries and S&P 500
(26-week rolling correlations)



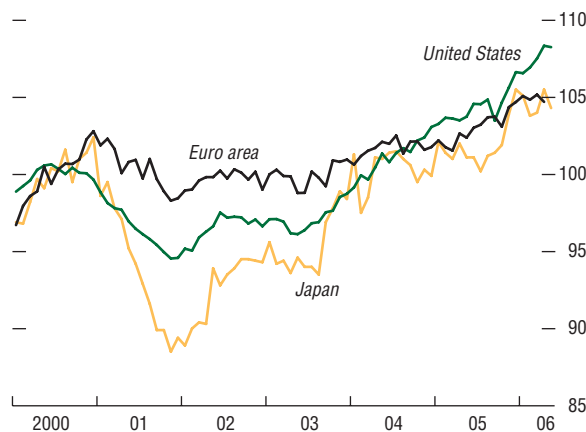
Sources: Bloomberg L.P.; Merrill Lynch; and IMF staff estimates.

Figure 1.9. Volatility and the Business Cycle
(Index = 100 at inception of each business cycle)



Sources: Bloomberg L.P.; and IMF staff estimates.
Note: Volatility series calculated by taking annualized standard deviations of daily price movements of the S&P 500 in 60-day windows, and rebasing to 100 at inception of business cycle.

Figure 1.10. Leading Economic Indicator Indices



Source: OECD.

comfort zones. Shocks to inflation could also come from the supply side. Oil prices remain volatile, reflecting concerns about geopolitical uncertainties, among other things. Market participants have also focused on high and volatile commodity prices because they have, in the past, signaled concerns about inflation—Annex 1.3 examines the influx of financial investment flows into commodity markets that may have contributed to this volatility.⁷ Should inflation pressures intensify, the higher policy interest rates needed to counter them would increase downside risks for global economic activity.

Indeed, over the past few years, financial markets have priced in almost no premium in longer-term interest rates for upside surprises in inflation or inflation volatility (Figure 1.11). Market-derived expectations of inflation rose at the beginning of the year, but have mostly remained within a narrow range over recent years (Figure 1.12). While there has also been some pickup in long-run inflation expectations in the United States,⁸ term premiums for risks of more volatile inflation have not increased (Figure 1.13). However, should these gains erode and risk premiums for unexpected inflation increase, asset markets could come under pressure with potentially negative consequences for the real economy.

Supply shocks and/or an increase in geopolitical tensions could lead to a renewed retrenchment in risk appetite, which would likely increase volatility, force risk premiums higher, and erode business and consumer confidence, thereby testing the resilience of the global financial system. In particular, corporate and sovereign credit spreads still appear largely to be pricing in the benign baseline scenario for growth and inflation and hence could widen more substantially, because these credit spreads have been correlated with volatility in recent years (Figure 1.14).

⁷See also Chapter IV of the September 2006 *World Economic Outlook* (IMF, 2006c).

⁸As signaled by the rise in the inflation rate expected in five years (the five-year, Treasury Inflation-Protected Securities (TIPS) breakeven rate five years forward).

Furthermore, a repricing of credit risk could potentially be amplified by illiquid market conditions for many structured credit products that have become popular in recent years.⁹

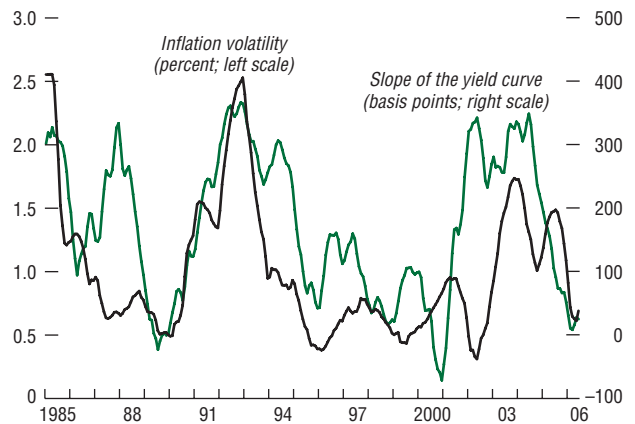
In addition, because risk management has widely used value-at-risk (VAR) approaches that rely on recent volatilities, an increase in volatility could boost VAR measures and trigger a reduction in trading positions, thus amplifying price corrections. In this context, evolving risk management practices by entities such as banks' trading desks and hedge funds should be closely monitored. Indeed, hedge funds appear to have played an important role in the May sell-off and the repricing of risk in many EMs, highlighting the importance for credit institutions of managing counterparty risk vis-à-vis hedge funds. For example, in Asia, hedge funds have been trading large positions in equity markets throughout the region, including Japan, in both individual equities and equity derivatives. Given the high correlation of hedge fund positions to the underlying markets, these hedge funds suffered noticeable losses during the recent correction (Figure 1.15).

Have the Risks of a Disorderly Dollar Adjustment Increased?

Following the release of the G-7 and the International Monetary and Financial Committee (IMFC) communiqués in mid-April, the U.S. dollar, on a trade-weighted basis, resumed the trend depreciation that had been interrupted in 2005 and early 2006, as market participants refocused on current account imbalances. The bulk of the dollar's adjustment has occurred against the major currencies, falling nearly 7 percent against this basket. In contrast, EM currencies have appreciated by less, in part owing to the bout of volatility and risk retrenchment from emerging markets. Looking ahead, one-year option markets have become more skewed toward further dollar depreciation (Figure 1.16).

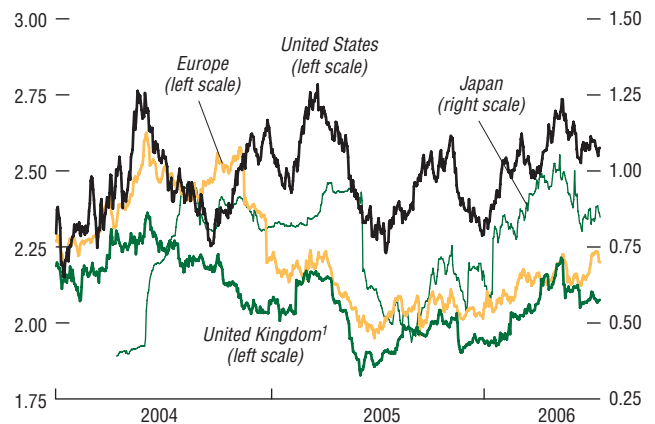
⁹See Chapter II of the April 2006 GFSR (IMF, 2006b) for a detailed discussion on this topic.

Figure 1.11. Inflation Volatility of the United States and the Slope of the Yield Curve
(3-month moving averages)



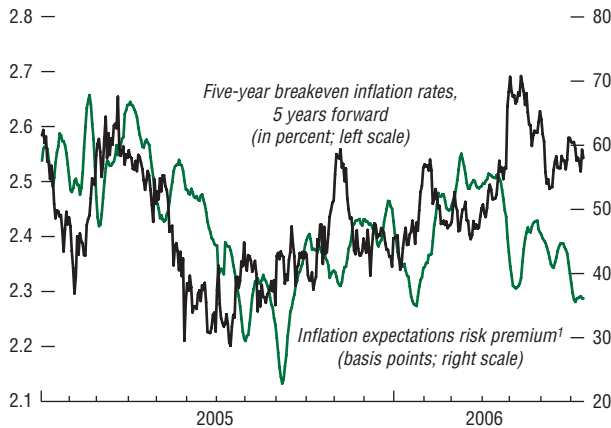
Sources: Bloomberg L.P.; and IMF staff estimates.
Note: Inflation volatility is defined as the annualized 24-month rolling standard deviations of year-on-year core CPI growth, while the slope of the yield curve is the yield spread between 10-year treasury notes and 3-month treasury bills.

Figure 1.12. Breakeven Long-Term Inflation Rates
(In percent; nominal yields less inflation-indexed yields on 10-year benchmarks)



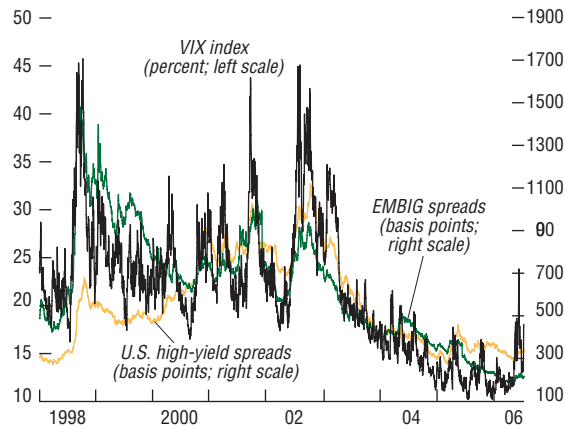
Sources: Bloomberg L.P.; and IMF staff estimates.
¹Adjusted using a Bank of England estimate for the methodological differences between retail price index (RPI) and consumer price index (CPI) inflation.

Figure 1.13. United States: Market-Derived Inflation Expectations



Sources: Bloomberg L.P.; and IMF staff estimates.
 ¹Defined as the 10-day moving average of the spread between 5-year breakeven inflation rates, 5 years forward and 10-year breakeven inflation rates, 10 years forward.

Figure 1.14. Bond Spreads and Implied Equity Volatility



Sources: Bloomberg L.P.; JPMorgan Chase & Co; and Merrill Lynch.

In the longer term, market consensus opinion, as of end-June, suggested that dollar adjustment will be limited and orderly, but with a marked differentiation of performance by region (Figure 1.17). The dollar’s real effective exchange rate is expected to remain relatively stable across all major trading partners, but Asian currencies are expected to appreciate over the medium term while non-Asian currencies are expected to weaken.¹⁰ However, a gradual and orderly adjustment would very likely depend on a credible policy framework for resolution of global imbalances over the medium term. Accordingly, the risk of a disorderly dollar adjustment could well increase without policies being put into place to foster the needed adjustments in saving and investment imbalances.

The gradual adjustment of global imbalances—or, conversely, the risk of a disorderly adjustment—will also depend on the pattern of global capital flows and the investment behavior of foreign official and private holders of U.S. assets. Since 1999, EM and developing countries have run a substantial current account surplus and have attracted large and growing foreign capital inflows—most important, foreign direct investment (FDI). As a group, they have become the main counterpart of the U.S. current account deficit and are accumulating assets in an amount that was estimated to exceed \$1 trillion in 2005 (Table 1.1), with oil exporters accounting for nearly half of that amount. This has resulted in a substantial accumulation of foreign assets in the form of reserves held by central banks, other official entities’ holdings, and foreign

¹⁰The calculation used consensus forecasts for exchange rates. Inflation forecasts were a combination of market forecasts, where available, and staff forecasts otherwise. The calculation used the weights from the IMF’s Information Notice System, and was constructed using the currencies of the 16 largest countries by weight. The Asian currencies included in the calculation were the Japanese yen, Chinese renminbi, Korean won, New Taiwan dollar, Singapore dollar, and Malaysian ringgit.

assets held by the private sector of surplus countries.

Several factors are therefore critical to global financial stability and the orderly process of intermediating global capital flows, including (1) the ability of the United States and its financial markets to continue to attract foreign investment capital, (2) policies that affect the path of further net accumulation of foreign assets by EMs, and (3) the capacity of financial markets to keep any adjustment in the U.S.dollar from becoming disorderly.

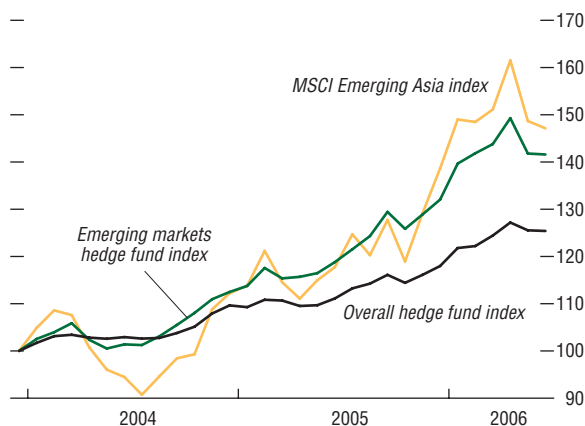
Annex 1.4 provides some evidence that persistently large U.S. current account deficits may partly result from the attractive microeconomic features that make U.S. financial markets unique in attracting a large share of global savings. The comparative advantage of U.S. financial markets is in creating financial investment opportunities that, coupled with deep, liquid, and transparent markets, can attract and sustain high levels of capital inflows. This could continue to support the base case scenario of a gradual adjustment of global imbalances.

Apart from exchange rate policies, emerging market countries can pursue capital, regulatory, and investment policies that aim to limit official foreign asset accumulation and reduce the potential costs and financial risks. Annex 1.5 highlights developments in Asia and finds that the acceleration of private outflows from the region through capital account liberalization, as well as the trend for diversification of official investments, can enhance overall financial stability and support sustainable global capital flows.

Although the baseline market view is that dollar adjustment will remain orderly, with sizable holdings of U.S. assets held abroad, the potential for a disorderly adjustment may also depend on the risks to, and the behavior of, foreign asset holders. Annex 1.6 analyzes the foreign holdings of U.S. securities, their composition, and their exposure to market volatility. In this respect, foreign holdings of U.S. assets continue to grow, from \$1.2 trillion as recently as 1994 to \$5.4 trillion in June 2004

Figure 1.15. Hedge Fund Performance and Emerging Asian Equities

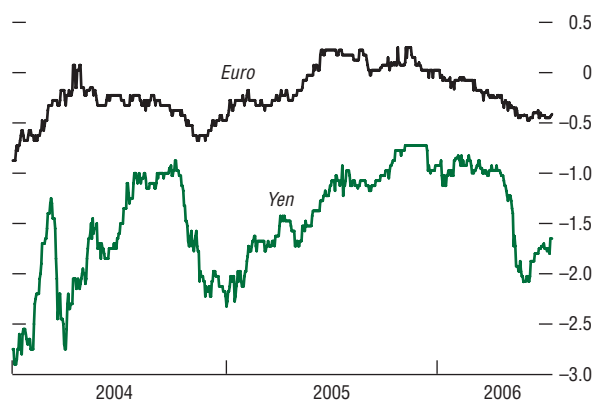
(December 31, 2003 = 100)



Sources: Bloomberg L.P.; Morgan Stanley Capital International; CSFB/Tremont; and IMF staff estimates.

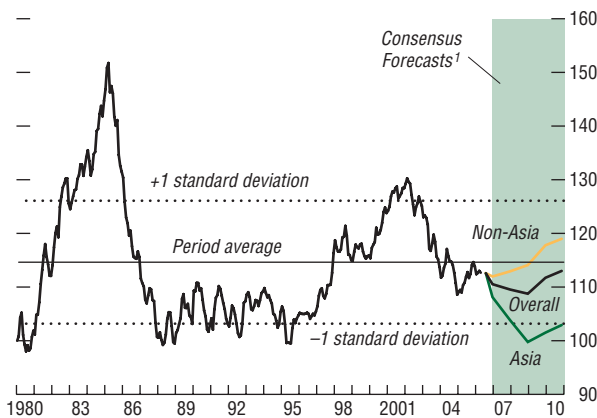
Figure 1.16. U.S. Dollar Currency Options: Risk Reversals

(In percent; 25-delta 1-year)



Source: Bloomberg L.P.
Note: Negative figures suggest expectations of dollar depreciation.

Figure 1.17. United States: Real Effective Exchange Rate
(January 1980 = 100)



Sources: Consensus Economics; IMF, *Information Notice System* and *World Economic Outlook*; JPMorgan Chase & Co.; and IMF staff estimates.
¹Forecasts as of July 2006.

and, in the most recently available data, to \$6.3 trillion in June 2005.¹¹

Avian Flu Remains a Risk

Risks of an avian flu pandemic remain. If the current strain of avian flu were to mutate, there could be a sharp decline in economic activity. The extent of the decline and the prospects for a rapid recovery would depend on the characteristics of the new virus, as well as on the degree of preparedness in both the public and the private sectors. A pandemic would also pose important risks for the global financial system. As regards financial markets, some reduction in risk appetite is highly likely, leading to a greater demand for liquidity and for low-risk assets. While the “flight to quality” ought to be temporary, asset price declines could put the balance sheets of some financial institutions under stress and they may face challenges in meeting regulatory norms. There could be a period in which net capital flows to emerging markets decline, perhaps substantially for countries with relatively weak fundamentals. Operational risks could arise from the possibility that high absenteeism could disrupt critical functions and services of the financial system, including payments, clearing and settlement, and trading. Such disruptions could also spill over into other jurisdictions.¹²

Preparation in the form of business continuity plans—updated to include the effects of high absenteeism and possible economic and infrastructure disruptions—can go a long way to minimize the potential for such costly disruptions. The IMF is encouraging countries to prepare for a possible pandemic and is facilitating cooperation across countries in preparing contingency plans, particularly in the financial sector. For example, the IMF has been organizing regional seminars that bring

¹¹U.S. Department of the Treasury, Federal Reserve Bank of New York, and Board of Governors of the Federal Reserve System (2006).

¹²For a more in-depth discussion on these issues, see IMF (2006b).

Table 1.1. Emerging Markets and Developing Countries: Current Account Balance and External Financing
(In billions of U.S. dollars)

	1998	2000	2004	2005	2006	2007
Current account balance	-113.4	79.6	211.9	424.7	586.7	638.9
External financing	265.9	231.6	449.2	566.0	584.0	631.0
Of which:						
Foreign direct investment and portfolio equity inflows	179.3	179.5	269.3	359.1	353.4	351.8
Borrowing from private creditors	37.5	44.8	173.3	253.1	229.7	240.8
Asset accumulation	152.5	311.2	661.1	990.7	1,170.7	1,269.9
Reserve assets	-4.3	88.2	432.6	537.1	599.0	696.5
Private sector and nonreserve official sectors	156.8	223.0	228.5	453.6	571.7	573.4

Source: IMF, *World Economic Outlook*, September 2006.

Note: Data for 2006 and 2007 are forecast.

together central banks and supervisory authorities, health experts, and business continuity planners from private financial institutions to share their knowledge on key issues related to avian flu pandemic preparedness. To date, almost 140 representatives from 109 countries have participated in these seminars. In addition, the IMF has worked with the Bank for International Settlements' Financial Stability Forum and Joint Forum to broadly disseminate information on "good international practices" on the design and testing of business continuity plans.

Market Corrections Highlight Pressure Points in Emerging Markets

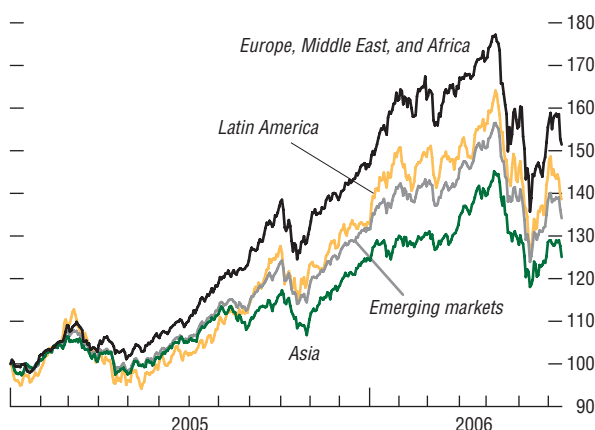
The recent corrections should be seen in the context of the very benign conditions for EMs that have prevailed in recent years. As shown in Annex I.1, private capital flows to EMs, including foreign direct investment, remained strong in the first half of 2006, despite the market turbulence of the second quarter. Moreover, the baseline scenario for continued strong global growth suggests capital flows to EM countries should continue to be supported in the period ahead. At the same time, the composition of capital flows has shifted somewhat. Owing to credit booms and related increases in current account deficits in a number of countries, especially in eastern Europe, debt flows to private sector borrowers have increased while debt flows to public sector borrowers have fallen.

As a result, public-sector-related vulnerability indicators have generally improved in most EM countries, even as private-sector-related vulnerabilities have, in some cases, increased.

Turning to the May–June correction, it initially featured a broad-based sell-off that began in equity markets, reflecting the general retraction from risk rather than a reassessment of EM fundamentals (Figure 1.18). Equity markets that had seen the largest run-up in prices since 2005, generally the biggest and most liquid markets, experienced some of the deepest declines, including in Argentina, Colombia, Hungary, India, Peru, Poland, Russia, and Turkey (Figure 1.19).

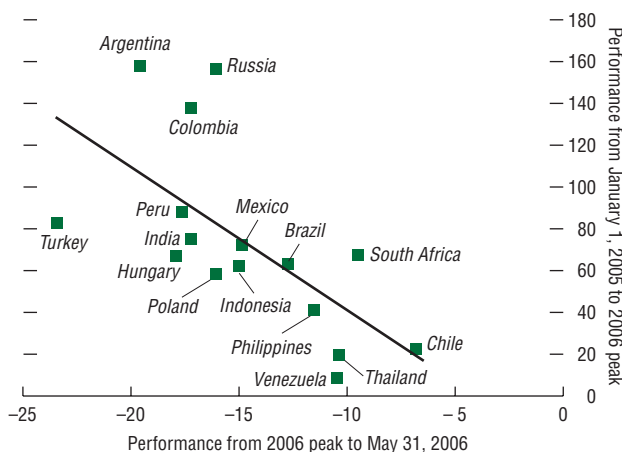
The broad nature of the correction was reflected in the increase in correlations between price movements in different EM asset classes during May (Figure 1.20). The correction in equities went hand in hand with a correction in foreign exchange markets as more speculative investors, particularly hedge funds, rapidly unwound leveraged carry trades in the higher-yielding emerging market currencies (e.g., Brazil, Indonesia, and Turkey). Most of these currencies had also seen significant nominal and real appreciation during 2005 and early 2006. Local debt prices also became more correlated with foreign exchange rates, reflecting an unwinding of some of the large positions foreign investors had built up in local market debt over the previous two years (Figure 1.21), and the use of currency positions to hedge investments in local debt.

Figure 1.18. Emerging Market Equity Performance
(December 31, 2004 = 100; local currency performance)



Sources: Bloomberg L.P.; and Morgan Stanley Capital International.

Figure 1.19. Relative Emerging Market Equity Performance
(In percent)



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

In a second phase of the correction, in June, investors began to discriminate among emerging markets, suggesting where pressure points might lie in a more sustained retrenchment from risk. Countries perceived as more vulnerable to an external shock and/or with weaker policy frameworks experienced continued pressures in this second phase. In currency markets, for instance, June brought further depreciation in Hungary’s forint, South Africa’s rand, and Turkey’s lira, but recovery in Brazil’s real. Similarly, CDS spreads widened in June for Hungary, South Africa, and Turkey, but remained relatively stable for Brazil and Indonesia (Figure 1.22). More specifically, countries where markets continued to weaken and that would likely be most vulnerable to a continued retrenchment from risk displayed one or both of the following characteristics:

- *Large balance of payments financing needs (as signaled by current account deficits) combined with an excessive reliance on portfolio inflows.* Hungary, South Africa, and especially Turkey experienced further pressures on exchange rates (Figure 1.23). Each of these countries had domestic-consumption-led growth financed by sizable external portfolio flows, particularly into equity markets. With current account deficits concentrated in emerging Europe, currencies in the emerging Europe index depreciated more than currencies from other EM regions (Figure 1.24). In addition, the vulnerability to large current account deficits was magnified in countries with a high dependence on commodity exports and exposure to global growth. In such countries, equity markets reacted to the fall in commodity prices.
- *Questions of policy credibility.* In Turkey, concerns about the monetary policy framework had already been raised by the slow pace of disinflation and more recent inflation surprises.¹³ Markets only stabilized after two

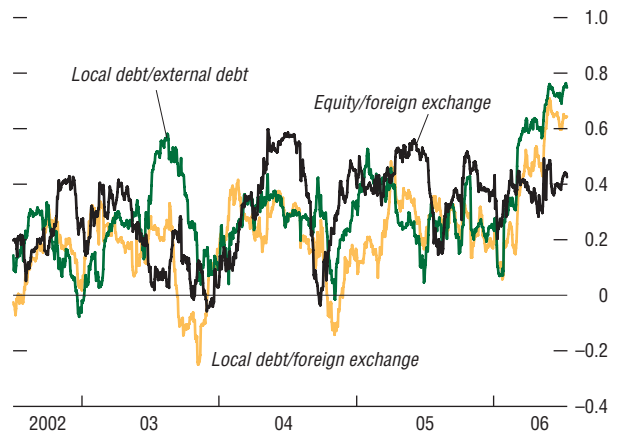
¹³Developments in Turkey were also influenced by the tense domestic political situation and uncertainties on the path to EU accession.

emergency meetings of the central bank’s monetary policy committee brought more decisive action, including by raising policy rates by a total of 400 basis points, widening the spread between the central bank’s lending and borrowing rates, and introducing deposit auctions to mop up excess lira liquidity. In Hungary, the credibility of the recently announced fiscal consolidation package was questioned in view of past slippages. In other EMs, however, macroeconomic policy frameworks were seen as better established. For example, Brazil and Indonesia were able to continue monetary policy easing in the context of stabilizing conditions.

In contrast with previous EM corrections, a salient feature of this correction was the relatively muted reaction of the external sovereign bond market. This is consonant with the improvement in sovereign vulnerability indicators, and suggests that risks to EMs from sovereign debt default continue to be perceived as low. External debt spreads moved by about half as much during the recent correction as they had in the previous large correction in 2004, which was also motivated by a reassessment of expectations for the path of global interest rates. The model of EM spreads presented in the April 2006 GFSR suggests that the rise in spreads can be largely explained by the changed external environment, proxied by U.S. monetary policy variables and risk aversion measures (Figure 1.25). As well, market participants point to technical supply and demand factors, including continued demand for external debt and scarcity of supply following sizable debt buybacks and substantial prefinancing by many EM sovereigns (see Annex 1.1).

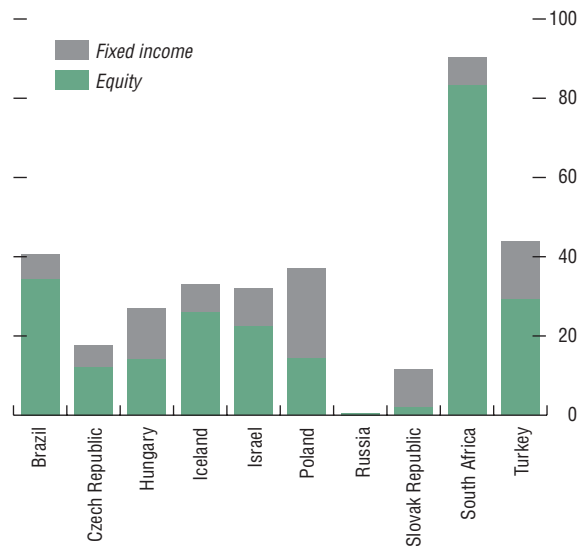
In bringing some underlying vulnerabilities to the fore, the correction highlighted policy challenges for several emerging markets. In Turkey, in particular, and South Africa, to a lesser extent, exchange rate depreciation has increased expectations for inflation, requiring prompt action by the authorities to raise interest rates substantially and resulting in a slower expected growth path. In addition, as discussed

Figure 1.20. Emerging Market Asset Class Correlations
(60-day rolling window)



Sources: Bloomberg L.P.; JPMorgan Chase & Co.; Morgan Stanley Capital International; and IMF staff estimates.

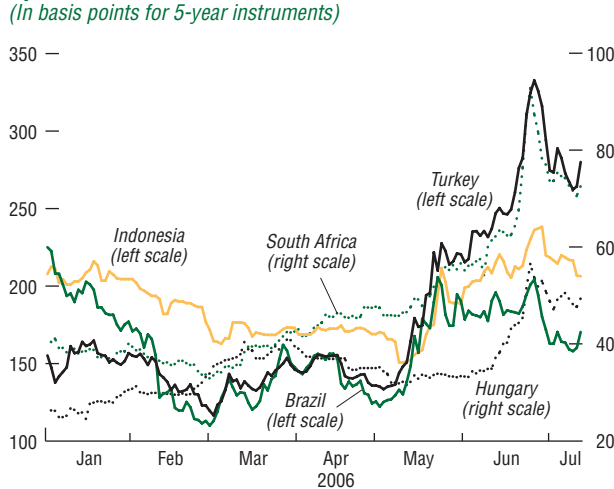
Figure 1.21. Crowded Trades in Local Markets
(In number of days)



Sources: Deutsche Bank; Securities and Exchange Commission of Brazil; and IMF staff estimates.

Note: The chart shows the stock of foreign equity and local bond positions divided by the average daily spot foreign exchange turnover as of end-April, to give an indicator of how many days it might take for foreign investors to fully unwind their local positions.

Figure 1.22. Emerging Market Credit Default Swap Spreads
(In basis points for 5-year instruments)



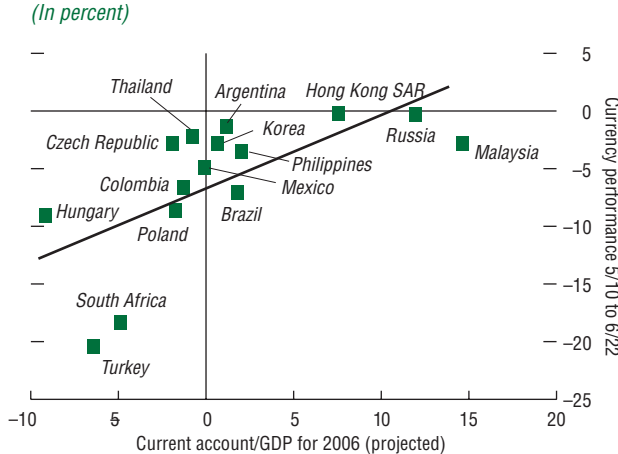
Source: Bloomberg L.P.

Looking Forward: Managing External Challenges

The correction raises the question: How resilient are emerging markets to future financial volatility? One lesson is that policy efforts across EMs have brought greater overall resilience against external shocks. Over time, country policy efforts have resulted in a migration of many EM sovereigns toward the safer end of the risk spectrum as measured by a variety of risk indicators. In turn, this appears likely to be an important contributory factor to the more muted reaction of external sovereign bond spreads to external shocks in recent corrections.

Against the background of improved sovereign creditworthiness, which types of borrowers remain most vulnerable? The recent corrections were especially concentrated in portfolio equity flows, but these remain quantitatively relatively small. In fact, concerns are increasingly focused on the extent of private sector debt inflows, mostly in the form of bank flows, and in particular to private borrowers in central and south-eastern Europe.¹⁴ Historically, net debt flows to the private sector have been much more volatile than other types of flows, and subject to sudden stops. There have been three periods when private debt flows surged rapidly: the late 1970s to early 1980s; the mid-1990s; and, more recently, since about 2003 (Figure 1.26). The first two episodes corresponded to region-specific boom-bust credit cycles, culminating in the Latin American debt crisis of 1982 and the Asian financial crisis of 1997. In both cases, net debt flows to the private sector turned negative in the crisis and remained so for several years, imposing severe contractions on the affected

Figure 1.23. Current Account and Currency Performance Versus the U.S. Dollar
(In percent)



Sources: Bloomberg L.P.; IMF, *World Economic Outlook* database; and IMF staff estimates.

¹⁴See Box 1.1 in the September 2006 *World Economic Outlook* for further discussion.

economies. The more recent surge reflects, to a large degree, lending by banks in advanced economies to central and southeastern Europe and Central Asia,¹⁵ and, to a lesser extent, a revival of private debt flows to East Asia, notably China. In emerging Europe and Central Asia as a whole (including Russia and Turkey), private sector debt has replaced foreign direct investment as the primary source of external financing.

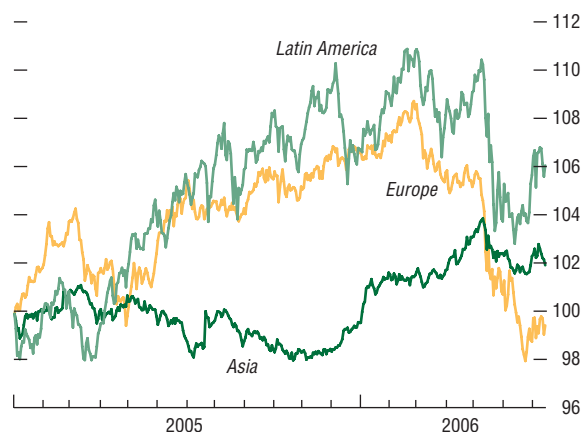
Historical experience suggests a clear possibility that recent heavy debt flows to emerging Europe and East Asia could prove unsustainable—even though there are some grounds to believe that this surge may be less risky than previous episodes. For example, in China and Russia, the two countries that have received the largest private debt inflows in recent years, risks are mitigated by large net foreign assets of the public sector, reflecting high reserve cushions and relatively low external debt levels.¹⁶ In some countries in central and southeastern Europe, where private sector exposure is not balanced by a strong public sector position, the fact that bank lending flows are largely intermediated through generally well-supervised and largely foreign-owned banks should, in principle, help mitigate the adverse consequences of poor investment projects. Another factor is that, in some countries, progress toward joining the European Union and the prospect of the Economic and Monetary Union membership may have boosted investor confidence sufficiently to render a reversal in capital flows less likely.

These factors notwithstanding, the risks associated with the recent surge in private debt flows should not be discounted: current account

¹⁵In 2005, \$46 billion of all net private debt flows to emerging Europe and Central Asia were medium- and long-term bank loans, \$32 billion were short-term debt flows, and \$19 billion were bond financing.

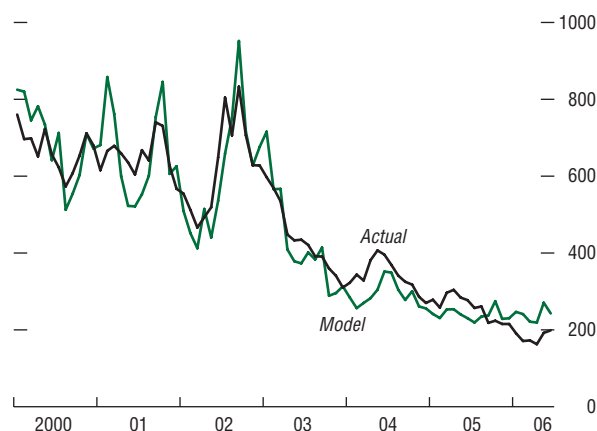
¹⁶In both China and Russia, the net foreign asset position of the economy as a whole is positive (see Lane and Milesi-Ferretti, 2006). This distinguishes them from most other recipient countries of large private debt inflows in recent years.

Figure 1.24. Emerging Market Currency Performance Versus the U.S. Dollar
(December 31, 2004 = 100)



Source: JPMorgan Chase & Co.

Figure 1.25. Adjusted EMBIG Spreads¹
(In basis points)

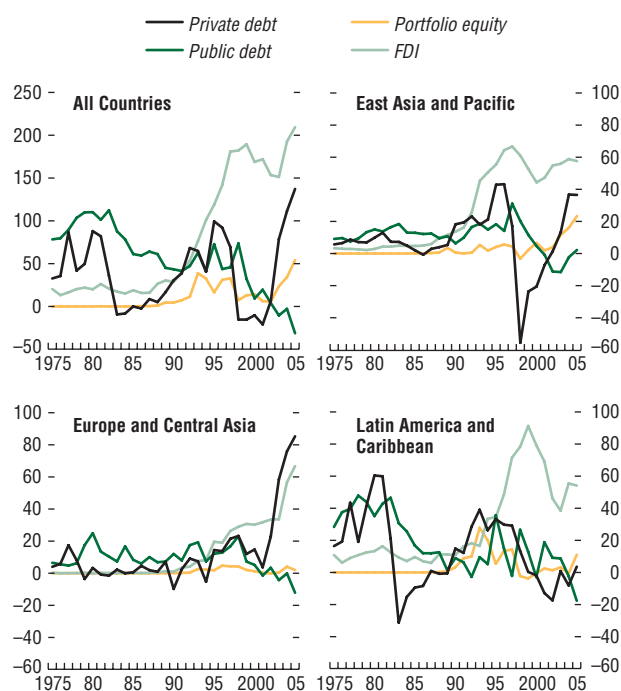


Sources: Bloomberg L.P.; JPMorgan Chase & Co.; The PRS Group; and IMF staff estimates.

¹Argentina was excluded because of breaks in the data series. Indonesia and several smaller countries were also excluded because of short data series. The analysis thus includes 32 countries.

Figure 1.26. Net Financing Flows to Middle- and Low-Income Countries

(In billions of real U.S. dollars; base year = 2000)



Sources: World Bank, *Global Development Finance* database; and IMF staff estimates.

deficits are large in the Baltics, Bulgaria, Hungary, Romania, the Slovak Republic, and Turkey; fiscal deficits are high in some other countries such as Hungary; and the ratio of private sector credit to GDP has risen particularly strongly in the Baltics, Bulgaria, and Slovenia. With some currencies pegged to the euro, adjustments to any slowdown in inflows may be made more difficult. While the benign baseline global growth scenario would likely mean that any such slowdown in private debt inflows would be moderate, the historical experience noted above suggests that it could be quite dramatic. The risk of a sudden stop would be heightened by the emergence of some of the downside risks to the baseline scenario, especially sharper-than-expected increases in interest rates that could inflate debt-servicing ratios and lead to debt rollover difficulties. In such a case, EM countries with large current account deficits would likely face a sharper adjustment path than currently envisaged.

Challenges for Policymakers

Policymakers in both mature and emerging markets face renewed challenges in ensuring balanced global growth and financial stability against the backdrop of heightened uncertainty and greater downside risks to the global economic outlook.

- Country authorities need to work cooperatively so that policies can mutually reinforce an orderly adjustment of global imbalances and avoid disruptive market conditions. Concretely, countries should show more ambitious commitments to increased exchange rate flexibility in emerging Asia, fiscal consolidation in the United States, greater progress on structural reforms in Europe and Japan, and a steady buildup in absorption by oil-exporting countries, particularly in the Middle East (while being careful to avoid overheating).
- In emerging markets, the acceleration of private capital outflows through appropriately phased capital account liberalization, as well as

Box 1.1. The Yen Carry Trade

A major subject of conjecture among global investors has been the idea that a “yen carry trade” supported some global asset prices during the period of declining risk premiums in 2005 and early 2006.¹ Proponents of the idea noted that not only were short-term interest rates in Japan near zero, but also that the Bank of Japan, under its quantitative easing policy, had provided the banking system with ample reserves. While the extra reserves themselves simply sat on bank balance sheets with no apparent effect on yen lending, there is evidence of interest rate carry trades between Japan and external markets, some of which may have been closed out after the announcement of the end of the quantitative easing policy in March 2006.

The evidence that Japanese *domestic* investors conducted a form of the carry trade by seeking higher returns overseas is quite strong. Domestic institutions, such as life insurers, effectively engaged in the carry trade by purchasing foreign bonds to support yen-denominated liabilities, often on an unhedged basis. Net purchases of foreign bonds by life insurers totaled 848 billion yen (\$7.4 billion) in 2005. Individual investors—particularly wealthier retired households—shifted a share of wealth away from bank deposits or other low-yielding yen investments, toward foreign bonds or investment trusts explicitly tied to foreign bonds (see the first figure). At its peak in late 2005, the money flowing into foreign bond funds exceeded 5 trillion yen over the trailing 12-month period, equivalent to about 1 percent of GDP.

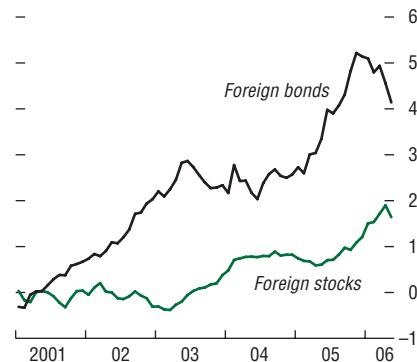
There are also some indications that *foreign* investors borrowed yen to fund positions in higher-yielding currencies, but this evidence is more mixed and the magnitude of this form of the carry trade is less certain. Data from the Bank for International Settlements show that Japanese banks increased their net outward

Note: The main author of this box is Chris Walker.

¹A carry trade is generally defined as a trade in which the investor borrows at a low interest rate and invests at a higher one, normally with some type of currency or basis risk.

Increase in Japanese Holdings of Foreign Assets Through Investment Trusts

(In trillions of yen; trailing 12 months)



Source: Japan Investment Trusts Association.

yen-denominated lending from \$19 billion in 2004 to \$87 billion in 2005. Japanese financial institutions probably also provided yen funding through derivatives transactions with offshore counterparties, and Japanese banks have “increased investing in alternative financial products, such as structured bonds, securitized products, hedge funds,” according to the Bank of Japan.² Balance of payments data seem to imply that such flows were significant from late 2005 into 2006, as indicated by the outward shift in net banking and derivatives investment flows (see the second figure). Positioning on yen futures contracts also points to the existence of an offshore yen carry trade. Data from the Chicago Mercantile Exchange show noncommercial traders (predominantly financial players) moving from net long to net short yen positions in early 2005, and staying net short until the end of April 2006 (see the third figure).³

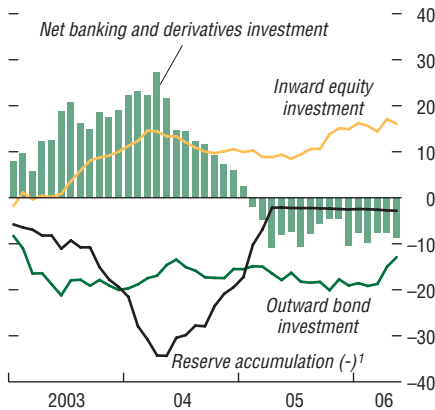
²Bank of Japan (2006, p. 29).

³While such futures positions technically involve no yen borrowing, the currency exposure implied by a short yen futures position is similar to the exposure an investor would have borrowing in yen and investing in dollar securities over a fixed term.

Box 1.1 (concluded)

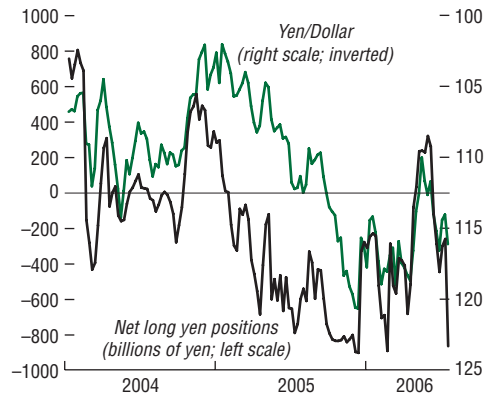
Major Components of Japanese Financial Account

(In trillions of yen; trailing 12 months)



Source: Bank of Japan.
¹Includes interest earnings.

Yen Positions of Noncommercial Traders at the Chicago Mercantile Exchange



Sources: Bloomberg L.P.; and Commodities Futures Trading Commission.

One piece of evidence that does *not* appear to support the idea that the yen carry trade contributed significantly to global liquidity is that the yen did not strengthen against the dollar when emerging markets sold off in May and June, as would have been expected if those positions had been funded with yen borrowing. However, the yen had appreciated prior to the sell-off, in the wake of the Bank of Japan's decision on March 9 of this year to end quantitative easing. In addition, while fixed-income investors may have treated Japan as a source of funding before the market correction, equity investors from Europe and North America in particular tended to regard Japanese equities as relatively risky. Accordingly, there were substantial outflows from the market in May and June, partially counteracting any upward

pressure on the currency from the closing of yen-funded positions. Market participants also note that the yen carry trade was largely into mature fixed-income markets, including corporate credit markets, which were generally unaffected by the risk retrenchment.

On balance, the evidence suggests that cross-border investments based on yen funding have taken several forms. However, by most indications, the scale of the trade and subsequent unwinding has been moderate, particularly by the standards of October 1998, when the yen ended a three-year decline by appreciating more than 16 percent against the dollar in one week. To the extent that the trade has unwound, or is being unwound, the process appears to be occurring in an orderly fashion, without inordinate risk to financial stability.

the trend for diversification of official investments, can enhance overall financial stability and support sustainable global capital flows.

- As the linchpin for global stability, central bankers will need to ensure clear communi-

cation of their policy intentions, given the potential for spillovers through financial markets. Central banks need to continue to communicate effectively to financial markets their assessment of inflation risks and the

implications for monetary policy. Some EM authorities may need to continue to respond proactively in the face of higher inflation risks.

- Supervisors and important financial institutions need to intensify their efforts to monitor and manage risk, especially counterparty risk vis-à-vis important entities such as hedge funds. Efforts to improve operational and infrastructure gaps, having made some progress, need to proceed quickly to help ensure orderly market conditions, even while asset price corrections may occur.
- Recent financial market turbulence has raised concerns about how far the underlying vulnerabilities of EM economies have been reduced. EM countries with macroeconomic imbalances that rely heavily on external financing face a narrower margin for policy slippage. Prudent macroeconomic policies will be necessary to retain the ability of fiscal and monetary policy to react to external sector developments. In addition, prudential policies, especially strengthened oversight of risk management systems at financial institutions, will help safeguard financial systems from external shocks.
- Active debt management policies that have reduced vulnerabilities of debt structures have paid handsome dividends in stabilizing external debt markets. Such policies should continue as part of an overall plan to develop and strengthen local capital markets and deepen the institutional investor base. In particular, the recent correction in local market instruments highlights the need to ensure that sovereign debt management policies are consistent with the capacity of local markets to absorb foreign investor inflows, and the need to strengthen the local investor base and market liquidity.

Annex 1.1. Emerging Market Financing Flows

Private capital flows to emerging markets remained strong in the first half of 2006,

despite market turbulence in the second quarter (Table 1.2). Primary issuance in *external* markets (bonds, loans, and equity) remained high in the first half, although short of record-high levels seen in the second half of 2005. Primary issuance in external markets was supported by strong issuance of loans and equity. However, bond issuance declined amid market turbulence in the second quarter, particularly for sovereign issuers, although many had already largely refinanced their external financing needs for the year. Foreign investor flows into *local* secondary bond and equity markets remained firm in the first half, helped by a diversified investor base, as steady institutional investor flows helped offset a pullback by more mercurial investors in the second quarter. This annex reviews recent developments in primary issuance in external markets, foreign investor flows into local markets, and the growth of “South-South” FDI.

Primary Issuance in External Markets

Primary issuance in external markets remained high in the first half of 2006. Gross issuance of bonds, loans, and equities was \$196.5 billion in the first half of 2006, up 6.5 percent over the same period a year earlier (Figure 1.27), but down 13.3 percent from the record high seen in the second half of 2005.¹⁷ Compared with the year before, new issuance of equities in the first half of 2006 grew the most in relative terms (83.3 percent), starting from a lower base and reflecting foreign investors’ rising comfort with this asset class (Figure 1.28). At the same time, gross loan issuance climbed 25.9 percent in the first half of 2006, reflecting increased activity by commercial banks in EMs in search of higher returns amid strong competition in mature markets. By contrast, gross bond issuance fell 25.6 percent in the first half

¹⁷Net issuance data show similar broad patterns, as the path of bond and loan amortization is relatively stable over time, usually around the \$50–\$60 billion range per semester.

Table 1.2. Emerging Market External Financing

	2000	2001	2002	2003	2004	2005	2005				2006					Year-to-date ¹	
							Q1	Q2	Q3	Q4	Q1	Q2	April	May	June		July
<i>(In billions of U.S. dollars)</i>																	
Gross issuance by asset	216.4	162.1	135.6	199.7	286.2	411.2	94.1	90.4	109.3	117.3	98.6	103.7	39.7	45.3	18.7	27.1	229.4
Bonds	80.5	89.0	61.6	99.8	134.9	187.0	61.4	39.3	42.7	43.7	48.7	26.2	13.8	9.6	2.8	0.0	74.9
Equities	41.8	11.2	16.4	27.7	45.1	78.1	10.5	17.4	22.9	27.3	22.4	29.3	7.5	16.4	5.4	11.0	62.8
Loans	94.2	61.9	57.6	72.2	106.2	146.0	22.3	33.8	43.7	46.3	27.4	48.2	18.4	19.3	10.5	16.1	91.7
Gross issuance by region	216.4	162.1	135.6	199.7	286.2	411.2	94.1	39.7	109.3	117.3	98.6	103.7	39.7	45.3	18.7	27.1	229.4
Asia	85.9	67.5	53.9	88.8	123.0	150.0	26.6	33.5	40.8	49.2	37.5	41.3	11.7	22.0	7.6	7.8	86.5
Latin America	69.1	53.9	33.4	43.3	54.3	87.9	34.3	14.0	23.2	16.4	15.7	11.3	5.6	2.3	3.5	0.1	27.1
Europe, Middle East, Africa	61.4	40.8	48.3	67.7	108.9	173.3	33.3	43.0	45.3	51.7	45.4	51.0	22.4	21.0	7.6	19.2	115.7
Amortization by asset	113.9	147.0	128.4	119.5	128.1	107.8	21.6	9.1	32.6	27.5	22.2	28.4	9.1	6.7	12.5	11.7	62.3
Bonds	51.8	59.0	58.9	57.1	69.6	65.2	13.3	14.5	21.6	15.8	13.4	17.7	6.7	4.9	6.1	6.1	37.1
Equities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loans	62.1	88.0	69.5	62.4	58.5	42.6	8.3	11.6	11.0	11.7	8.8	10.7	2.4	1.9	6.4	5.6	25.1
Amortization by region	113.9	147.0	128.4	119.5	128.1	107.8	21.6	9.1	32.6	27.5	22.2	28.4	9.1	6.7	12.5	11.7	62.3
Asia	56.6	66.0	55.6	45.5	49.8	38.6	8.0	5.9	11.4	13.4	10.7	11.2	3.3	3.8	4.1	4.5	26.4
Latin America	32.3	45.6	40.8	40.4	46.7	37.1	7.7	10.4	11.1	7.9	7.9	7.3	2.4	1.5	3.5	2.7	18.0
Europe, Middle East, Africa	24.9	35.3	32.0	33.6	31.6	32.1	5.9	9.8	10.1	6.3	3.6	9.8	3.4	1.4	5.0	4.5	17.9
Net issuance by asset	102.5	15.2	7.3	80.2	158.1	303.4	72.5	81.3	76.7	89.8	76.4	75.3	30.6	38.5	6.2	15.4	167.1
Bonds	28.7	30.1	2.7	42.7	65.2	121.8	48.1	24.8	21.1	27.9	35.3	8.5	7.1	4.7	-3.3	-6.1	37.8
Equities	41.8	11.2	16.4	27.7	45.1	78.1	10.5	17.4	22.9	27.3	22.4	29.3	7.5	16.4	5.4	11.0	62.8
Loans	32.1	-26.1	-11.8	9.8	47.7	103.5	14.0	22.2	32.7	34.6	18.6	37.5	16.0	17.4	4.1	10.5	66.6
Net issuance by region	102.5	15.2	7.3	80.2	158.1	303.4	72.5	30.6	76.7	89.8	76.4	75.3	30.6	38.5	6.2	15.4	167.1
Asia	29.2	1.5	-1.7	43.3	73.2	111.4	18.6	8.4	29.4	35.8	26.8	30.1	8.4	18.2	3.6	3.3	60.1
Latin America	36.8	8.3	-7.4	2.9	7.6	50.8	26.5	3.2	12.1	8.5	7.7	4.0	3.2	0.8	0.0	-2.6	9.2
Europe, Middle East, Africa	36.5	5.5	16.3	34.0	77.2	141.2	27.4	19.0	35.2	45.5	41.9	41.2	19.0	19.5	2.6	14.7	97.8
Secondary Markets																	
Bonds																	
EMBI Global (spread in basis points)	735	728	725	403	347	237	382	356	333	382	191	218	179	210	218	197	197
Merrill Lynch high-yield (spread in basis points)	890	795	871	418	310	371	319	329	283	319	313	335	304	312	335	345	345
Merrill Lynch high-grade (spread in basis points)	200	162	184	93	83	92	88	85	81	88	90	97	89	92	97	98	98
U.S. 10-year treasury yield (in percent)	5.12	5.05	3.82	4.25	4.22	4.39	4.60	4.13	4.38	4.60	4.85	5.14	5.05	5.12	5.14	4.80	4.98
<i>(In percent)</i>																	
Equity																	
Dow	-6.2	-7.1	-16.8	25.0	3.1	-0.6	-2.8	-2.7	2.6	-2.6	3.7	0.4	2.3	-1.7	-0.2	0.3	4.4
Nasdaq	-39.3	-21.1	-31.5	50.5	8.6	1.4	-8.4	-5.2	-0.5	-2.9	6.1	-7.2	-0.7	-6.2	-0.3	-3.7	-5.2
MSCI Emerging Markets index	-31.8	-4.9	-8.0	51.2	22.4	30.3	0.6	0.0	8.6	-7.4	11.5	-5.1	6.8	-10.8	-0.5	1.1	7.0
Asia	-42.5	4.2	-6.2	46.1	12.2	23.5	2.8	1.4	6.5	-4.8	9.0	-2.6	6.9	-8.0	-1.0	-0.6	5.5
Latin America	-18.4	-4.3	-24.8	66.7	34.8	44.9	-0.6	-1.9	13.0	-10.3	14.9	-4.1	7.3	-14.2	4.1	2.8	13.2
Europe, Middle East, Africa	-22.3	-20.9	4.7	51.9	35.8	34.9	-3.0	-1.4	9.7	-10.3	14.1	-10.5	6.3	-13.7	-2.5	3.3	5.4

Sources: Bloomberg L.P.; Dealogic; JPMorgan Chase & Co.; Morgan Stanley Capital International; and IMF staff estimates.

¹Issuance data are as of July 31, 2006, close-of-business London. Secondary markets data are as of July 31, 2006, close-of-business New York.

of 2006 because of a decline in sovereign bond issuance in the second quarter (Figure 1.29).

Why did *sovereign* bond issuance fall in the second quarter of 2006? A significant part of

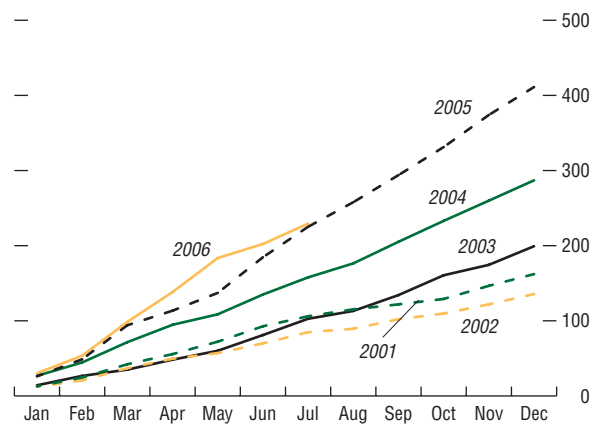
the surge in issuance of bonds by sovereigns in 2005 had represented active prefinancing of future sovereign external obligations, as sovereign issuers had taken advantage of unusually

favorable global conditions to issue aggressively. Many sovereign issuers therefore had built a comfortable prefinancing cushion that allowed them to forgo new issuance when market conditions turned less propitious during the second quarter. Indeed, including issuance during the first half of 2006, total financing already undertaken to meet 2006 needs was estimated at \$39.0 billion at midyear, or about three-quarters of total sovereign planned issuance of \$52.8 billion. On a regional basis, Latin America had fully completed its issuance needs (although there was considerable variation within the region), and a number of sovereigns had begun to prefinance 2007, while emerging Asia had met 62 percent of its 2006 financing needs, and emerging Europe about 56 percent. Turkey posted the largest absolute remaining sovereign external financing need at midyear, estimated at about \$2.4 billion.

By contrast, external bond issuance by the *private* sector remained relatively firm in the first half of the year, even amid the second quarter's market turbulence. More broadly, private corporate issuance of bonds in external markets started around 2003 and accelerated significantly to peak in 2005, reflecting an increased risk appetite by investors and a continued leveraging of balance sheets by emerging market corporates after the financial crises of the late 1990s and early 2000s. For its part, nonsovereign public sector issuance remains relatively small over time.

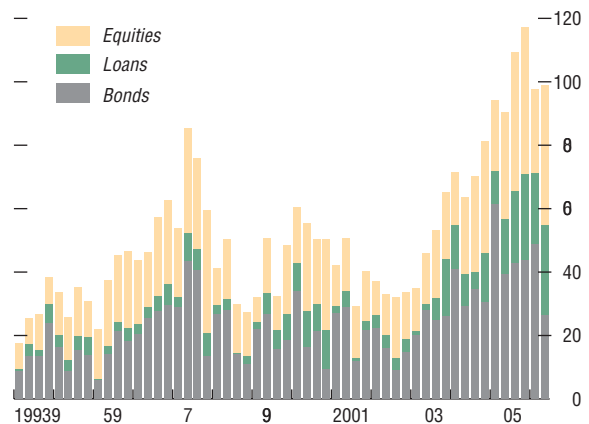
As for patterns across regions, loans are particularly important for EMEA (Europe, Middle East, and Africa) countries (Figure 1.30), as loans have risen especially for the Middle East and European EMs, including for Russian corporates. In general, cross-border lending to EM corporates has increased as commercial banks have sought to take advantage of expanding business opportunities beyond operations in traditional mature markets. For its part, equity issuance is clearly concentrated in emerging countries in Asia, particularly in China (Figure 1.31). European equity issuance follows in a distant second place, dominated

Figure 1.27. Cumulative Gross Annual Issuance of Bonds, Loans, and Equity
(In billions of U.S. dollars)



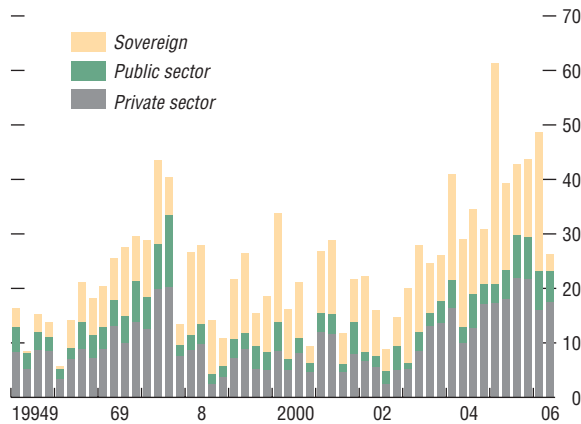
Source: Dealogic.

Figure 1.28. Gross Quarterly Issuance of Bonds, Loans, and Equity
(In billions of U.S. dollars)



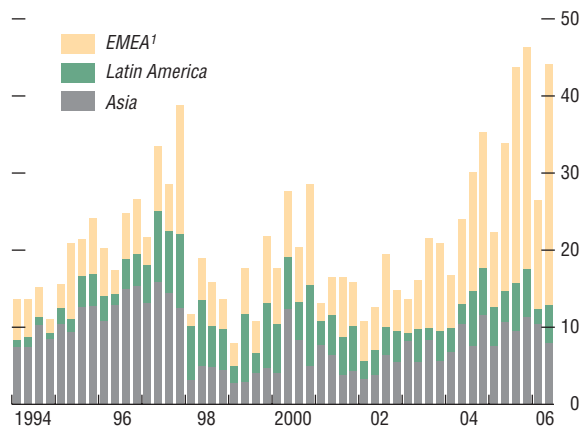
Source: Dealogic.

Figure 1.29. Bond Issuance, by Issuer Type
(In billions of U.S. dollars)



Source: Dealogic.

Figure 1.30. Syndicated Loan Commitments, by Region
(In billions of U.S. dollars)



Source: Dealogic.
¹EMEA = Europe, Middle East, and Africa.

by Russian initial public offerings (IPOs). In Latin America, IPOs have been relatively more active in countries such as Mexico and Brazil, where medium-size companies, in some cases growing out of a family-owned business model, found strong demand for new public offerings, particularly among foreign investors. Indeed, about two-thirds of shares issued in recent IPOs in Brazil have been purchased by foreign investors. In turn, external bond issuance is particularly important for sovereigns in Latin America (Figure 1.32). As for corporate external bond issuance in particular, however, Asia and EMEA tend to dominate, with Korean and Chinese firms (largely trading companies and banks) dominating in the former and Russian banks and oil companies in the latter.

Foreign Investor Flows into Local Markets

Foreign investment flows into EM equities have grown significantly in recent years, increasingly driving the value of local stock indices. With a paucity of marketable debt, Asia has traditionally dominated as a destination for EM equity investors. But flows into Latin America and EMEA had also accelerated rapidly through 2005 and early 2006. By the start of 2006 there was an acceleration of equity investment flows into stock markets in emerging Asia, driven by global growth plays, the turn in the tech cycle, and expectations of some recovery of local demand in the region (Figures 1.33 and 1.34). Since the middle of 2004, equity valuations have moved in tandem with foreign investor inflows, suggesting that foreign investors are an increasingly important segment of the market. Major equity markets in other regions have also started to move in tandem with foreign investor flows, suggesting this may be a more general phenomenon for emerging markets. Equity markets in Brazil, Mexico, and Turkey all hit historical highs before the market turbulence that started in May 2006, with the data indicating that changes in valuation have become increasingly driven by foreign investor inflows (see Figures 1.35–1.37).

It appears that there has been a significant increase in structural allocations to local debt markets in recent years. Although only incomplete data exist on foreign investor flows into local bond markets, they seem to confirm encouraging evidence from investor surveys. Data on holdings of local government bonds by nonresidents show significant increases in Brazil, Colombia, Mexico, Poland, and Turkey, particularly starting in 2004 and continuing through early 2006.

Steady flows from institutional investors counteracted the pullback by more volatile investors from local EMs during the market turbulence in the second quarter of 2006. The move into higher-yielding local markets in recent years was spearheaded by speculative investors, pushed by a global search for yield and diversification, both in equity and in bond markets. However, dedicated EM investors had increasingly set up more stable local market funds and invested in local cash bond markets. Fixed-income investor surveys suggest that investors had raised their benchmark exposure to EM local debt. Investment in local market instruments has been facilitated by improving fundamentals in EMs, the inclusion of local currency government bonds from EMs in standard benchmark indices (the Lehman Aggregate, for example), and the development of new index products designed specifically to benchmark funds invested in local market government bonds (such as the JPMorgan GBI-EM Index).

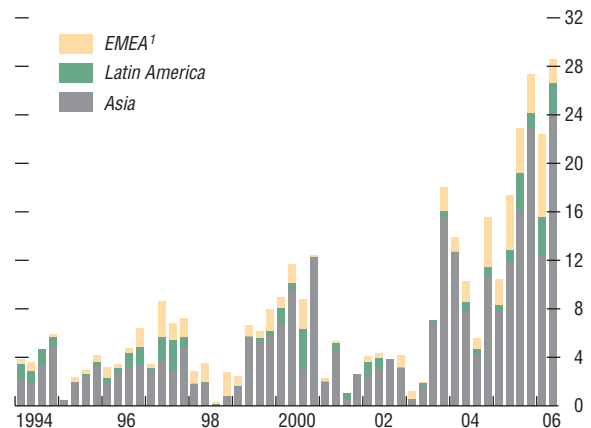
“South-South” Foreign Direct Investment

This section discusses FDI on the part of firms based in EM countries into other emerging market countries, a growing trend often referred to as “South-South” FDI.¹⁸

South-South FDI is becoming a significant factor in the overall flows to developing coun-

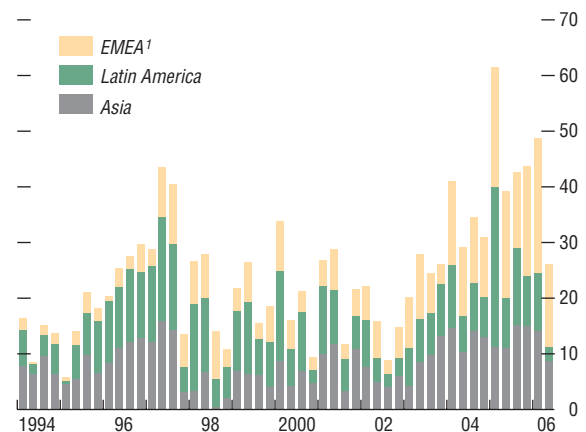
¹⁸This section was prepared by Dilek Aykut (World Bank), Joseph Battat (International Finance Corporation), and Paul Ross (IMF). It is based on World Bank (2006).

Figure 1.31. Equity Placements, by Region
(In billions of U.S. dollars)



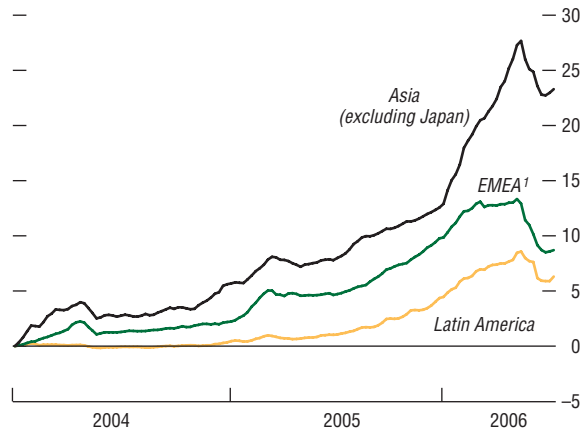
Source: Dealogic.
¹EMEA = Europe, Middle East, and Africa.

Figure 1.32. Bond Issuance, by Region
(In billions of U.S. dollars)



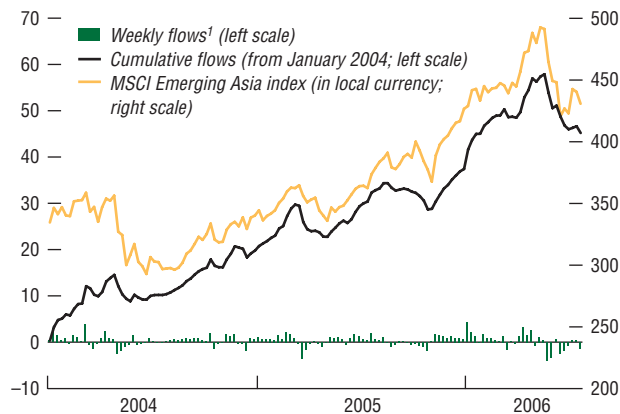
Source: Dealogic.
¹EMEA = Europe, Middle East, and Africa.

Figure 1.33. Cumulative Net Flows into Emerging Market Equity Funds
(In billions of U.S. dollars)



Sources: Emerging Portfolio Fund Research, Inc.; and IMF staff estimates.
¹EMEA = Europe, Middle East, and Africa.

Figure 1.34. Flows into Emerging Asian Equity Markets
(In billions of U.S. dollars)



Sources: Bloomberg L.P.; Morgan Stanley Capital International; and IMF staff estimates.
¹Includes flows into Indonesia, Korea, Philippines, Taiwan Province of China, and Thailand.

tries (Figure 1.38). These FDI flows are estimated to have increased from \$14 billion in 1995 to \$47 billion in 2003, significantly faster than FDI from MM countries. In 2003, 37 percent of FDI received by EMs was estimated to have come from other EMs, compared with 16 percent in 1995. Available data on FDI flows, including recent mergers and acquisitions, suggest that this trend continued in 2004–05, driven mainly by increasing openness to capital and trade, and globalization of economic activities.

EM firms’ reasons for FDI are similar to those of MM investors. Discussions with a private sector contact network indicate that these strategic motivations are, first, market seeking and, second, securing natural resources.¹⁹ Efficiency-seeking FDI by EM firms exists but appears limited. EM firms tend initially to invest in their own regions before investing farther afield, because of trade and cultural ties. Regional trade and investment agreements, which began to proliferate in the mid-1990s, also encouraged such investments. While EM firms’ initial bias may be regional, they have made significant extra-regional investments (e.g., Chinese firms’ investments in Ecuador and Peru, and Malaysian firms’ investments in sub-Saharan Africa).

Available data indicate that the bulk of emerging market outward FDI is directed toward the services and primary sectors. There is substantial investment in services—particularly in infrastructure (telecommunications, transport, energy, and water) and banking—paralleling the global trend and facilitated by liberalization in many EM countries. As services often require proximity between the producer and consumer, EM firms’ regional orientation may provide some advantage and allow them to leverage their experience in managing the regulatory process. The primary sector attracts increasingly large amounts of emerging mar-

¹⁹The network comprises senior executives from 40 private sector companies and financial institutions of EM and MM countries and is designed to gather investor perspectives on FDI in EM countries.

ket FDI (particularly oil and gas) to secure resources and inputs for their high-growth economies. Some EM companies have invested in export-oriented activities abroad following erosion in their competitiveness, or to take advantage of host countries' preferential treatment of inward FDI.

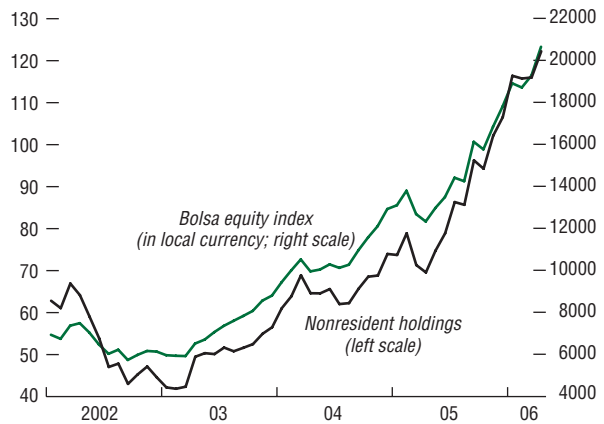
EM firms enjoy advantages and face challenges when investing in other EMs. Companies with a significant regional presence often benefit from well-established distribution networks, from the ability to develop and market products and services appropriate for EMs, and from cultural affinities. EM firms' experiences in their home markets allow them to use locally available inputs more efficiently. Geographical proximity and cultural similarities can make coordination of foreign operations more effective. However, EM firms face various challenges in their home countries.²⁰ Many EMs do not have policies and institutional infrastructure to support outward FDI, and EM firms often have less favorable access to financing than MM firms.

Growth in emerging market outward FDI is an important phenomenon. The economic impact of emerging market FDI is not limited to the host countries. The investing economies also benefit through increased diversification of markets, competitiveness, and exports. Emerging market FDI flows have augmented and sustained financing to the recipient markets in recent years. While mature market multinational firms have improved the transparency of their foreign operations and subscribed to environmental and labor standards, such initiatives are still at an early stage of implementation by EM firms; compliance with corporate governance initiatives by EM firms is increasing, but regional and sectoral variations remain. State-owned enterprises in EMs, especially in extractive industries and infrastructure,

²⁰Examples of these challenges include capital controls in some EMs, inadequate infrastructure to promote outward investment, and the higher costs and difficulties in raising financing.

Figure 1.35. Mexico: Nonresident Holdings of Local Equities

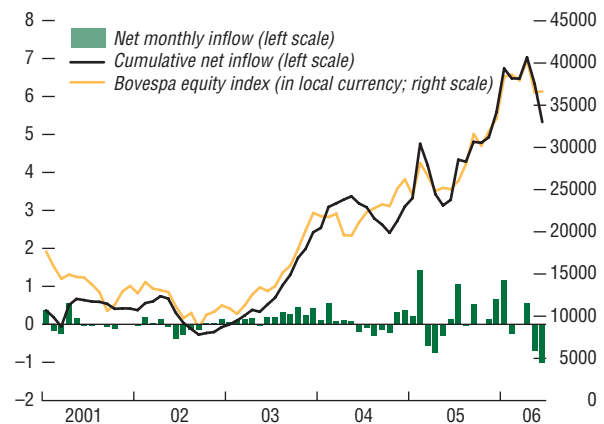
(In billions of U.S. dollars)



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

Figure 1.36. Brazil: Foreign Investment in the Stock Market

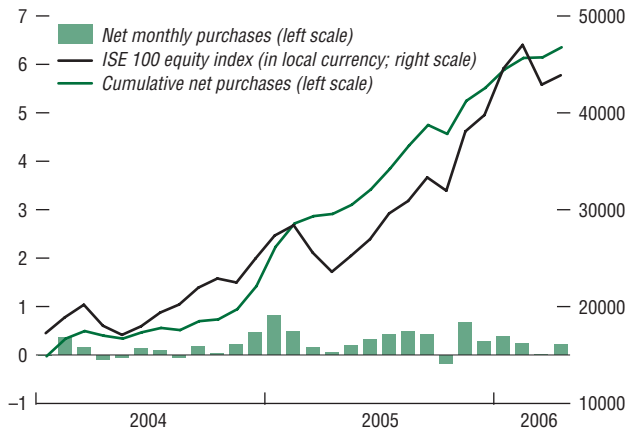
(In billions of U.S. dollars)



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

Figure 1.37. Turkey: Foreign Investment in the Stock Market

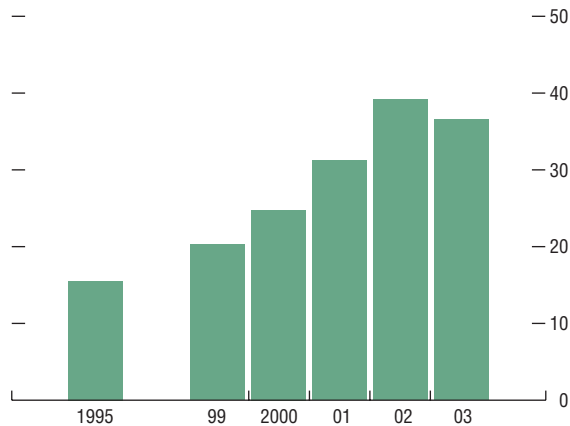
(In billions of U.S. dollars)



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

Figure 1.38. Share of FDI Flows from Emerging Markets to Other Emerging Market Countries

(In percent of total FDI flows to emerging markets)



Source: World Bank, *Global Development Finance*, 2006.
Note: FDI = foreign direct investment. Data for 2003 are estimated.

are an important source of emerging market FDI outflows, and their investment decisions can be subject to economic and strategic considerations.

Note: The main author of this annex is Marcelo Carvalho.

Annex 1.2. Financial Systems in Mature and Emerging Markets

Credit Risk Indicators for the Mature Market Financial System

This issue of the GFSR continues the use of credit risk indicators (CRIs) to review the evolution of market perceptions of systemic default risk in mature financial systems.²¹ As measured by the CRIs, default risk in the financial and insurance sectors remains relatively low, and credit derivatives markets do not indicate any particular financial stability concerns. However, banking sector CRIs have recently moved up with rising interest rates and the perception (based on numerous qualitative factors) that the credit cycle may have peaked, as well as a weaker and more volatile stock market. The nonlife-insurer CRI also reflects some increased risk perception, which we attribute primarily to the beginning of the Atlantic and Gulf of Mexico hurricane season (Figure 1.39).

Banking Sector Developments in Emerging Markets

Financial institutions in most regions have been enjoying favorable business conditions, with strong earnings often supported by rapid growth in credit, especially to households. In Latin America, improving economic perfor-

²¹The CRI index measures the probability of multiple defaults within three groups of financial institutions, implied from the market prices of credit default swaps (see Chapter II of the September 2005 GFSR for more details): large complex financial institutions (LCFIs), commercial banks, and insurance companies. The definition of LCFIs is the same as that suggested by Hawkesby, Marsh, and Stevens (2005).

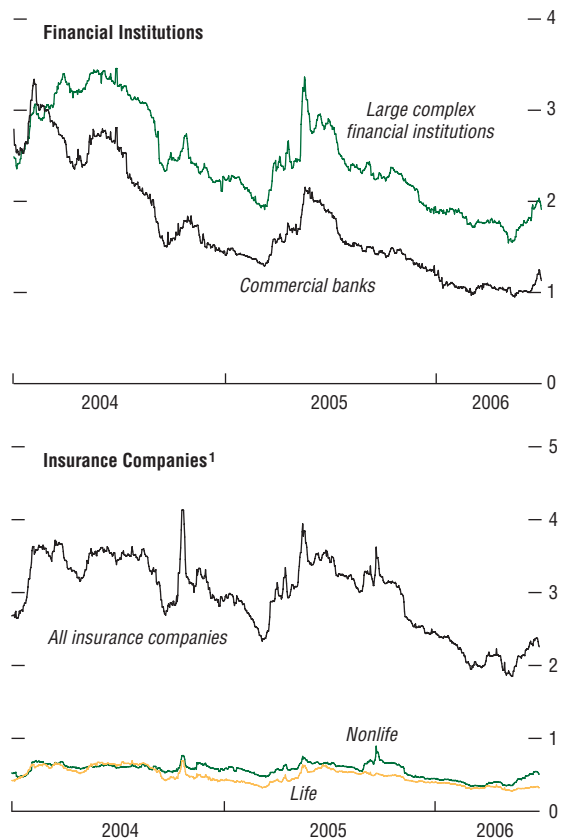
mance and the wider availability of new financial products continue to boost banks' earnings and balance sheets. In emerging Europe, financial institutions remain profitable, with indications of good asset quality, but rapid credit growth continues to be of concern. Financial systems in Asia are also generally improving with stepped-up supervision, although banks in some countries still suffer from an overhang of bad loans. In the Middle East and Central Asia, high prices of hydrocarbons have generally contributed to strengthened financial positions of banks, even though some institutions may be exposed to the effects of recent corrections in regional stock markets. Financial systems in Africa continue to strengthen despite slow progress in addressing long-standing fragilities.

Going forward, institutions in all EMs must now face rising world interest rates and tighter conditions on the availability of financing from abroad, which may affect profits and slow credit growth. This is the main risk facing EM financial institutions, which would be exacerbated if it were combined with a decline in prices of primary commodities.

Western Hemisphere. Favorable economic conditions and the wider availability of new financial products continue to support lending to the private sector in the larger economies. Consumer and mortgage credit in these countries—including in Argentina, Brazil, Chile, Mexico, and Peru—remain the main engine of private sector credit growth. The banking sector appears generally sound, with adequate capitalization, rising profitability, and improved asset quality. Due, in part, to low foreign exchange exposure and interest rate hedging, institutions seem well placed to weather increased volatility in financial markets, at least in the short run.

Emerging Europe. Financial institutions in the region remain profitable, reflecting strong economic growth. Asset quality is generally strong with modest nonperforming loan (NPL) ratios in much of the region, but rapid credit growth—which itself initially depresses NPL ratios—continues to be of concern. Dollarization remains widespread, and unhedged foreign

Figure 1.39. Probability of Multiple Defaults in Select Portfolios
(In percent)



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

¹The life and nonlife-specific credit risk indicators (CRIs) are based on five insurers, whereas the all-insurers CRI is based on 15 insurers, which is why the all-insurers CRI is higher.

Box 1.2. Does the Recent Increase in Stock Market Volatility Signal a Recession?

Several research papers have highlighted that, since the 1970s, recessions in the United States have been preceded by and associated with heightened levels of stock market volatility (see upper and middle panels in the figure).¹ One reason for the increase in volatility close to recessions may be that the range of possible future economic outcomes expands as the cycle matures and capacity tightens. With growing uncertainty about the future state of the economy, market participants revise their forecasts and reprice accordingly. A 1996 paper by Hamilton and Lin concluded that a recession is the primary factor that drives fluctuations in stock market returns.² Updating that model through May 2006 (see lower panel of the figure) confirms their finding that the model predictions coincide well with recessions as determined by the National Bureau of Economic Research. However, with an increasingly open U.S. economy and more globalized financial markets, the link between equity volatility and recession seems to have weakened in recent years. The model raises false alarms of recessions in 1998 and late 2002, when stock market volatility increased because of the LTCM crisis and prospects of war in Iraq, respectively. Both were one-off events that proved not to be harbingers of recession.

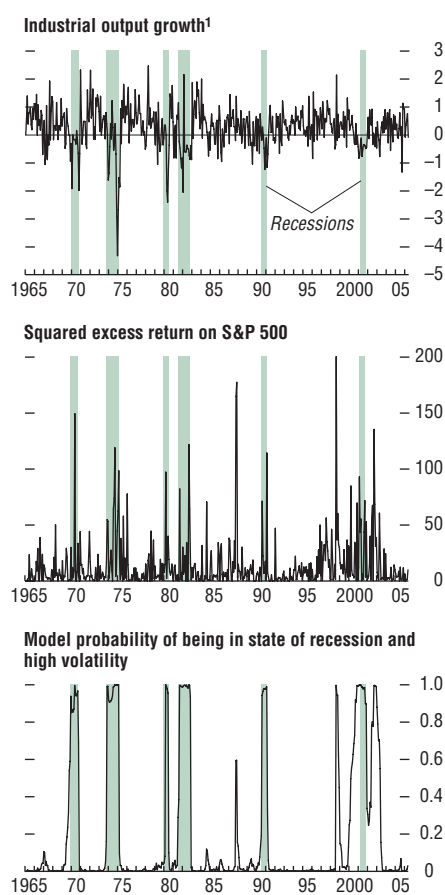
The model suggests that the recent increase in volatility does not signal a recession. The part of the variance of stock returns that is not forecastable (i.e., the variance of the model residual) has historically been about 10 times larger in recessions than in other periods. Current stock

Note: The main author of this box is Kristian Hartelius.

¹Using dummy variables for economic downturns, Schwert (1989) finds evidence of stock market volatility being higher in recessions. Hamilton and Lin (1996) and Campbell and Lettau (1999) confirm this and further find that stock market volatility is a leading indicator of recessions.

²Observing that stock returns display yearlong episodes of high volatility separated by longer quiet periods, while real output is subject to abrupt changes in the mean growth rate associated with recessions, Hamilton and Lin estimate a regime-switching bivariate time series model on U.S. data. Output is modeled as a Markov-switching autoregressive process, while stock returns are modeled as following a Markov-switching ARCH process.

Volatility and Recessions



Sources: Board of Governors of the Federal Reserve System; Bloomberg L.P.; National Bureau of Economic Research (NBER); and IMF staff estimates.

¹Shaded periods represent NBER recession dates. The output measure is constructed from 100 times the monthly change in the natural logarithm of the Federal Reserve Board's index of industrial production. The stock return is 100 times the change in the natural logarithm of the S&P 500, plus the dividend yield on the S&P 500 minus the yield on 3-month treasury bills quoted at monthly rates.

volatility, as measured by the variance in excess returns, is still well below the levels typically associated with recessions (middle panel of the figure). This is reflected in the lower panel of the figure, where the inferred model probability of being in a joint state of high volatility and recession currently is close to zero.

currency lending is rising rapidly in some countries, even for consumer loans and mortgages. The authorities in a number of countries have introduced measures, often prudential in nature, to limit lending growth, but their effectiveness remains to be seen. Meanwhile, considerable progress is being made in strengthening supervisory frameworks, especially through the implementation of EU directives.

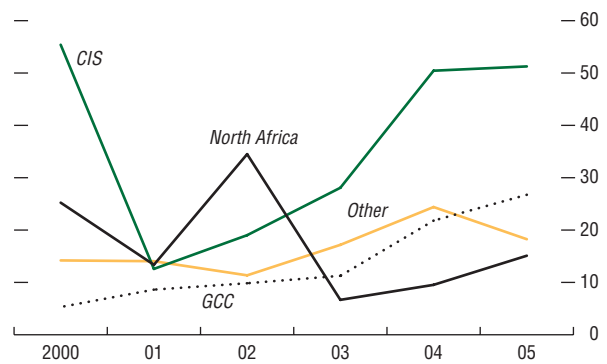
Asia. Financial systems in the region generally continue to improve, supported by rapid economic growth and stepped-up supervision. In many countries, banks are experiencing rising capital adequacy ratios, increasing profitability, and declining NPLs. In a number of key countries, banks have substantially reduced NPLs and provisioning for earlier loan losses. However, although bad loan ratios have fallen, in some countries they remain high and, in a few cases, asset quality has deteriorated. In some countries, banks still suffer from an overhang of bad loans and therefore remain vulnerable to an economic downturn.

Credit growth has continued to be rapid in some countries, raising concerns about potential deterioration in loan quality later. In particular, consumer lending continues to be strong in a number of countries in the context of high household indebtedness. High levels of household debt expose banks indirectly to interest rate increases. Banks are also exposed to interest rate risk on their holdings of government securities.

There are encouraging trends in financial sector policy. Most countries are upgrading supervisory capacity in preparation for implementing Basel II standards and some countries have initiated comprehensive programs to support financial sector development. Regional financial integration is advancing at a deliberate pace.

Middle East and Central Asia. Continued high prices of hydrocarbons have supported demand for financial services. Credit to the private sector—led by consumer, and, in some cases, real estate, lending—has expanded rapidly in most countries in the region (Figure 1.40).

Figure 1.40. Middle East and Central Asia: Annual Growth Rates in Credit to the Private Sector
(In percent; unweighted average for selected countries)



Sources: IMF, *International Financial Statistics*; national authorities; and IMF staff estimates.

Note: CIS = Armenia, Azerbaijan, Kazakhstan, and Kyrgyz Republic. GCC = Bahrain, Kuwait, Oman, Saudi Arabia, and United Arab Emirates. North Africa = Algeria, Egypt, Morocco, and Tunisia. Other = Iran, I.R. of; Jordan; Lebanon; and Pakistan.

Performance indicators for the banking systems in the region are improving, with particularly strong results in the Gulf Cooperation Council (GCC) countries, driven in part by the widening availability of mortgage and Islamic banking products. Asset quality is also generally improving in the region, although some North African countries continue to show high NPLs, largely because of problems in the state-owned banks. Although there is little sign yet of deteriorating bank asset quality as a result of the credit expansion, some regulators have already taken measures to slow the pace of expansion. An additional concern in a few cases is that reliance of banks on funding from external sources may make the banks vulnerable to a tightening in international financial conditions.

Some institutions may be directly or indirectly exposed to the effects of the correction in stock markets in the Middle East that started in late 2005 and accelerated in early 2006. However, market indices are still at about their end-2004 levels, and the recent peaks may have been heavily discounted. In most cases, the authorities have refrained from directly supporting the market and, in some cases, have taken positive steps toward increasing transparency and accountability. Nonetheless, potential risks to the banking system from exposure to the stock market as a result of margin lending to retail customers for equity investments will need to be monitored closely. Some institutions may also be vulnerable to a correction in the real estate sector and a slowdown in construction, especially in locations that have seen a boom in the construction of office space.

Africa. Financial systems in the African region, in particular in sub-Saharan Africa, continue to strengthen, supported by a favorable macroeconomic environment and high prices for primary products. However, progress in addressing fragilities is slow and banking system weaknesses remain. Available data suggest that, with few exceptions, the capital adequacy ratios are high, although less so if the concentrations in credit risks that plague most countries are taken into account. Although banks

are highly profitable, the trend is downward as opportunities for quick high returns from investing in treasury bills are declining. Average NPL ratios are declining, in large part because of rapid credit growth; marginal NPL ratios do not seem to be improving significantly.

The financial systems remain vulnerable to a range of risks. On the one hand, high oil and other commodity prices have increased the availability of bank lending, which may accentuate credit risk in countries with limited absorptive capacity. On the other, the influx of foreign investment into the treasury securities market in countries in sub-Saharan Africa is a mixed blessing; though these flows provide resources, they might create a new form of dependency on potentially volatile foreign financing. In addition, regulatory gaps remain, for example, in consolidated and cross-border supervision where banks are regionally active. Some risk is also posed by the emerging trend of reviving development banks with a view to determining the sectoral allocation of credit.

Note: The main authors of this annex are John Kiff and a team from the Monetary and Financial Systems Department, led by Daniel Hardy.

Annex 1.3. Investment in Commodity Markets

In recent years, commodities as an asset class have attracted considerable interest from investors. Commodity Trading Advisors (CTAs),²² for instance, have been growing assets at an average rate of 41 percent per year for the last three years (Figure 1.41). More specifically, market participants report that \$35 billion

²²CTAs in the Center for International Securities and Derivatives Markets database are registered with the National Futures Association, an organization that manages registrations on behalf of the Commodities Futures Trading Commission (CFTC), a U.S. regulator. The CFTC defines a CTA as any entity that, for compensation or profit, directly or indirectly advises others as to the advisability of buying or selling commodity futures or option contracts. Assets managed by CTAs may be directed toward financial futures as well.

flowed into commodity futures last year alone.²³ Anecdotal evidence suggests that the increased flow into commodities is largely coming from institutional investors, such as pension plans, as a result of recent asset allocation decisions that have been encouraged by consultants, largely on the basis of results from quantitative models. This annex discusses the growth of institutional investment in commodities, its rationale, and its possible market implications. The key findings are as follows:

- institutional investment in commodities is rising because the case for portfolio allocation remains compelling on the basis of long-term historical data;
- institutional flows into the asset class could suffer some reversal as a result of disappointment with recent performance; and
- institutional flows into the asset class may be a factor in shaping recent market developments.

The case for institutional investment is based on portfolio return enhancement and risk reduction that occurs as a result of diversifying traditional stock and bond investments with commodities. A recent study by Ibbotson Associates showed that investment portfolios may optimally include up to 30 percent in commodities, depending on the level of risk desired.²⁴ However, most studies find that investors benefit from a 10–12 percent allocation on average. Table 1.3 shows the type of data these studies use to make the case for long-term investing in commodities. Two commonly used commodity indices, the GSCI and the DJ-AIG, are often compared with indices for other asset classes.

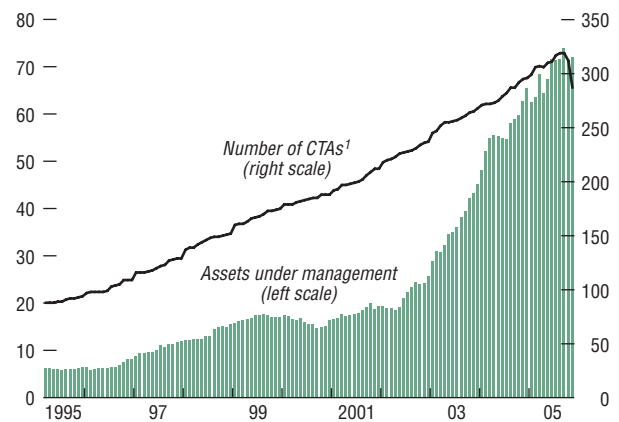
Another reason for including commodities in equity portfolios is that commodities tend to have positive returns more frequently than equities (Figure 1.42). One reason could be that global crises, such as natural disasters and geopolitical conflict, tend to raise commodity prices while affecting equities negatively.

²³Chernoff (2006).

²⁴Idzorek (2006).

Figure 1.41. Growth in Assets of Commodity Trading Advisors

(In billions of U.S. dollars)



Source: Center for International Securities and Derivatives Markets.
¹CTAs = Commodity trading advisors.

Table 1.3. Asset Class Characteristics

	GSCI Total Return	DJ-AIG Total Return	U.S. Equity	U.S. REITs	EAFE Equities	EM Equities	Global Equities	Global Bonds Broad	EM Debt	U.S. 90-Day T-Bills	U.S. Inflation
<i>(10 years ending July 2006; in percent)</i>											
Annualized return	8.8	8.6	7.5	5.9	7.0	7.5	7.7	5.5	11.8	...	...
Annualized volatility	21.6	14.1	15.5	14.2	15.1	24.2	14.6	6.6	12.8	...	...
<i>(Correlation data over 10 years, ending July 2006)</i>											
GSCI total return	1.00										
DJ-AIG total return	0.90	1.00									
U.S. equity	0.00	0.12	1.00								
U.S. REITs	-0.04	0.08	0.32	1.00							
EAFE equities	0.09	0.21	0.80	0.29	1.00						
EM equities	0.13	0.27	0.72	0.37	0.76	1.00					
Global equities	0.04	0.16	0.95	0.30	0.94	0.77	1.00				
Global bonds broad	0.16	0.21	-0.05	0.13	0.15	-0.06	0.04	1.00			
EM debt	0.10	0.21	0.58	0.37	0.52	0.67	0.57	0.10	1.00		
U.S. 90-day treasury bills	-0.08	-0.08	0.04	-0.12	-0.09	-0.18	-0.03	-0.14	-0.03	1.00	
U.S. inflation	0.16	0.17	-0.09	0.05	-0.01	-0.02	-0.06	0.09	0.00	0.02	1.00

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

Note: DJ-AIG = Dow Jones-American Industrial Group; EAFE = Europe, Australia, Far East; EM = emerging market; GSCI = Goldman Sachs Commodity Index; and REITs = Real Estate Investment Trusts.

Finally, it is useful to add commodities to a portfolio when inflation is accelerating because rising prices for commodities balance falling prices for stocks and bonds under these conditions (Figure 1.43).

In the past, institutional investors who have accepted these arguments have mostly allocated capital to different types of commodity investment funds. Some funds simply seek to replicate index performance. Others try to outperform indices using judgment and skill to trade futures in markets for energy, metals, and agriculture. Meanwhile “portable alpha” funds use total-return swaps on commodity indices to gain asset class exposure, but they seek to outperform these indices by actively managing exposure to some other asset class, such as fixed income or equities. Even though institutional investors may obtain portfolio exposure to commodities in all these different ways, their investments perform very much like commodity indices. Barclays Capital, a significant provider of commodity investment funds, estimates that \$85 billion in assets track commodity indices, and 65 percent of that total is benchmarked to the GSCI index.

Despite the positive advantages of investing in commodities, many investors may have been

too optimistic in basing their expectations of total return on rising spot prices. Spot price appreciation is just one aspect of total return for commodities (Figure 1.44). The other two components are collateral return and roll yield. The former comes from yield on cash set aside as margin for investments in commodity futures,²⁵ while the latter is obtained from selling futures approaching delivery and buying longer-dated futures with the proceeds. By rolling futures contracts this way, an investor typically profits from price appreciation of commodity futures as the delivery date approaches, a phenomenon known as backwardation. However, some commodity futures fall in price near the delivery date: a phenomenon known as contango. In the latter case, the roll yield is negative; and the total return on a futures contract may be lower than spot return or negative, depending on the relative magnitudes of spot, collateral, and roll returns. The GSCI index presently suffers from negative roll yield, because it has a large allocation (45 percent) to crude oil futures that are in contango for contracts with less than 12 months to delivery

²⁵Index total returns assume a margin of 100 percent.

(Figure 1.45). As a result, the index total return has been lower than spot return for more than a year now (Figure 1.46).

Despite these issues, institutional investment in commodity markets is rising relative to the size of hedging positions of producers and consumers of commodities. Many traders believe that the influx of this capital may explain some of the gradual change in pricing for oil futures contracts from backwardation in 2004 to the present contango.

Note: The main author of this annex is Mustafa Saiyid.

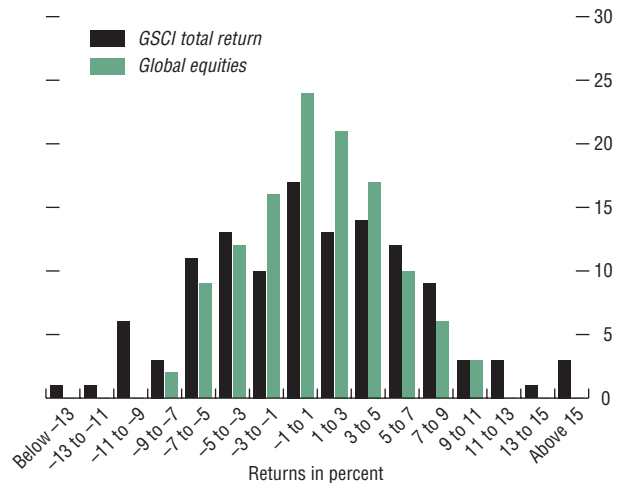
Annex 1.4. Structural Sources of U.S. Capital Inflows

Global imbalances, particularly large and persistent current account deficits among some of the major industrial countries, such as the United States, have attracted considerable attention among academics, market participants, and policymakers.²⁶ However, the explicit timing and dynamics of the adjustment process continues to escape satisfactory analysis, in part owing to the many influences at work.²⁷ A key influence is the inflow of capital to take advantage of particular investment opportunities. Indeed, the increasingly rapid pace of financial globalization, financial innovation, and the development of new investment vehicles have the common goal of addressing the asset allocation requirements of international investors seeking risk-return targets. Within this global environment, economies with well-developed capital markets (e.g., the United States) have historically offered investors the most liquid and transparent markets, as well as superior transaction execution and certainty. As such, the pace of eventual adjustments to current account deficits may be expected to be

²⁶See IMF (2005); Greenspan (2005); Poole (2005); and Geithner (2006).

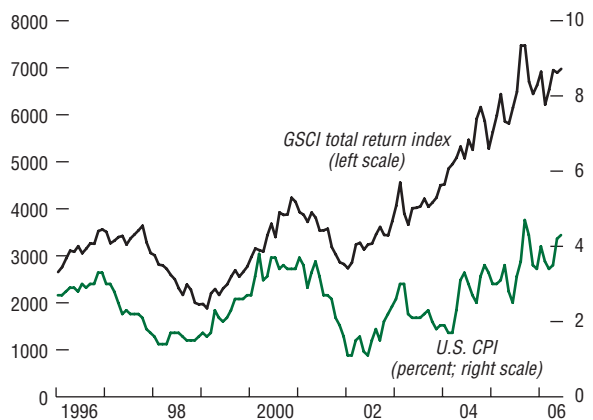
²⁷Roubini and Setser (2004 and 2005) analyze the unsustainable nature of the global U.S. imbalances and present alternative hard-landing scenarios where financing shocks arise from global portfolio shifts out of U.S. dollar assets.

Figure 1.42. Distribution of Monthly Total Returns for Commodities and Equities
(In percent of observations; 10 years ending July 2006)



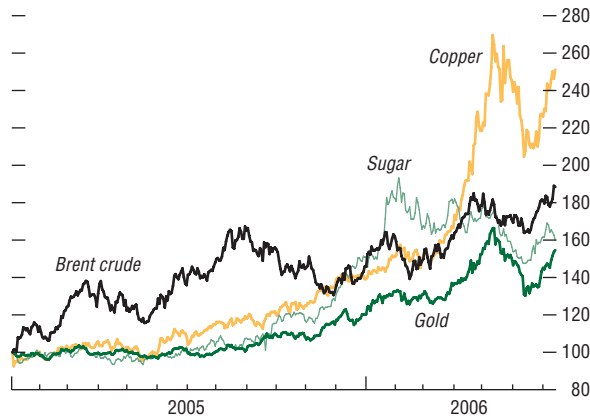
Source: Bloomberg L.P.
Note: GSCI = Goldman Sachs Commodity Index; skewness of GSCI = 0.08; skewness of global equities = -0.6.

Figure 1.43. Commodity Returns and U.S. Inflation



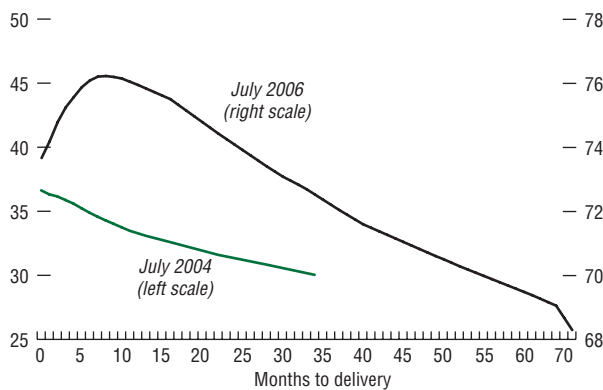
Source: Bloomberg L.P.
Note: GSCI = Goldman Sachs Commodity Index.

Figure 1.44. Performance of Selected Commodities
(Spot prices; January 1, 2005 = 100)



Source: Bloomberg L.P.

Figure 1.45. Brent Crude Oil Futures
(In dollars per barrel)



Source: Bloomberg L.P.

influenced by these and related microeconomic factors. This annex will highlight some of the economic and capital markets–related factors that may be helping to facilitate foreign capital inflows, and perhaps have prolonged, and will smooth, the adjustment process.

Stylized Facts About Net Capital Flows

During 1995–2004, several countries were consistent recipients of net capital inflows, including the United States (3.3 percent of GDP) and the United Kingdom (1.6 percent of GDP), due in large part to strong microeconomic factors.²⁸ These countries offer investors a variety of investment opportunities, and they support investor confidence through their relatively open, large, liquid, and sophisticated financial markets, and (importantly) effective regulatory regimes. Capital inflows not only reflect relatively low domestic saving and weak foreign domestic demand but also, more importantly, they are a consequence of global investors seeking the best risk-adjusted returns and diversification opportunities.²⁹ Indeed, the share of foreign investments in U.S. private debt and equity rose from the 10–15 percent range in the late 1970s through early 1980s to nearly 40 percent by 2005 (Figure 1.47).³⁰ Such

²⁸Although the U.S. external position was largely in balance prior to the 1990s, the large capital inflows since that time have shifted the U.S. investment position from a positive to a negative net asset position equal to 20 percent of GDP. By contrast, Australia has received capital inflows every year since 1974.

²⁹The theme of a “global savings glut” as a factor behind U.S. capital inflows has been the subject of much analysis, including in Bernanke (2005) and Issing (2005). Despite increasingly integrated markets, the correlations among international stock returns have not increased, suggesting that such classes of U.S. assets remain a source of portfolio diversification for global investors (see Bekaert, Hodrick, and Zhang, 2005). Structural changes, such as the surge in U.S. productivity, were reflected in a sharp revaluation of U.S. equity prices during the last half of the 1990s, which helped channel foreign savings flows into U.S. equities throughout the 1990s.

³⁰Since the equity market peak in 2000, private debt holdings of foreign investors have grown rapidly in the

investments essentially reflect foreign investor decisions to allocate savings to U.S. assets.³¹

Influences on Global Savings Flows

Rapidly aging populations in Western Europe and Asia (especially Japan) seek to allocate savings to assets with the best combination of returns and safety. The United States has continued to be a favored destination for such flows, because of both real and financial factors.

Real-economy factors. U.S. economic growth has exceeded that of many other industrial countries, in part because of the acceleration in U.S. productivity in recent years relative to foreign productivity. This has helped raise U.S. potential GDP growth in excess of 3 percent, compared with substantially lower growth rates in the euro area and Japan.³² Moreover, relatively flexible U.S. labor and capital markets helped promote growth through the efficient reallocation of resources across sectors.

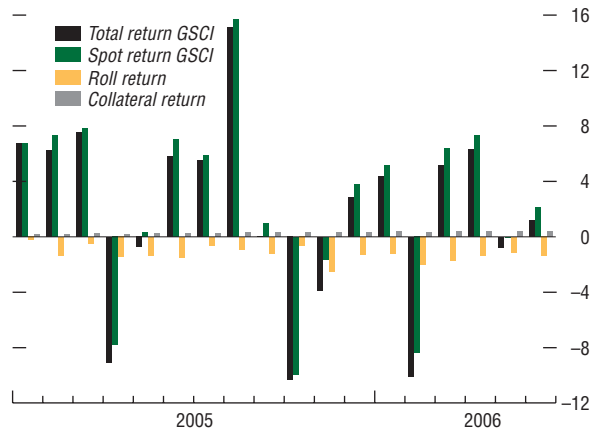
Financial market factors. The role of global financial intermediary played by both the United States and the United Kingdom has been facilitated by their financial markets' size, liquidity, transparency, efficiency, and clarity regarding the "rules of the game" (e.g., bankruptcy code, creditor rights, settlement systems, and consistent tax treatment). Deep and dependably liquid markets enhance investors' ability to perform a variety of transactions to absorb large inflows, pool and manage risks, and promote secondary market activity. The broad menu of available U.S. assets has also produced higher risk-adjusted returns relative to foreign assets, due in part to higher U.S. productivity and real growth noted above. For example,

United States and United Kingdom.

³¹The substantial rise in official foreign holdings of U.S. assets (mainly government securities) during 2002–04 was partly a consequence of exchange rate policies among some Asian countries. However, since 2004, the surge in official holdings has eased, as many of these countries have relaxed their exchange rate stabilization policies and private flows have picked up.

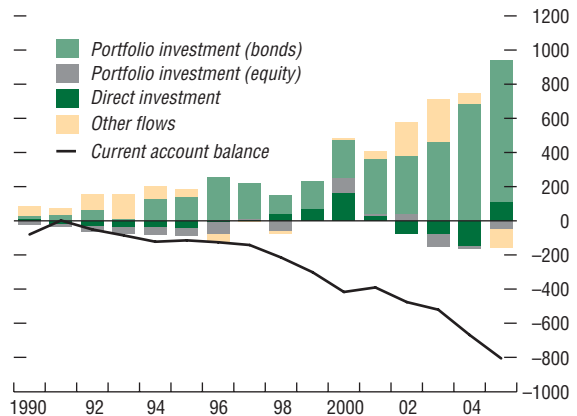
³²See Skoczylas and Tissot (2005).

Figure 1.46. Goldman Sachs Commodity Indices
(Monthly returns in percent)



Sources: Goldman Sachs; and IMF staff estimates.
Note: GSCI = Goldman Sachs Commodity Index.

Figure 1.47. Financing of the U.S. Current Account by Instrument
(In billions of U.S. dollars)



Source: IMF, *International Financial Statistics* database.

firm-level data for publicly traded firms suggest that returns on U.S. investments were higher (8.6 percent) than on investments in other G-7 countries (2.4 percent) as well as in emerging market economies (approximately -4.7 percent) for the period 1994–2003.³³ Moreover, the international role of the dollar as a medium of exchange and unit of account has helped to raise the demand for U.S. assets in global portfolios, especially among investors whose domestic currency has been linked to the U.S. dollar.³⁴

Also enhancing the attraction to U.S. and U.K. markets is a strong financial industry and large numbers of skilled specialists at the cutting edge of financial innovations to meet the asset-allocation and portfolio needs of global savers. The value added by such financial institutions is illustrated by the large trade surplus in U.S. and U.K. financial services exports (\$33.8 and \$28.6 billion, respectively) relative to imports (\$12.5 and \$6.1 billion, respectively). In addition, varieties of asset classes and investment vehicles (e.g., credit derivatives and mortgage-backed securities) have been developed and successfully implemented in U.S. and U.K. markets. They allow global investors to obtain broader credit exposures, while targeting their desired risk-reward trade-off.³⁵ Indeed, through investment funds managed by U.S. or U.K. investment advisors, global investors are able to gain exposure to almost any asset class, or any market (e.g., investment managers implementing Asia-oriented investment strategies are often located in the United States or

the United Kingdom). Moreover, for markets with structural frictions (e.g., capital controls), investor exposure can be obtained with derivatives instruments developed and traded almost exclusively in U.S. and U.K. markets.³⁶

Developed and consistently applied legal and regulatory frameworks are important features that bolster investor confidence, and enhance the attractiveness of U.S. and U.K. markets. Since the financial crises of the late 1990s, risk-averse investors in Asia and Europe have been reluctant to invest significantly in other regional EMs, as returns are perceived to be more volatile, and the investments are perceived to be subject to political or legal risks.³⁷ To be sure, there have been instances among U.S. companies of fraud and failures of corporate governance systems (e.g., WorldCom and Enron), but investors have generally seen such instances as exceptional and company-specific.

Policy Message

The persistence of external imbalances, of which the U.S. current account deficit is the largest, may be facilitated by increasingly globalized financial markets and an attractive menu of financial assets offered by U.S. markets to global investors. Capital inflows reflect better relative growth prospects and microeconomic climate and infrastructure, among other factors.³⁸ With such factors contributing to a comparative advantage in producing attractive U.S. financial investment opportunities, net U.S. capital inflows may be sustained for some

³³Such calculations are not subject to differences in composition that are known to cause returns on U.S. capital invested abroad (largely FDI and equities) to be higher than returns on foreign investments (largely in U.S. treasury and related investments). See Brooks and Ueda (2005) for further details.

³⁴The prevalence of dollar assets is illustrated by the fact that almost half of the global stock of U.S. currency, which pays no explicit return, circulates abroad.

³⁵Insofar as equity markets attracted inflows during the late 1990s, foreign demand for asset-backed securities and government agencies grew as equity market returns faltered. This foreign demand for fixed-income investments helped to balance the decline in equity flows.

³⁶Financial innovations enable global investors to obtain some of their desired exposures without directly investing the full amount of their target allocations in foreign markets.

³⁷Nevertheless, EM assets (e.g., sovereign debt) continue to be an attractive asset class for institutional investors as they seek greater diversification and portfolio benefits.

³⁸Caballero, Farhi, and Gourinchas (2006) derive a theoretical framework that illustrates the interaction of relative growth prospects, real rates of return, and the relative attractiveness of financial assets in sustaining the global distribution of external balances.

time period, thereby prolonging and smoothing long-run external adjustments. Ultimately, however, when portfolios adjust fully and have exploited diversification and growth opportunities, the U.S. net investment position will likely stabilize, and the current account deficit will decline to more sustainable levels. When this occurs, the depth, liquidity, sophistication, and stability of U.S. financial markets will raise the likelihood of asset prices adjusting in an orderly fashion.

Note: The main author of this annex is William Lee.

Annex 1.5. Recycling of Surpluses in Emerging Asia

The pressure of current account surpluses and rising capital inflows to Asia has led to liberalization and diversification of capital outflows, both public and private. Because a large share of the total surplus has been accumulated as net international reserves, reserves stocks are often substantially greater than needed for liquidity considerations alone. In many cases, the disposition of what has become a large component of national wealth has emerged as an issue.³⁹ In determining how to discharge their fiduciary responsibilities, authorities may choose to invest a portion of the reserves stock to maximize a measure of risk-adjusted return, likely entailing asset diversification. Alternatively, they may encourage capital outflows through private or semi-public channels, likely also leading to some diversification of the nation's stock of foreign assets. Both trends have been evident in Asia in recent years.

On the official side, some reserves managers are investing a portion of the reserves stock with the goal of maximizing expected returns, given a particular risk tolerance level and the constraints that apply to the use of official reserves. In some cases, this involves the use of

³⁹The criteria normally used to assess the adequacy of reserves stocks include the import coverage ratio, the reserves-to-short-term-debt ratio, and the reserves-to-GDP ratio.

external managers to run a portion of the portfolio. Official or quasi-official entities, such as national pension funds, are adopting modern portfolio management techniques, often raising the share of foreign assets in their portfolios. In many countries, regulatory reform has made it easier for institutional investors to acquire and hold foreign assets. Regulatory changes—often supported by better marketing on the part of asset managers—have also provided individual investors with better access to foreign assets. One consequence of these trends may be a shift away from investments in short-duration high-liquidity instruments.

Background

Since the 1997–98 Asian crisis, a number of Asian economies have run sizable current account surpluses. Individual country experience varies, but the surpluses have generally come about as a result of persistently high domestic savings rates and reduced rates of domestic investment. While the current account positions of some economies have recently deteriorated somewhat, in part because of higher oil payments, China, Hong Kong SAR, Malaysia, Singapore, and Taiwan Province of China continue to register strong current account surpluses, and Japan has run an external surplus of 2–4 percent of GDP for over a decade.

Moreover, since 2003, portfolio equity inflows to many Asian markets (Table 1.4), including to Hong Kong SAR, India, Indonesia, Japan, Korea, and Thailand, have been particularly strong. Equity inflows to China have been less direct, in the form of public listings by mainland firms on the stock exchange in Hong Kong SAR, but these still appear as increased portfolio equity flows to the mainland.

Total reserves held by East Asian monetary authorities, including Japan, as of May 2006, were about \$2.9 trillion, up from slightly more than \$1.4 trillion at the end of 2002. As reserves stocks have risen (Table 1.5), the balance sheet and opportunity costs of holding them have also increased, in some cases

Table 1.4. Current Account and Capital Inflows: Emerging Asia*(In billions of U.S. dollars)*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Current account	-28	29	119	113	88	91	128	168	187	255
Gross capital inflows	193	149	-121	100	191	65	81	191	346	345
FDI inflows	71	81	86	104	139	98	80	83	129	162
Portfolio bond inflows	28	18	-2	-4	-1	1	5	11	22	16
Portfolio equity inflows	18	7	1	95	76	25	10	68	55	88
Derivatives, bank borrowing, etc.	76	43	-205	-96	-24	-59	-14	29	140	79
Gross capital outflows and errors and omissions	-107	-164	59	-126	-216	-70	-59	-132	-197	-335
Reserves accumulation (-)	-58	-15	-57	-87	-62	-86	-150	-227	-337	-265

Sources: CEIC; IMF, *International Financial Statistics*; and IMF staff estimates.

Note: Aggregate data for 10 Asian economies: China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, and Thailand. FDI = foreign direct investment.

more than proportionally. Calculated with respect to the authorities' balance sheet, the cost of holding the reserves is the cost of the liabilities issued to acquire them. If currency market interventions are fully sterilized, this is the coupon payment on the debt instruments sold to the public, in some cases adjusted for ex post exchange rate changes. Because the interest rates on domestic bonds tend to rise as the total of such bonds held by the public increases, the marginal cost of accumulating reserves may be increasing. With regard to national income, the marginal opportunity cost of holding reserves is the real return that

would have been earned on the best alternative use of the same resources.

Measures to Diversify and Liberalize Outflows

Diversification has been one clear response to the challenge of reserves accumulation. While remaining within the liquidity restrictions imposed by the definition of reserve assets, it has generally been possible for reserves managers to adjust portfolio composition—at least to some extent—with regard to asset duration, type (e.g., sovereign credit, asset-backed security, or even equity),

Table 1.5. Net International Reserves: Leading Economies*(In billions of U.S. dollars)*

Country (ranking)	1997	2001	2003	2004	2005	April 2006	Percent of Reserves to	
							GDP	Annual imports
1 China	141	213	404	611	820	895	37	124
2 Japan	209	389	654	826	830	841	18	161
3 Taiwan Province of China	84	123	207	243	254	260	73	139
4 Korea	20	103	155	198	210	223	27	80
5 Russia	14	33	74	122	176	219	23	128
7 India	25	46	98	126	132	154	17	98
8 Hong Kong SAR	93	111	118	124	124	127	70	42
9 Singapore	71	75	95	112	115	127	98	59
10 Mexico	28	44	58	63	73	78	10	33
11 Malaysia	20	29	43	65	69	75	53	61
12 Algeria	8	18	33	43	57	66	55	282
13 Turkey	19	19	34	36	50	60	14	51
14 Brazil	51	36	49	53	54	56	7	69
15 Thailand	26	33	41	49	51	56	30	43
World	1,687	2,334	3,330	4,081	4,698	4,941	...	...

Source: IMF, *International Financial Statistics*.

Table 1.6. Breakdown of Capital Outflows: Emerging Asia*(In billions of U.S. dollars)*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gross capital outflows	140	165	-9	188	264	147	210	380	567	551
Private capital and official nonreserve outflows	82	151	-65	101	202	61	60	153	230	286
Foreign direct investment outflows	20	26	31	39	79	51	35	22	78	67
Portfolio bond outflows	10	4	-6	4	22	50	50	48	24	62
Portfolio equity outflows	14	17	1	49	36	40	35	40	59	64
Derivatives, bank lending, etc.	37	104	-91	9	64	-80	-61	44	69	92
Reserves accumulation	58	15	57	87	62	86	150	227	337	265

Sources: CEIC; IMF, *International Financial Statistics*; and IMF staff estimates.

Note: Aggregate data for 10 Asian economies: China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, and Thailand. Gross capital outflows and reserves accumulation are entered with a positive sign.

or currency denomination.⁴⁰ A typical strategy is to divide reserves into a “liquidity” pool and an “investment” pool. The former generally consists only of very high-grade short-duration instruments, predominantly in the main reserve currency (in Asia, typically U.S. dollars). Within the latter pool, however, more leeway may be allowed. For many countries, the investment pool is likely to have increased substantially in the past three years.

Some authorities have also taken note of the example of Singapore’s Government Investment Corporation (GIC), established in 1981 to manage the investment of a share of the nation’s official external assets. Certain assets held by the GIC are not eligible to be counted as official reserves, with the result that some of the more than \$100 billion that is managed by the GIC does not figure into the nation’s public stock of official reserves (\$129 billion as of May 2006). In a similar vein, Korea established the Korea Investment Corporation (KIC) in 2005, with the aim of having it manage \$20 billion of the nation’s \$225 billion (May 2006) in foreign reserves. In contrast with the arrangement in Singapore, however, all the assets entrusted by the Bank of Korea to the KIC (about \$17 billion) will continue to be treated as official reserves. A variation on this theme is provided by Malaysia, which has started a publicly owned

investment corporation known as Khazanah Nasional, with about \$20 billion under management, that invests in both domestic and foreign firms.⁴¹ Other regional authorities have also been reported as studying the development of such national wealth managers.

Governments have also moved to generate capital outflows through institutions under their control, notably national pension funds. In Japan, the Government Pension Investment Fund had increased the share of foreign stocks and bonds in its 142 trillion yen (\$1.21 trillion) portfolio to about 13 percent by March 2006, from an initial level near zero in 2001. Korea’s Pension Fund Association raised its allocation to foreign assets to about 8 percent of its 156 trillion won (\$154 billion) portfolio in 2005. More than nine-tenths of the allocation is in foreign fixed income, almost all of which is currency hedged. National pension funds elsewhere, including in Thailand, have also raised targets for holdings of foreign assets.

Foreign direct investment outflows have also increased (Table 1.6), as public or large private firms in emerging economies have sought to benefit from access to overseas natural resources, labor, or distribution networks (see earlier discussion on “South-South” FDI). Outward FDI from China has grown particularly

⁴⁰See IMF (1993, pp. 97–100) for eligibility criteria for reserves assets.

⁴¹Khazanah Nasional may more closely resemble Singapore’s Temasek Holdings than it does the GIC. Temasek manages a portfolio of both domestic and foreign assets.

rapidly, although even at more than \$11 billion in 2005 it was less than one-fifth the total of inward FDI in the same year. Recent streamlining of licensing requirements has apparently contributed to the rapid expansion of outward FDI. In Korea, FDI outflows have also increased, though not as steeply, as the country's leading automobile and electronics manufacturers have expanded some production overseas. Some Indian firms as well have pursued overseas expansion through FDI.

Investment vehicles now being made available to individual households could constitute an important channel for expansion of capital outflows (see Box 1.1 for discussion on purchases of foreign bonds and investment trusts by Japanese households). In April 2006, China announced a set of measures to give individual savers greater access to foreign assets. Among these, depositors in domestic banks will be allowed to purchase foreign exchange and foreign-exchange-linked products with renminbi funds; previously, depositors were required to furnish foreign exchange in order to have access to such products. In addition, individual investors will be allowed to acquire up to \$20,000 a year in foreign-asset-based mutual funds, although the availability of such funds is currently quite limited. Some private sector analysts say that these and related measures may result in perceptible increases in private capital outflows from China, given interest rates on domestic savings accounts that presently average less than 1 percent.

Elsewhere in Asia, Malaysian authorities increased the limit on holdings of foreign assets by some institutional investors and investment trusts from 10 percent to 30 percent in 2005. Investors are reported to have responded enthusiastically. While statistics on gross outflows are not available, portfolio flows shifted from net inflows of \$5.5 billion in the 12 months through March 2005 to net outflows of \$2.5 billion in the following 12-month period. Private outflows from Korea (Table 1.7) have also accelerated in the past year, in part because of the successful marketing efforts of funds investing in foreign

Table 1.7. Capital Outflows from Selected Asian Economies
(In billions of U.S. dollars)

	2002	2003	2004	2005	April 2006
Foreign direct investment outflows					
Korea	2.62	3.43	4.66	4.31	5.02
Taiwan Province of China	4.89	5.68	7.15	6.03	6.53
Thailand	0.14	0.42	0.05	0.40	0.60
Equity portfolio outflows					
Korea	1.46	1.99	3.62	3.47	7.19
Taiwan Province of China	10.95	21.12	16.52	23.51	29.51
Thailand	0.01	0.15	0.26	0.28	0.52
Bond portfolio outflows					
Korea	2.28	1.60	3.77	6.54	10.48
Taiwan Province of China	4.49	14.16	5.98	11.27	9.36
Thailand	0.91	0.79	-1.48	1.25	n.a.

Sources: CEIC; and IMF, *International Financial Statistics*.

Note: April 2006 data are for trailing 12-month period (March 2006 for Taiwan Province of China). Gross outflows are entered with a positive sign.

equities. Bond outflows have also accelerated, but this has been primarily due to purchases by institutional investors, including life insurers, since the spreads between domestic and foreign interest rates are not large. Thus far, such purchases of foreign fixed-income products have generally been hedged, limiting exposure to currency fluctuations.

Conclusions

There is a broad trend toward liberalization of capital outflows and diversification of foreign asset stocks in Asia that encompasses central bank reserves, heritage and national wealth funds, national pension funds, private pension funds, individual and institutional portfolios, and even the balance sheets of private non-financial firms. These developments reflect, in part, the rising costs of holding official reserves, and are generally to be encouraged. Acceleration and diversification of financial outflows enhance overall financial stability by broadening the asset base from which domestic investors derive their returns. It improves the expected risk-adjusted return to those investors. And, in many cases, it helps to promote

the development of domestic asset management capacity.

As with any capital account liberalization, these changes entail some risks. Investors exposed for the first time to a wide range of globally traded assets may opt to chase returns, choosing asset classes that have recently produced high returns rather than diversifying or selecting assets with more sensible risk-return characteristics. In the aggregate, the effect of shifting some outflows from the official sector to the private sector may be diversification of currency exposure, with potential implications for currency markets. Nevertheless, home bias of existing portfolios is still high, and many Asian economies still have some distance to go in opening up outflows. Accordingly, further liberalization of outflows has the potential to provide substantial benefits.

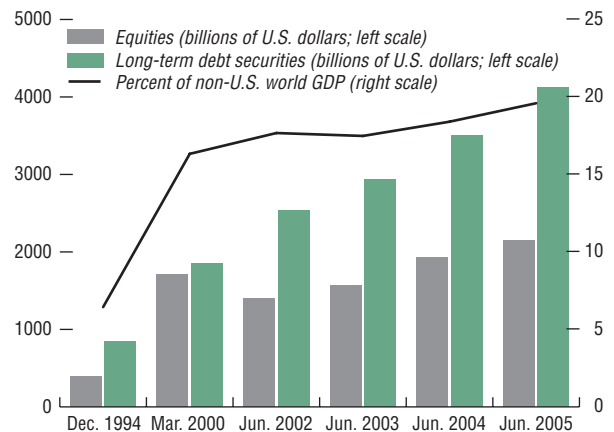
Note: The main author of this annex is Chris Walker.

Annex 1.6. Foreign Investors' Holdings of U.S. Securities

What amount of U.S. securities do foreign investors hold? U.S. Treasury data on foreign holdings of U.S. assets by country of holder and asset class (treasury, agency, corporate bonds, and equities) show that foreign investors have increased their holdings of long-term U.S. securities over time, not only in gross dollar terms but also as a percentage of non-U.S. world GDP (Figure 1.48).⁴² Figure 1.49 shows foreign

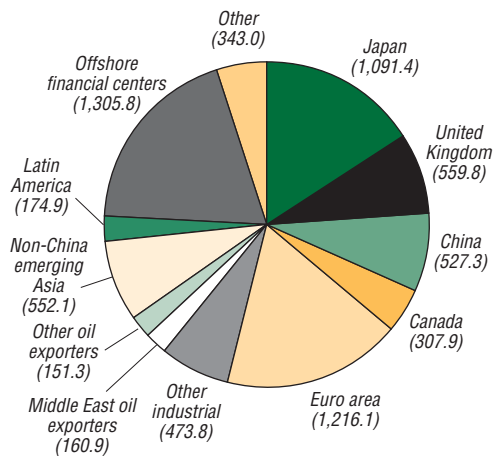
⁴²See U.S. Department of the Treasury, Federal Reserve Bank of New York, and Board of Governors of the Federal Reserve System (2006). These data are subject to considerable custodial bias, which arises when custodians do not know the ultimate residence of the owner of a security, in particular because of "custodial chains." For instance, a U.S. custodian may hold a security on behalf of, say, a Swiss custodian that may, in turn, hold the security on behalf of a French investor. In this case, U.S. custodian would be likely to report the owner of the security as Swiss. This bias thus leads to overestimates of U.S. securities ownership among custodial countries, which notably include Belgium, Luxembourg, Switzerland, the United Kingdom, and Caribbean banking centers. See Bertaut, Griever, and Tryon (2006).

Figure 1.48. Foreign Holdings of Long-Term U.S. Securities



Sources: U.S. Treasury Department, *Treasury International Capital System*; and IMF, *World Economic Outlook*.

Figure 1.49. Foreign Holdings of U.S. Assets
(In billions of U.S. dollars; end-June 2005)



Sources: U.S. Department of the Treasury, *Treasury International Capital System*; and IMF staff estimates.

Table 1.8. Characteristics of Foreigners' Portfolio Holdings of U.S. Assets*(In percent; holdings as of June 30, 2005)*

	Japan	U.K.	China	Canada	Euro Area	Other Industrial Countries	Middle East Oil Exporters	Other Oil Exporters	Non-China Emerging Asia	Latin America	Offshore Financial Centers	Other	Totals
Portfolio weights													
Equities	16.3	46.5	0.5	71.6	36.8	56.4	51.3	25.4	22.2	18.6	36.3	5.6	31.2
Treasuries	61.1	9.0	56.5	6.4	12.6	14.9	34.0	7.8	47.7	41.1	10.2	26.2	27.4
Agencies	13.1	4.5	36.1	1.7	9.3	9.1	8.8	55.4	21.8	24.5	10.8	5.9	13.7
Corporates	9.6	40.0	6.9	20.3	41.4	19.7	6.0	11.4	8.3	15.9	42.8	62.4	27.6
Portfolio characteristics¹													
Average annual return	7.7	8.9	7.0	9.6	8.6	9.1	9.0	8.1	7.9	7.9	8.6	7.7	8.4
Average volatility ²	4.89	8.11	3.80	11.15	7.00	9.58	9.32	5.83	5.58	5.05	6.92	4.15	6.52
Percent of total foreign holdings	15.9	8.2	7.7	4.5	17.7	6.9	2.3	2.2	8.0	2.5	19.0	5.0	100.0
Total exposure to U.S. assets													
In percent of M2 ³	16.6	23.3	14.5	55.9	14.1	31.8	38.1	34.2	17.7	18.6	...	23.2	23.1
In percent of GDP ³	23.9	25.4	23.7	27.2	12.3	26.1	20.3	13.3	18.8	7.4	...	12.0	21.4
						Bonds							
						Equities	Treasuries	Agencies	Corporates				
<i>Memorandum items:</i>													
Foreign official institution holdings of long-term securities													
Portfolio weights			8.9			71.9		16.2				3.0	
Percent of total foreign holdings of U.S. securities					23.5								
Return characteristics of U.S. asset classes (1/1/90–6/30/06)													
Average annual return			10.2			6.9		7.0				7.7	
Average volatility ¹			14.4			4.2		3.2				4.4	

Sources: Merrill Lynch; U.S. Treasury Department, *Treasury International Capital System* (TICS); and IMF staff estimates.¹Calculated based on average performance over January 1, 1990, to June 30, 2006, if portfolio weights had been held constant at weights as of June 30, 2005.²Calculated as annualized average of 30-day rolling volatility.³These statistics cannot be calculated for offshore financial centers because GDP and M2 data are not available for all offshore financial systems from TICS data.

holdings of U.S. assets, distributed into country and regional groupings, as of end-June 2005.⁴³

There are several reasons these data may not capture foreign investors' ultimate exposures to the U.S. dollar. First, they do not take into account the possibility that foreign investors may have hedged dollar exposure through deriva-

⁴³Regional groupings are largely self-explanatory, with the exceptions that (1) Luxembourg was included in offshore financial centers rather than the euro area, (2) large Latin American oil exporters were included in Latin America rather than in other oil exporters, (3) Middle East oil exporters are as defined in the U.S. TIC data, and (4) besides countries not categorized elsewhere, "other countries" also include holdings classified in the TIC data as "country unknown" (which consists largely of holders of long-term bearer bonds) and holdings of "international organizations."

tives markets, or may have natural hedges in the form of offsetting dollar-denominated trade flows.⁴⁴ Second, they do not take into account additional exposure from foreigners' holdings of non-U.S. securities that are dollar-denominated. Third, they do not take into account offsetting dollar-denominated liabilities. Fourth, the data may overestimate dollar exposures to the extent that some U.S. securities are denominated in currencies other than the dollar.

⁴⁴Note, however, that as short-term U.S. interest rates have risen, the cost of hedging will also have risen. Official holders, to the extent that they have influencing their currencies' values against the dollar as an important objective, may not hedge, because doing so would negate the impact on their currencies.

Using daily data on the relevant asset class returns over the period January 1990–June 2006, Table 1.8 shows the return and volatility characteristics of each of the portfolios calculated above (in dollar terms), had portfolio weights been held constant at end-June 2005 levels. The table also shows exposures calibrated against GDP, and against a rough proxy for financial wealth, M2. The results show that

- exposures are substantial, amounting to roughly 23 percent of global GDP (excluding the United States) and about 21 percent of global M2 (again, excluding the United States);
- scaled by GDP, and reflecting its close integration with the U.S. economy, Canada had the highest exposure at 56 percent of GDP. Latin America had the lowest exposure at 7 percent of that region's GDP. Scaled by the proxy for financial wealth, exposure is as large as 27 percent of M2 for Canada, and only 14 percent of M2 for the euro area; and
- average portfolio volatility depends on the portfolio weights held by each region. In this respect, the volatility of Canada's holdings, which have the highest weight in equities, is correspondingly the highest. China, which holds almost all of its U.S. assets in the form of U.S. treasury and agency bonds, has the lowest portfolio volatility.

Conclusions

A low-probability but potentially high-cost risk to the global financial system is that a dollar decline could become self-reinforcing and hence disorderly. In other words, foreign investors could conceivably sell their U.S. asset holdings into a dollar decline, leading to further losses and further sales of U.S. assets. The data on foreign holdings of U.S. securities show that foreign investors' exposures to U.S. assets are large and growing.⁴⁵

⁴⁵Warnock (2006) documents that the exposure to U.S. security markets has increased for nearly every country over the decade 1994 to 2004.

Investors who hold portfolios of U.S. assets with a large allocation to equities, predominantly *private* investors, already face relatively high volatility in their portfolios. One lesson to draw from this may be that any additional volatility from a substantial dollar decline would be relatively less important to these investors than to those that hold largely bonds. This suggests that foreign investors who hold large proportions of their U.S. holdings in equities may be better positioned to absorb additional volatility from a substantial dollar adjustment, since this would form a relatively smaller component of overall portfolio volatility. Bonds are held somewhat disproportionately by the *official* sector, which generally holds U.S. assets for noncommercial reasons and hence is thought less likely to undertake large and rapid portfolio adjustments in response to prospects for losses and increased volatility. This may imply that a dollar decline would be less likely to be self-reinforcing than if foreign private holders held a greater proportion of their portfolios in U.S. bonds.

However, as foreign official holders expand their holdings beyond liquidity needs (as discussed in Annex 1.5), return considerations may become more important. In addition, this conclusion might be tempered as the weight of Middle Eastern countries in official reserve holdings increases, given their as-yet unknown willingness to hold dollar assets through a substantial dollar decline.⁴⁶ Nonetheless, a number of facts continue to support the baseline market view that dollar adjustment will remain orderly, including the weight of foreign official holders in U.S. assets along with their interest in maintaining orderly currency adjustment and, as documented in Annex 1.4, the fact that U.S. capital markets retain many structural attractions for foreign asset holders. Still, the risks of such a disorderly adjustment would be reduced

⁴⁶The TIC data are generally thought to underestimate holdings of Middle East oil exporters, in part because custodial bias is thought to be particularly large with such holders. In the last year, there have, in fact, been indications that these countries have diversified their reserve holdings away from U.S. assets to some extent.

by appropriate policy actions (as outlined in Chapter I) on the part of the authorities in countries that are the main counterparts to global imbalances.

Note: The main author of this annex is Elie Canetti.

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Credit to households is growing rapidly, albeit from a low base, across many emerging market (EM) countries.¹ In most countries, the growth rates of household credit outstrip those of corporate credit. The contributing factors include lower inflation and interest rates, higher income levels, higher asset (particularly housing) prices, financial liberalization, reduced corporate credit following recent EM financial crises and greater capital market access by EM corporates, and increased presence of retail-lending-oriented foreign banks. Given the likely persistence of these factors and the current low levels of household credit in EM countries, these growth rates are likely to remain high.

Better access to credit reduces household consumption volatility, improves investment opportunities, eases the constraints on small and family businesses, and diversifies household and financial sector assets. The welfare gains from such expansion can be sizable, making further growth of household credit desirable. Although we do not explore this dimension in detail, greater access to consumer credit in some emerging markets could also help alleviate some of the current account imbalances.

At the same time, a rapid growth in household credit, especially in weak macroeconomic environments that lack adequate prudential regulation and are characterized by weak risk management or legal and institutional infrastructure, can create systemic vulnerabilities. The key challenge for EMs going forward is to ensure that the pace of household credit expansion, while desirable, is consistent with

the underlying macroeconomic, prudential, and institutional infrastructure to avoid costly credit boom-bust cycles.

Household credit has grown across the EM universe during highly favorable global liquidity and economic conditions; household balance sheets may, therefore, come under greater pressure when global interest rates rise or global growth slows. Under more adverse circumstances, the weaknesses in household balance sheets could affect the financial sector as a whole, weaken property prices, and reduce consumption. Similar concerns about the sustainability of household debt during the turning credit and growth cycles, and possible implications for financial and macroeconomic stability, have been expressed for mature market (MM) countries (BIS, 2006).

Within EM countries, several localized concerns have emerged. In Korea, a rapid growth of poorly structured household credit led to a systemic rise in nonperforming loans (NPLs) and massive personal bankruptcies in 2002. In some emerging European economies, credit-driven consumption has led to a deterioration of external balances, and to high and unhedged exposure to interest and exchange rate risks by households. Also, rising house prices and mortgage indebtedness in parts of Asia, South Africa, and Hungary may need to be monitored carefully.

The well-known weaknesses in some EM financial institutions, regulatory capacity, and legal and institutional infrastructure may also create vulnerabilities in an environment of rapid credit growth. In some EMs, financial institutions' skills in originating and monitoring household credit are at an early stage of development, and excessive competition may lead to poor origination. Infrastructure (such as credit bureaus) is often inadequate, and collateral enforcement is frequently expensive or

¹In this chapter, we focus on mortgages, credit cards, auto loans, consumer durable financing, and other similar loans intended for some form of consumption. Although credits may be used fungibly, we do not study loans such as broker loans or margin lending for securities investment, because of data limitations.

ineffective. The legal framework for securitization of consumer loans is also weak and inadequate in many EM countries. Frequently, the EM regulators' capacity to monitor the excesses of such credit and their macroeconomic or systemic impact is limited by availability of data and analytical capacity. Such limitations may also constrain policymakers from conducting appropriate interest or exchange rate policy if such policy affects a large number of households.

Therefore, although household credit expansion may be highly desirable for growth, smoothing consumption, and improving diversification of credit risks across most EM countries, EM policymakers should simultaneously act in four key areas to prevent a buildup of associated vulnerabilities. These include prudent macroeconomic management to minimize income, exchange rate, and interest rate shocks; introducing sound prudential norms for household credit and encouraging good origination standards and information sharing by banks; developing a comprehensive legal and regulatory framework and infrastructure; and improving the availability of information that enables better assessment of systemic risks and their mitigation. If undertaken in a timely fashion, these measures will allow EMs to reap the substantial welfare benefits of developing this market, while minimizing the potential costs of boom-bust cycles.

These considerations make it timely to examine the benefits and potential problems of household credit at this juncture. This discussion also complements the analyses in recent issues of the *Global Financial Stability Report* (GFSR) on EM sovereign debt, corporate finance, and corporate bond markets. The next section in this chapter reviews the factors affecting the supply and demand for household credits, including macroeconomic and financial sector linkages, and related literature. It is followed by a description of the recent trends in household credit in a sample of 23 EM countries, using data gathered from a special country survey, recent IMF missions,

and existing literature and data. The last three sections discuss approaches to managing risks stemming from household credit and risk transfer mechanisms, the legal and regulatory framework, and some conclusions and policy implications.

Macroeconomic, Financial, and Policy Linkages

Greater access to a varied range of household credit products improves the consumption and investment opportunities for households and enables better diversification of household wealth. According to the life cycle income hypothesis, the availability of credit allows households to overcome liquidity constraints and permits consumption to be smoothed over periods of high and low income (Ando and Modigliani, 1963). Availability of household credit also frees household equity tied in housing and other consumer durables, and enables its possible reinvestment in proprietary businesses, corporate bonds, or equity. Indeed, in most EM countries, for small or family-owned businesses, home mortgages may be the cheapest and most long-term source of funding available, and perhaps the only source of fixed-rate borrowing.

Household loans allow diversification of bank portfolios and the granular nature of such loans may reduce systemic risks. Evidence from mature market countries suggests that household loans are subject to lower default rates, and losses from such loans tend to be smaller and more predictable than from larger corporate loans. Thus, a balanced portfolio of household and corporate loans may decrease the overall risks of the banking system, relative to risks from comparable portfolios dominated by business loans.

Several recent studies (including BIS, 2006) have identified macroeconomic performance, financial sector developments, and government policies as the key factors that affect the supply of and demand for mortgage and other household credit.

Macroeconomic Performance

Macroeconomic stability reduces uncertainty about future incomes and consumption and promotes financial sector development and intermediation.² Low inflation and interest rates, combined with economic growth, stimulate the demand for credit. Lower interest rates reduce borrowers' debt service costs, enable more borrowers to qualify for larger credits, and lower the amount of future consumption that borrowers must sacrifice to repay current borrowings. Expectations of sustained growth lead more households to borrow against future income growth (Antzoulatos, 1996) and may, in turn, inflate asset values that, by serving as collateral, allow higher borrowing and spending. Higher incomes and low volatility of future growth rates, inflation, and default rates enable lenders to lend more to households, for longer terms and at fixed rates. Ample global liquidity also augments funding to the banking sector and thus the supply of credit.

Financial Sector Development

Financial sector development and liberalization improve competition, efficiency, and access to credit (Claessens, Demirgüç-Kunt, and Huizinga, 2001; Clarke, Cull, and Shirley, 2005), and lead to greater participation of foreign banks. Cross-border financial investment and the associated transfer of know-how on consumer lending can improve risk management of portfolios of household credit. Technology and financial innovation also contribute to the growth in household credit. New consumer lending technologies permit lenders to reach more consumers, better assess market and lending risks, price loans more accurately, and reduce the cost of lending. Complementary market developments (e.g., in securitization and derivatives) enable

²Favara (2003); King and Levine (1993); and Levine (1997) provide evidence regarding the link between macroeconomic stability and financial sector development.

better funding and risk management of household credit portfolios.

Government Policies

In many MM countries, government policies related to the housing market in the areas of taxation, price and rent regulation, land use, and construction have provided an impetus to mortgage lending. Recent trends in EM government policies have also facilitated greater allocation of credit to households. Directed credit requirements (generally favoring industrial credits) and restrictions on consumer credits have been reduced, and interest rates are becoming more liberalized. Greater openness to foreign banks has permitted entry of many lenders with well-developed consumer-lending strategies. Although EM governments retain an important presence in housing finance, restrictions on lending by commercial banks and finance companies are being lowered. In some countries (e.g., Brazil and Malaysia), commercial banks are encouraged or required to make housing loans of a certain amount, usually to low-income borrowers, while others (e.g., Korea) have pursued a policy of encouraging consumption and, in turn, consumer credit.

Recent Trends, Issues, and Potential Vulnerabilities

This section analyzes the recent trends and potential vulnerabilities related to household credit in a sample of 23 larger EM countries that have widely varying levels and growth rates of household credit. For comparison, we also present data on nine MM countries. Availability of data varies greatly across the EM sample. It should be highlighted that there are differences between countries in terms of coverage, types, composition, and sources of household credit. This makes it difficult to make general observations across countries. The chapter Annex provides details on the sample and data used in the subsequent analysis.

Level and Growth Rate of Household Credit

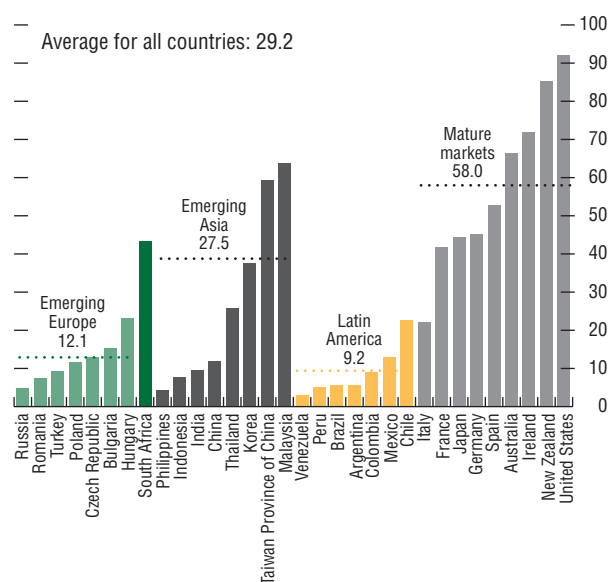
The average household-credit-to-GDP ratio in EM countries is about 18 percent but ranges widely from about 3 percent to 64 percent (Figure 2.1). On average, household credit has attained the highest levels in Asia, followed by emerging Europe and Latin America. However, penetration rates for consumer credit, housing loans, and usage of credit cards are still well below those reached in MM countries (Figure 2.2).

These differing trends can be explained by several factors. In MM countries, consumer credit has grown historically with income; there is a positive relationship between the household-credit-to-GDP ratio and per capita income (Figure 2.3). Financial liberalization is another important factor. In the United Kingdom, for example, secured lending to individuals rose by 25 percentage points of GDP during the 1980s, following the liberalization of the domestic mortgage market, which had experienced widespread rationing prior to 1981 (Muellbauer and Murphy, 1997). Similarly, bank lending to households grew by 98 percent in 2004 in Iceland, following the commencement of mortgage lending by private commercial banks in early 2004. EM household credit growth has also been encouraged by the restructuring of banks' asset portfolios and business models following recent financial crises. In several Asian and Latin American countries, postcrisis resumption of bank lending has been led by household credit rather than by corporate credit (Coricelli, Mucci, and Revoltella, 2006).

Interestingly, the share of private sector credit allocated to households in total credit to private sector (on average around 35 percent) does not differ dramatically between EM and MM countries (Figure 2.4), suggesting that the lower levels of household credit to GDP in EM countries are primarily a function of their lower level of total private sector credit.

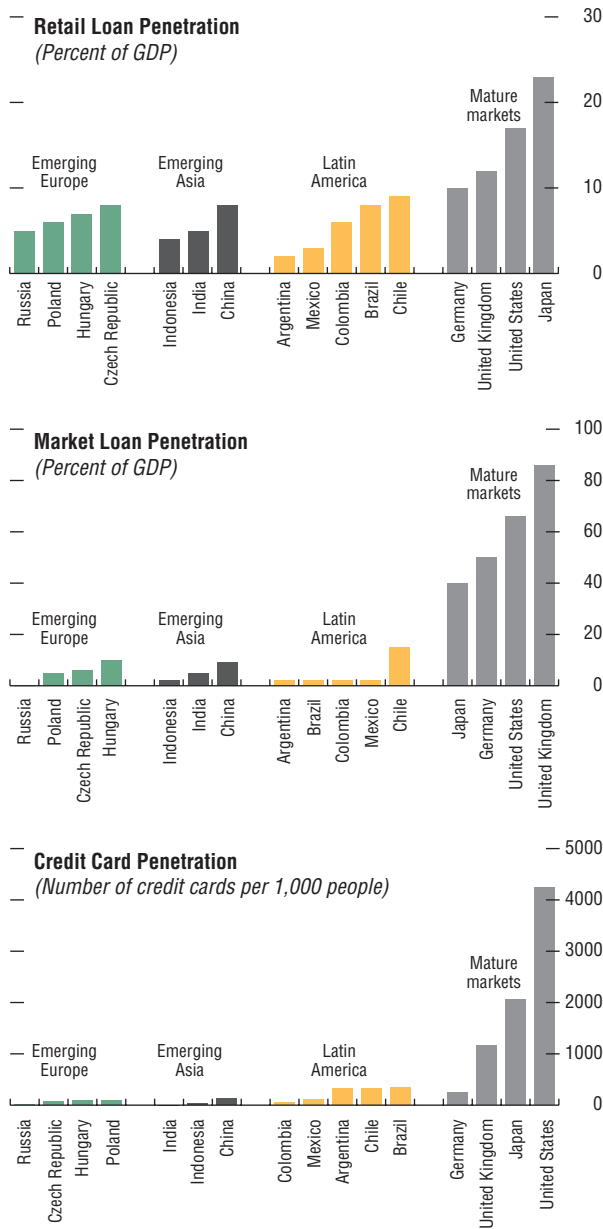
Among EM countries, growth rates have been particularly high for countries starting from a very low base in terms of household-credit-to-GDP ratios (Figures 2.5 and 2.6). For example,

Figure 2.1. Household Credit, End-2005
(In percent of GDP)



Sources: IMF, *World Economic Outlook*; CEIC; and IMF staff estimates based on data from country authorities.

Figure 2.2. Credit to Households: Market Penetration, End-2005



Source: Merrill Lynch (2006).

as emerging Europe’s financial sector develops and converges with that of the EU, the growth rate of household credit is very high (close to 50 percent per year in real terms), but the levels are still significantly below those within the EU. In Latin America, the growth rate of household credit has been accelerating in the last two years.

Composition and Structure of Household Credit

In MM countries, housing loans account for about 70–80 percent of total household credit, while the average share of housing loans in total household credit is substantially lower for some of the rapidly growing markets (Figure 2.7). This low share in total household credit reflects several factors such as a still-high and volatile interest rate environment, in addition to hindrances such as an inadequate legal framework for enforcing mortgages.

Consumer loans in EM countries are generally extended at fixed rates, while housing loans are extended at both fixed and floating interest rates (see Table 2.1). As in MM countries, this reflects the large maturity differences between these two types of loans.

Although limited information is available on interest rates for household loans in EM countries (Table 2.2), it nonetheless indicates that interest rates on EM household loans are generally higher than on their MM counterparts. Higher nominal interest rates in EM countries may reflect the higher risk-free rates, a larger risk premium vis-à-vis comparable MM credits, and possibly lower competition relative to MM countries.

Although a significant share of household credit is denominated in foreign currency in emerging Europe, it is almost entirely denominated in local currency in most of emerging Asia and most of Latin America (except in highly dollarized countries).³ In emerging Europe, the foreign currency exposure is predominantly in the mortgage market, while

³Data on household loans indexed to foreign currency are not available.

Table 2.1. Predominant Types of Household Mortgage Interest Rates

Fixed Rate	Variable Rate	Mixed
France	Australia	Czech Republic
Germany	Brazil	Hungary
United States	Ireland	India
	Korea ¹	Italy
	Malaysia ¹	Japan
	Spain	
	Thailand ¹	
	United Kingdom	

Source: Country authorities.
¹Most loans are fixed in the initial period, most often, for one to five years, and then float.

consumer loans tend to be denominated in local currency. Even though some lenders offer downside protection to borrowers against a depreciation of the domestic currency, most household loans in foreign currency remain unhedged. The growth in the foreign currency exposure in recent years (mainly in euros and Swiss francs) could be attributed to the lower interest rates in Switzerland and the euro area⁴ and foreign banks' access to cheap external financing. The share of foreign currency debt is particularly high in Bulgaria, Hungary, Poland, Romania, and Russia (Figure 2.8). With the rise in MM interest rates in 2006 and some depreciation of EM currencies, and as foreign banks increase their deposit base in host countries, these patterns could change.

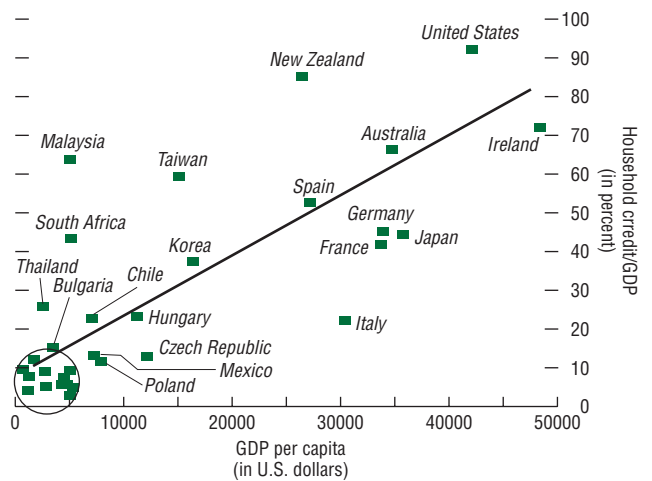
Longer maturities for housing loans are becoming more common in most EM countries. However, loan tenors remain somewhat shorter than is common in most MM countries, and the tradition of short-term loans is strong in many EM countries (notably in Korea) despite moderate inflation expectations.

Providers of Household Credit

Banks are the largest providers of household credit in most EM countries. Foreign banks

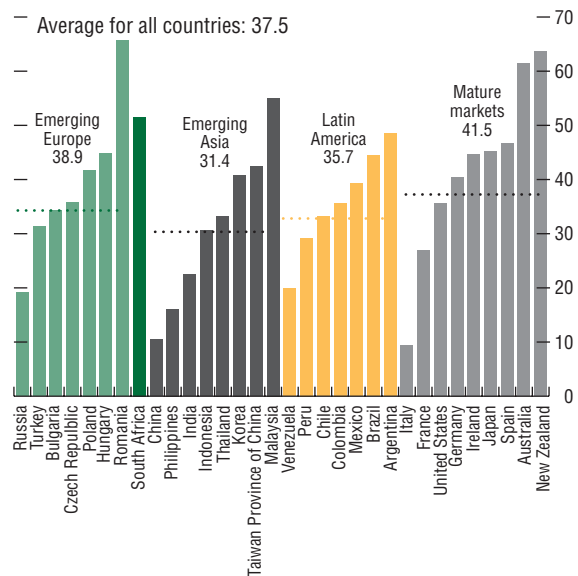
⁴As an illustration, as of June 2006, a housing loan in Hungary can be financed at a 12.9 percent variable rate for a forint loan, at a 4.8 percent six-month fixed rate in euros, or at a 3.3 percent six-month fixed rate in Swiss francs.

Figure 2.3. Household Credit/GDP and GDP per Capita, End-2005



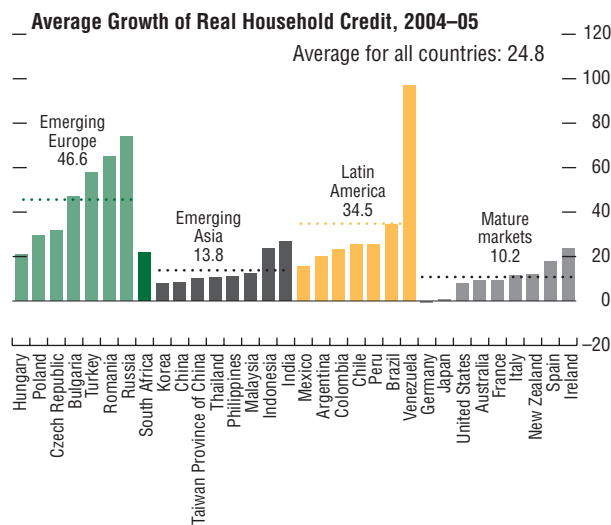
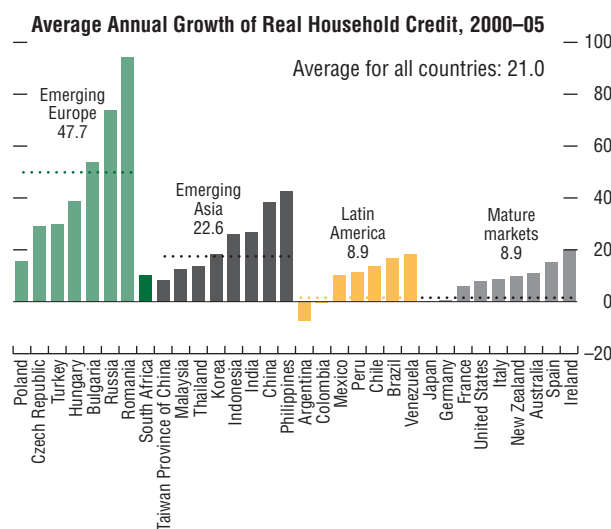
Sources: IMF, *World Economic Outlook*; CEIC; and IMF staff calculations based on data from country authorities.
 Note: The circled cluster of countries includes Argentina, Brazil, China, Colombia, India, Indonesia, Peru, Philippines, Romania, Russia, Turkey, and Venezuela.

Figure 2.4. Share of Household Credit in Total Private Sector Credit, 2005¹
(In percent of total private sector credit)



Sources: CEIC; and IMF staff estimates based on data from country authorities.
¹Private sector credit does not include credit to nonbank financial institutions.

Figure 2.5. Annual Growth of Real Household Credit
(In percent)



Sources: IMF, *World Economic Outlook*; CEIC; and IMF staff estimates based on data from country authorities.

Table 2.2. Average Household Loan Interest Rates (in Local Currency)
(In percent)

	2002	2003	2004	2005
<i>(In nominal terms)</i>				
Bulgaria	14.8	14.0	12.3	9.8
Hungary	...	18.1	16.1	13.8
Poland ¹	...	...	12.1	10.3
Romania	...	27.4	26.7	12.9
Russia	21.3	22.0	20.5	20.4
Indonesia	20.2	18.7	16.6	16.8
Korea	7.1	6.3	5.5	5.6
Taiwan Province of China	4.6	2.9	2.8	2.8
<i>(In real terms)</i>				
Bulgaria	9.0	11.8	6.0	4.8
Hungary	...	13.5	9.3	10.2
Poland ¹	...	...	8.5	8.2
Romania	...	12.1	14.8	3.9
Russia	5.5	8.3	9.6	7.7
Indonesia	8.3	12.1	10.3	6.4
Korea	4.4	2.8	1.9	2.9
Taiwan Province of China	4.8	3.2	1.2	0.3

Sources: IMF staff estimates are based on data from the CEIC database, central banks, *International Financial Statistics* (IFS), and *World Economic Outlook*.

¹Data for 2004 are end of period and for 2005 are for November.

have played a particularly important role in the expansion of household credit in EM countries (Box 2.1 on p. 60, and Figure 2.9). Moreno and Villar (2005) point to a strategic shift by foreign banks from internationally active clients to domestic retail clients. In several Asian countries, foreign banks still face important restrictions, including branch limitations. As a result, foreign banks have focused on credit cards and personal loans and, in many countries, have the major share of these markets. In several emerging European economies, foreign banks have expanded their asset base faster than deposits, resulting in rising external and foreign currency debt, and an accumulation of currency risks by unhedged household borrowers.⁵

Several EM countries have government-sponsored lending institutions, particularly in

⁵Foreign-owned banks (with parent banks from Austria, Germany, and the Nordic countries in the lead) accounted for 70 percent or more of banking sector assets in Albania, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Lithuania, and the Slovak Republic in 2004.

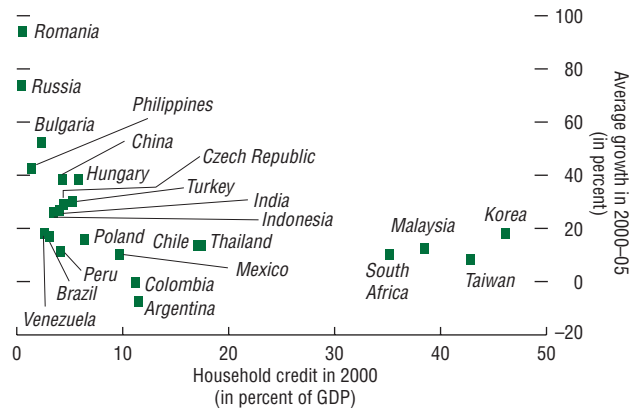
the housing market. Over time, institutions such as Thailand’s Government Housing Bank, Mexico’s INFONAVIT, or the Philippines’ PAG-IBIG are increasingly competing with commercial banks, retaining their remit to provide loans to low-income households that would not be served by commercial banks. In some instances, specialized secondary market institutions purchase or refinance mortgage loans from originators to provide them long-term funding (e.g., Cagamas in Malaysia or National Housing Bank in India).

In many developing countries, the nonbank finance companies and, to a lesser extent, the informal credit sector play an important role, often as the only available source of household credit. In Mexico, following the “Tequila” crisis and the retreat of commercial banks from mortgage lending, nonbank mortgage originators (Sofoles) have grown with funding from the Federal Mortgage Society and, more recently, from mortgage-backed securities (MBS). The informal sector in many EM countries is often an important source of credit to low-income households. In the Philippines, for example, limitations on banks to lend only to taxpayers leave many households with no access to the formal credit sector. In Chile, a significant share of credit is provided by department stores. Such nonbank lending is not always formally supervised or reported, leading to an underestimation of aggregate credit growth to households.

Potential Vulnerabilities

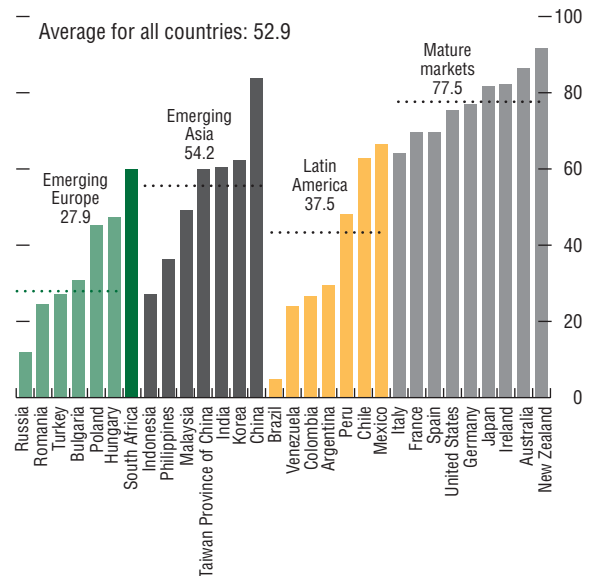
As with most forms of credit, a high level or rapid development of household credit can create vulnerabilities. In particular, if credit to households grows too rapidly without adequate infrastructure (see discussion below), household debt may reach unsustainable levels and, if sufficiently large, can in turn jeopardize the stability of the financial system and overall economic growth. Excessive mortgage lending could contribute to the inherent vulnerability of property markets to boom-bust cycles and the attendant

Figure 2.6. Household Credit: Level in 2000 and Real Growth Rates, 2000–05



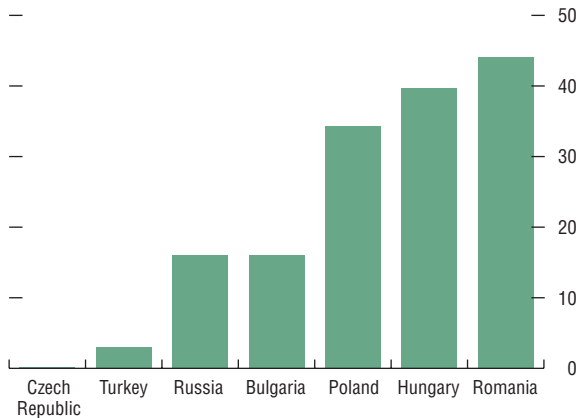
Sources: IMF, *World Economic Outlook*; CEIC; and IMF staff estimates based on data from country authorities.

Figure 2.7. Share of Housing Loans in Total Household Credit, End-2005
(In percent)



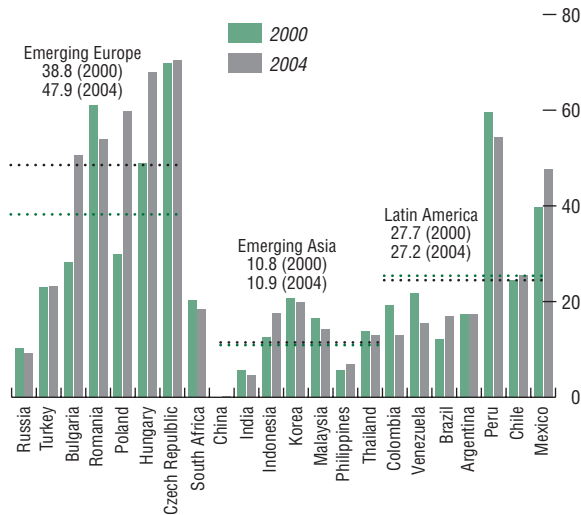
Sources: CEIC; and IMF staff estimates based on data from country authorities.

Figure 2.8. Share of Foreign-Currency-Denominated Household Credit, End-2005
(In percent of total household credit)



Sources: CEIC; and IMF staff estimates based on data from central banks.
Note: Data for Bulgaria do not include overdraft.

Figure 2.9. Share of Foreign Bank Assets in Total Bank Assets¹
(In percent)



Source: IMF staff estimates based on Bankscope.
Note: Dotted lines are regional averages for 2000 and 2004.
¹Foreign banks are all banks with combined foreign ownership exceeding 50 percent.

cyclicality in the banking system. Credit expansion financed by cross-border flows can raise concerns about sudden stops and contagion. The rapid pace of credit growth can also lead to macroeconomic imbalances such as a rapid deterioration of the external current account balances. This section discusses such vulnerabilities in the context of the EM countries that have experienced rapid growth in household credit in recent years.

Household and Financial Sector Vulnerabilities

Deterioration in household repayment capacity and net worth due to income, interest rate, or exchange rate shocks may translate into higher NPLs. In turn, a rise in NPLs may impair the balance sheet of the financial sector. That said, the sustainability of household debt depends upon the corresponding level of household assets as well as the steadiness of future income (Box 2.2 on p. 61).

Data on EM countries’ aggregate household balance sheets, net worth, and debt-servicing costs are generally not available. Partial data, however, suggest that many EM countries with rapidly rising household debt also have significant positive net financial assets (Figures 2.10 and 2.11; and Table 2.3). The ratio of household debt to disposal income varies across EM countries and, except for some of the highest-income EM countries (Korea and Taiwan Province of China), it is generally still substantially lower than in MM countries (Table 2.4). However, debt-servicing costs in EMs could rise quickly if interest rates go up.

Using macrolevel data to assess household debt sustainability, however, has limitations. A high level of indebtedness (household debt to GDP) at an aggregate level may not mean there is a risk to financial stability, especially if the distribution of debt is biased toward the households that have a higher payment capacity and a buffer to withstand shocks. Similarly, low aggregate household indebtedness may mask vulnerabilities if the debt accumulation is skewed toward the low-income groups. Indeed, most mature market countries undertake a

Table 2.3. Financial Assets and Liabilities of Households, End-2004¹
(In percent of GDP)

	Financial Assets	Financial Liabilities	Net Financial Wealth
Bulgaria	42.2	12.0	30.2
Czech Republic	65.0	13.8	51.2
Hungary	55.0	20.0	35.0
Poland	55.8	13.2	42.6
Turkey	50.8	6.5	44.3
South Africa ²	260.6	33.8	226.8
Korea	144.6	76.6	68.0
Thailand	97.7	33.7	64.0
Mexico	32.1	11.6	20.5
United States	310.2	95.5	214.7
EU-15 ³	185.0	63.0	122.0

Sources: UniCredit Group (2005); Aron and Muellbauer (2006); and IMF staff estimates.

¹Data for Korea, Thailand, Mexico, and the United States are as of end-2005.

²Financial asset estimates for South Africa are based on preliminary data from South Africa Reserve Bank.

³Includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

more detailed analysis of the household balance sheets (Box 2.2).

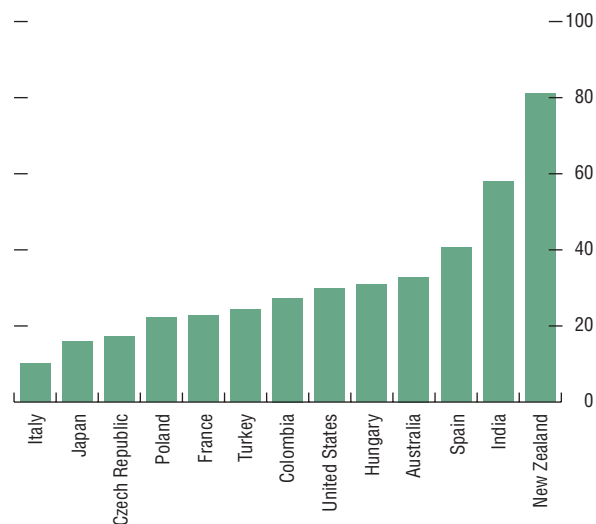
A number of emerging European economies have a relatively high share of household credit denominated in foreign currency. Such loans are attractive in periods of local currency appreciation and low foreign currency interest rates but the risk of a large depreciation may not be fully understood by unhedged household borrowers.⁶ In several emerging European countries, deposit growth has been lagging and there is some evidence that credit growth is being financed mainly by foreign borrowing. In its *Bank Systemic Risk Report*, Fitch (2006) has warned that some countries now exhibit either moderate or high vulnerability to potential systemic stress due to rapid lending growth.⁷

Although reported data suggest a sufficient cushion to absorb credit losses in many EM

⁶See the Central Bank of Hungary's April 2006 *Report on Financial Stability*.

⁷The countries ranked as highly vulnerable include several MM countries (Iceland, Ireland, and Norway) and Azerbaijan, Russia, and South Africa. Many of the emerging European countries are ranked as moderately vulnerable.

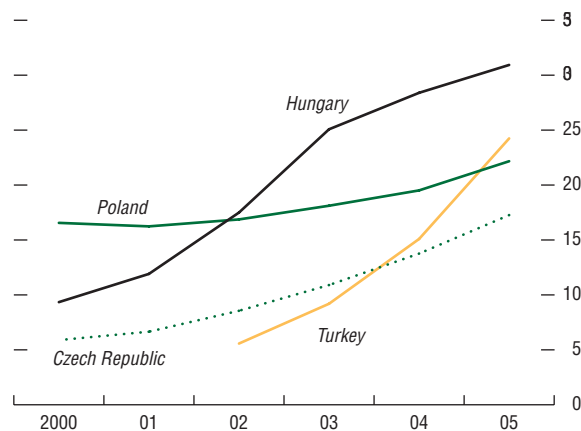
Figure 2.10. Household Financial Leverage in Selected Countries, 2005¹
(In percent)



Sources: CEIC; and IMF staff calculations based on data from central banks. Note: Data for Colombia, India, and Japan are as of end-2004.

¹Household leverage is defined as the ratio of household liabilities to household assets.

Figure 2.11. Household Financial Leverage in Selected Countries in Emerging Europe¹
(In percent)



Sources: CEIC; and IMF staff calculations based on data from central banks.

¹Household leverage is defined as the ratio of household liabilities to household assets.

Table 2.4. Ratio of Household Credit to Personal Disposable Income*(In percent)*

	2000	2001	2002	2003	2004	2005
Emerging Markets						
Czech Republic	8.5	10.1	12.9	16.4	21.3	27.1
Hungary	11.2	14.4	20.9	29.5	33.9	39.3
Poland	10.1	10.3	10.9	12.6	14.5	18.2
India	4.7	5.4	6.4	7.4	9.7	...
Korea	33.0	43.9	57.3	62.6	64.5	68.9
Philippines	1.7	4.6	5.5	5.5	5.6	...
Taiwan Province of China	75.1	72.7	76.0	83.0	95.5	...
Thailand	26.0	25.6	28.6	34.3	36.4	...
Mature Markets						
Australia	83.3	86.7	95.6	109.0	119.0	124.6
France	57.8	57.5	58.2	59.8	64.2	69.2
Germany	70.4	70.1	69.1	70.3	70.5	70.0
Italy	25.0	25.8	27.0	28.7	31.8	34.8
Japan	73.6	75.7	77.6	77.3	77.9	77.8
Spain	65.2	70.4	76.9	86.4	98.8	112.7
United States	104.0	105.1	110.8	118.2	126.0	132.7

Source: IMF staff estimates based on data from country authorities, CEIC, OECD, and Bloomberg.

countries, such indicators often reflect market averages and mask pockets of weaknesses within banking systems. Capital adequacy ratios in banks in EM countries range between 11 and 20 percent, with an unweighted average of 13 percent (see Chapter I). The level of NPLs varies across EM countries but the evidence does not generally suggest sizable credit quality problems in household loan portfolios (Figure 2.12).⁸ However, NPL ratios are backward looking and may not fully reflect the lending to more marginal customers in the early stages of rapid credit expansion.

Financial innovation in EM household credit has created its own challenges. Easier access to financing by marginal customers through lower origination standards may have amplified some of the vulnerabilities. Product innovations, such as lengthening the maturity of some of the mortgages in Poland to 45 years and constant payment loans in countries such as Malaysia and Thailand, may result in larger interest rate, refinancing risks, or exposure to household income shocks. Households in the lowest income brackets may be particularly vulnerable to a “debt trap” as they have very little financial

buffer and may face large penalties from delinquent payments. In Korea, the 2003 credit card crisis led to a severe capital shortage for the credit card industry and resulted in 10 percent of the adult population becoming delinquent on their debts (Box 2.3 on p. 64). For MM countries, BIS (2006) has warned that lenders in countries that are experiencing a rapid growth of subprime markets may be underestimating households’ probability and severity of default.

Macroeconomic Vulnerabilities

In addition to creating systemic problems within the financial sector, rapid growth of household credit can lead to several macroeconomic risks. These include fueling consumer price inflation, property price inflation, higher imports and thus current account deficits, and, as discussed above, if funded by capital inflows, vulnerability to sudden stops.⁹ It is worth noting that past episodes of balance of payments or banking currency crises were preceded by rapid growth of corporate credit, most often in the

⁸The criteria for classifying a loan as nonperforming may vary across countries.

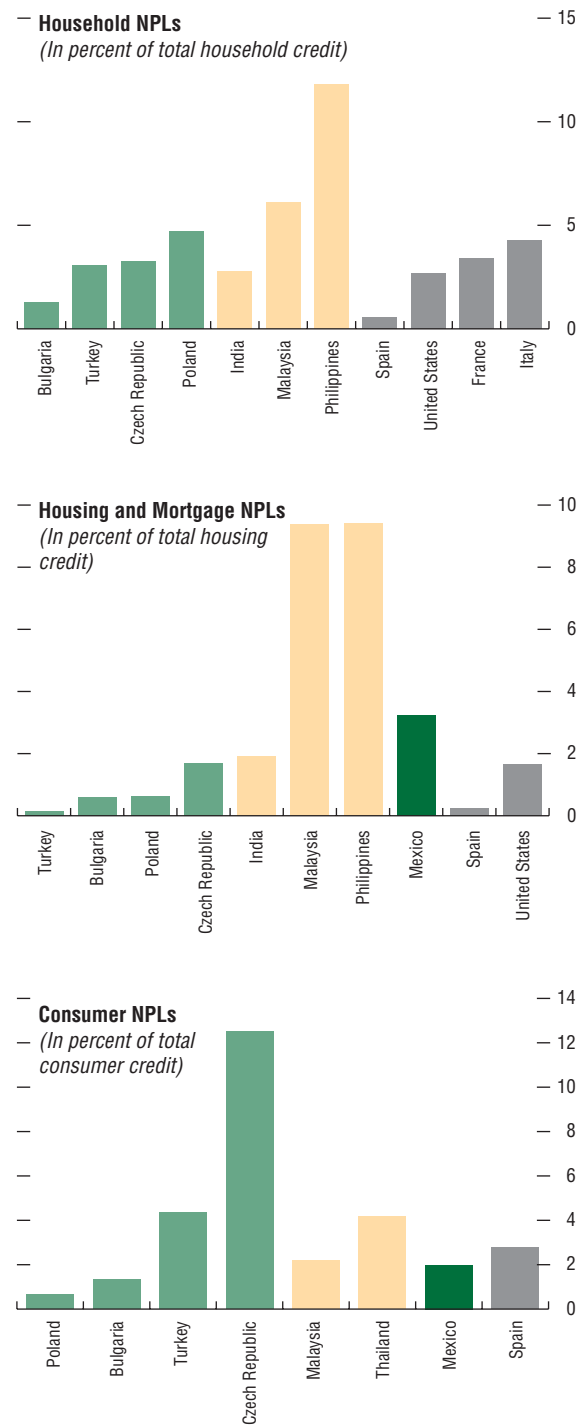
⁹See Kaminsky and Reinhart (1999); Kaminsky, Lizondo, and Reinhart (1997); Borio and Lowe (2004); Mendoza (2001); Gourinchas, Valdes, and Landerretche (2001); Mihajjek (2006); and Duenwald, Gueorguiev, and Schaechter (2005).

context of fixed-exchange-rate regimes; there is limited evidence of systemic problems caused by rapid household credit growth.

The experience of several industrial countries illustrates the complexity of the issues revolving around credit booms, causes thereof, and their interaction with other financial sector and macroeconomic variables. In the latter part of the 1980s, Finland, Norway, and Sweden experienced a rapid increase in household debt, driven in part by financial liberalization.¹⁰ All three countries experienced higher consumer spending, inflationary pressures, and rapid growth, followed by large current account deficits, exchange rate pressures, and interest rate hikes. The ensuing recessions exacerbated household indebtedness and precipitated a banking currency crisis. More recently, Iceland experienced large short-term capital inflows to a booming economy fueled by exceptionally rapid credit expansion. Private commercial banks entered the mortgage market in 2004, which led to increased competition. The sharp rise in house prices, the associated withdrawal of housing equity, and the surge in consumption contributed to the large current account deficit. The turning point was reached in early 2006, when the tightening of global liquidity conditions triggered significant capital outflows and resulted in increased financial volatility and severe pressure on exchange rates.

In the sample of EM countries, there is some evidence suggesting that the fast growth of credit to households may be linked to increased imports of goods and to deterioration in current account balances (Figures 2.13 and 2.14). Four countries—Bulgaria, Hungary, Romania, and Turkey—had deficits that exceeded 5 percent of GDP in 2005; all these countries experienced large capital inflows and a rapid growth in credit to households (at least twice as fast as nominal GDP growth). Recent studies show that the sharp increase in credit to households explains in part the increase in imports and the

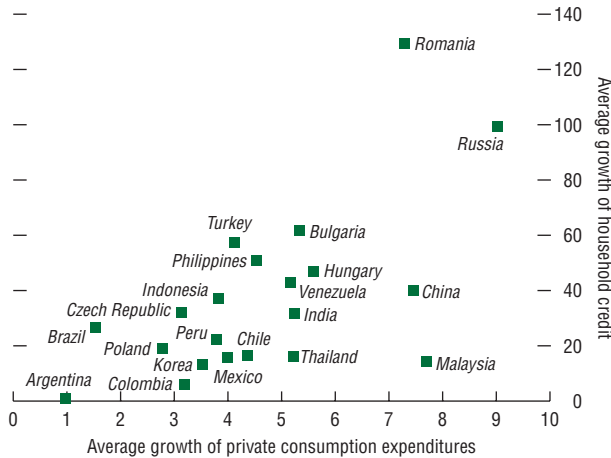
Figure 2.12. Nonperforming Loans, 2005



Source: IMF staff calculations based on data from the *World Economic Outlook* and data from central banks.

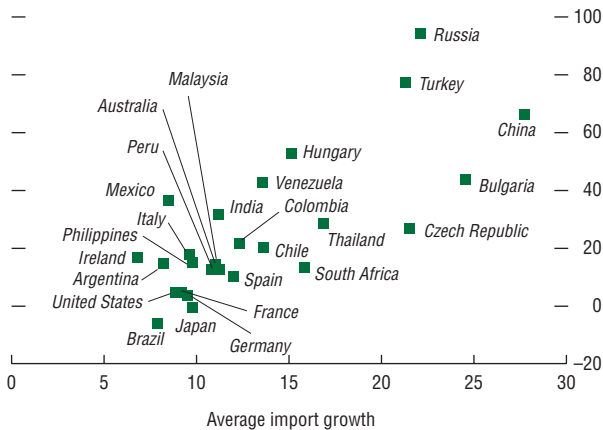
¹⁰See Drees and Pazarbasioglu (1995); and Brunila and Takala (1993).

Figure 2.13. Nominal Growth of Household Credit and Private Consumption Expenditures, 2000–05
(In percent)



Sources: IMF, *World Economic Outlook*; CEIC; and IMF staff estimates based on data from country authorities.

Figure 2.14. Nominal Growth of Consumer Credit and Merchandise Imports, 2000–05
(In percent)



Sources: IMF, *Balance of Payments Statistics*; CEIC; and IMF staff estimates based on data from country authorities.

Note: Average merchandise import growth is based on 2000–04 data for Malaysia and Argentina, and on 2001–03 data for India. Consumer credit growth is based on 2002–05 data for Turkey and on 2001–05 data for Indonesia, the Philippines, and Venezuela.

deterioration in current account balances of emerging European countries (Coricelli, Mucci, and Revoltella, 2006; Hilbers and others, 2005; and Menegatti and Roubini, 2006). Duenwald, Gueorguiev, and Schaechter (2005) estimate that a percentage point of GDP of additional credit leads to a deterioration in trade balance by about 0.4 and 0.7 percentage points of GDP for Bulgaria and Romania, respectively.

Rapid credit growth to households can also feed asset price inflation; rising asset prices can encourage further credit growth by raising collateral values, and an eventual decline in inflated property prices may result in a boom-bust cycle. While house prices have risen far faster in MM than in EM countries, some EM countries have seen substantial increases in house prices over the last few years (Table 2.5 and Figure 2.15). Financial stability reports of some emerging European countries that are experiencing rapid growth in household credit have already warned about house price inflation and potential vulnerabilities for the financial system.¹¹

Risk Management and Risk Transfer

Depending on the terms of the loans, lenders of household credit can face significant interest rate, exchange rate, refinancing, and credit risks. Nonetheless, risks in household credits are more amenable to monitoring and managing than are commercial credits, which require a more complex assessment of business financials, management, and industry trends. The strong personal incentives of borrowers to preserve their homes and to maintain future access to credit generally reduces NPLs. Because of its homogenous nature, a portfolio of household credit is more stable and predictable. Moreover, household credits can typically be repackaged

¹¹See the *Financial Stability Report* of the Czech National Bank (2005); the *Financial Stability Report* of the Central Bank of Hungary (April 2006); and the *Financial Stability Review* of the National Bank of Poland (first half of 2005).

Table 2.5. House Price Changes
(Year-on-year change in percent)

	End-2003	End-2004	End-2005
Emerging Markets			
Hungary	26.5	-5.6	7.5
Korea	5.7	-2.1	4.1
Malaysia	4.0	4.8	2.4
South Africa	16.2	25.0	34.9
Thailand	17.8	9.3	7.2
Mature Markets			
Australia	19.4	0.2	2.2
France	12.4	16.0	14.8
Ireland	13.7	8.6	9.3
Japan ¹	-10.3	-9.5	-7.0
Netherlands	1.7	3.6	4.2
New Zealand	25.0	11.6	15.4
Spain	18.5	17.2	12.6
United Kingdom	8.3	10.7	2.9
United States	7.9	12.0	13.3

Sources: Economic and Social Research Institute (ESRI), Ireland; Ministerio de Vivienda, Spain; Office of Federal Housing Enterprise Oversight (OFHEO), United States; Reserve Bank of New Zealand (RBNZ), New Zealand; Nederlandse Vereniging van Makelaars (NVM), Netherlands; Office of the Deputy Prime Minister (ODPM), United Kingdom; Australian Bureau of Statistics (ABS); Central Bank of Malaysia; Central Bank of Hungary; Amalgamated Banks of South Africa (ABSA); CEIC; and Bloomberg.

¹In Japan, year-on-year changes are as of September of each respective year.

and sold to capital market investors, allowing transfer of risks. This section discusses some mechanisms for the management and transfer of household credit-related risks.

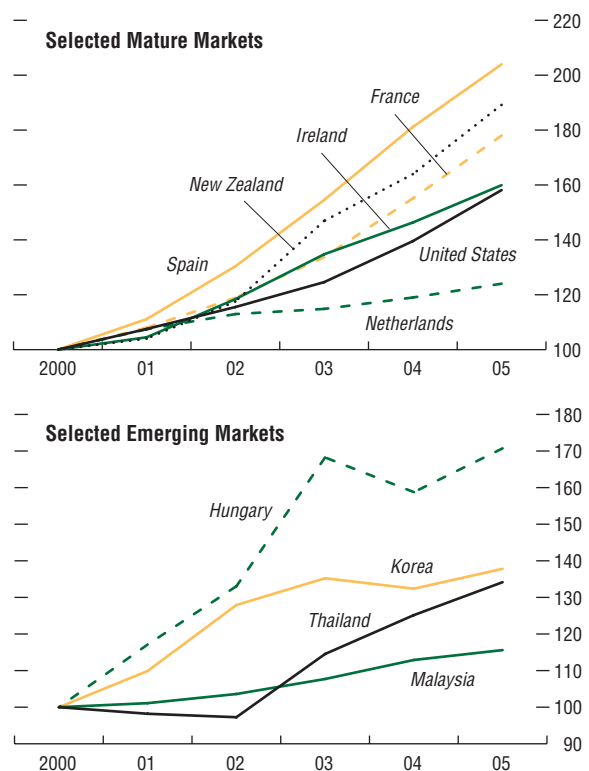
Securitization

Securitization can play a particularly important role in managing interest and rollover risks of household credit. It allows banks to obtain long-term funding and transfer the credit risks of a pool of household credits to capital market investors. It also allows originators to conserve regulatory capital, diversify asset risk, and structure products to reflect investors' preferences. A related technique—mortgage bonds—allows originators to obtain long-term funding at competitive rates, but without reducing credit risks. Box 2.4, on p. 67, compares the features of these two alternatives for long-term financing of household credit portfolios.

Securitization is a complex structured financing technique, and its implementation suffers

Figure 2.15. House Price Indices

(2000 = 100)



Sources: Economic and Social Research Institute, Ireland; Office of Federal Housing Enterprise Oversight, United States; Reserve Bank of New Zealand; NVM, Netherlands; Australian Bureau of Statistics; Bank Negara Malaysia; CEIC; and Bloomberg L.P.

Box 2.1. Extension of Emerging Market Household Credit by Foreign-Owned Banks

Foreign banks have increased their presence in all emerging market (EM) countries over the past several years. These banks have spearheaded the growth of lending to households in several EM countries, attracted by high margins and using the expertise they have developed in this area in their home markets. This box discusses the benefits and challenges of foreign bank participation in EMs and policies to manage such challenges.

The presence of foreign banks in a country appears to be conducive to stability, efficiency, and improved regulation and governance. Claessens, Demirgüç-Kunt, and Huizinga (2001) show that, in developing countries, increasing the number (even more than the market share) of foreign banks reduces overhead expenses of domestic banks. Several studies show that foreign banks tend to curtail lending by less than domestic banks during adverse economic times (De Haas and Lelyveld, 2002 and 2003). They also find that foreign banks' credit growth is related positively to the health of the parent bank and negatively to the home country macroeconomic conditions. During crises in Latin America and Asia, foreign banks maintained higher loan growth rates than did domestic banks, with lower volatility of lending (Goldberg, Dages, and Kinney, 2000).

For countries with rapidly growing household credit, foreign banks could present some new challenges for surveillance and policy. Potential contagion may arise if foreign banks active in several countries in the same region cut their exposure across the region following a shock that affects their exposure in one country. Buildup of exposures to common risk factors in a region may also increase the potential for contagion. During the Asian crisis, for example, foreign banks significantly reduced their lending to countries that had not been affected by the crisis, contributing

to contagion. However, a large share of such reduction can be attributed to Japanese banks experiencing problems in their home market. Host countries need to assess the potential for such contagion and how to address contagion if it occurs.

Foreign and local bank lending in some countries is often denominated in, or indexed to, a foreign currency. This may reflect existing practices in the host country or a legacy of macroeconomic instability. Lending in foreign currency transfers the foreign exchange risk to borrowers, especially to households that often lack income or assets in foreign currencies, thereby contributing to a buildup of indirect credit risk. The banks may not fully internalize, and price and provision for this risk, especially if they underestimate the risk of devaluation, due to the expectation of joining a regional currency bloc or a perceived guarantee of a currency board.

Risk measurement and management systems used in industrial countries may need to be appropriately recalibrated when applied in the EM context. In most EM countries, data quality is poor and, some countries have shorter experience in lending to households. As experience is gained and the quality of information gets better, risk management should improve. In the meantime, home supervisors should (and do) encourage parent banks to exercise more conservative lending practices.

Strong cross-border supervisory cooperation is needed to assess the vulnerability of foreign financial institutions and to minimize disintermediation in response to external shocks. There are established mechanisms for coordination that involve the exchange of information and a structured dialogue between home and host country supervisors. Regional dialogue between host country regulators in emerging Europe and home country regulators from industrial European countries may be particularly useful in cases where the exposure of foreign banks to individual host countries may be very small, but still be significant for host countries.

Note: The main authors of this box are Sean Craig and Paul Ross.

Box 2.2. Using Macro- and Microlevel Data to Analyze Vulnerability of the Household Sector

Although the notion of sustainable household debt is conceptually tractable, a practical formula is much harder to come by. Household debt is “sustainable” if two broad tests (related to the household’s balance sheet and income position) are met over a relevant medium term: (1) the borrower has positive net worth and (2) the borrower can service debt at contractual terms. Determinants include future income; savings, interest, and exchange rates; access to refinancing; and whether loans are used purely for consumption, durable assets (such as housing), or productivity-enhancing investments (e.g., education). Household debt sustainability assessment suffers from the difficulty of estimating future variables, and from two additional problems. First, if debt is contracted to increase assets, that is, net worth is maintained, a wide range of debt levels may be sustainable. Second, the refinancing ability largely depends on financial market development and efficiency. The usual aggregation problem exists, namely, the aggregate household debt level may not fully represent the distribution of sustainable debt across households.

These difficulties imply that household debt sustainability may not be amenable to cross-country comparisons. For policymakers, it may be useful to look at such comparisons between “peers,” in addition to the trend in key variables, and exercise judgment. It may be that the sustainable household debt in emerging market (EM) countries might be lower than in industrial countries, as in the case of public debt, because of the higher volatility and uncertainty of income, interest costs, and exchange rates. Reinhart, Rogoff, and Savastano (2003) show lower debt tolerance for EM than for mature market (MM) countries, in particular for previous defaulters. Empirical work at the macro level has sought to link equilibrium levels of *private* (household and corporate) credit to economic fundamentals and can be empirically estimated by using a matrix

Note: The main author of this box is Mangal Goswami.

of explanatory variables. However, parameter instability of the estimated model is the main constraining factor in using such frameworks for EMs.

Using macrolevel data to assess household debt sustainability, however, has limitations because the aggregation may mask vulnerabilities if the debt accumulation is skewed toward a particular income group. Indeed, most MM countries undertake a more detailed analysis of household balance sheets. The central bank of Sweden, the Riksbank, has been using microlevel data to supplement the analysis of the balance sheet of the household sector. This approach also allows for stress testing of the household sector’s ability to pay. We draw on the forthcoming paper by Johansson and Persson on how the Riksbank uses microlevel data for analyzing household vulnerabilities. It uses a detailed annual survey that covers household income, debt, and wealth. For the analysis, households are divided into five categories based on their level of disposable income. The distribution of financial assets, real assets, and debt is obtained for each income category.

First, the debt-servicing capabilities and indebtedness across income categories are measured by the ratio of interest expenditures to disposable income and the ratio of debt to disposable income. Second, the Riksbank supplements the basic tools with measures to assess the vulnerability of households to changes in income or expenditure.

The Riksbank also conducts stress tests to assess whether household indebtedness poses a risk to the financial sector. Different scenarios are used to study the effects of

- *higher interest rates*: this test first analyzes the short-term effects of a change in interest rates, followed by the long-term effects that arise if the entire stock of debt is affected by the rate change, assuming that all the loans are at the new higher rate; and
- *increased unemployment*: based on Monte Carlo simulation, the Riksbank assigned an equally large probability of becoming unemployed to all gainfully employed persons in order

Box 2.2 (concluded)

to derive the new estimates of disposable income of all households in each category. In sum, a range of analytical tools that exploit both macro- and microlevel information should be used to assess household sector vulnerabilities in EM countries. Empirical estimation of an equilibrium level of *private* debt can provide a guide in determining whether the level of debt is consistent with economic fundamentals. This assessment can

be supplemented at the macro level by debt sustainability analysis using aggregated data for households to assess whether they portend potential vulnerabilities to the financial system. It can be complemented by micro-level information (where available) on the distribution of household assets and debt to assess whether a particular group or subset of households is vulnerable and poses a risk to the financial system.

from several regulation- and infrastructure-related impediments across EM countries (some of which are also present in the MM context). Some of the serious problems include legal limitations regarding true sale treatment of securitization transactions, excessive transfer taxes, an underdeveloped legal framework, requirements of borrowers' prior consent to structure securitized deals, lack of clarity in capital adequacy requirements related to securitization or pricing thereof, lengthy and cumbersome approval process, and lack of standardization (Box 2.4 on p. 67). Although a large number of EM countries have introduced the basic legal framework for securitization, the volume of transactions still lags far behind that in MM countries (Table 2.6).

A variety of economic factors, incentives, and infrastructure gaps have also contributed to a slow take-off of securitization in EM countries. The current high liquidity and regulatory capital of the banking system make many EM issuers eager to add and hold on to assets, while the somewhat unsophisticated investor base prefers plain bonds. Also, many EM countries have a generally underdeveloped base of institutional investors who would otherwise be the primary investors in asset-backed securities. In addition, institutional investors in some EMs face certain regulatory constraints that may discourage investment in securitized products.¹²

¹²See Gyntelberg and Remolona (2006).

These teething troubles are likely to be resolved gradually and securitization of household credit, particularly of mortgages, is likely to grow. That said, the lack of standardization embedded in the current stock of household credit is a more lasting hindrance. It would be beneficial to promote cooperative efforts by banking associations or other industry bodies to standardize such credit in terms of maximum loan-to-value (LTV) ratios, maximum debt-service-to-income ratios, documentation requirements, and interest rate conventions.

Payroll Deductions

In some countries, the collection of household credits has been linked to payroll deductions. Payroll deductions may help reduce technical defaults, inculcate a habit of prompt debt service, and adjust consumption to post-debt service disposable income, thereby enabling lenders to offer more household credit. For example, credit to households increased sharply in Brazil after the introduction of payroll-linked loans in 2004. Moreover, interest rates charged on these loans are about half of those charged on regular consumer loans. The extent to which payroll deduction can reduce delinquency, however, depends on the degree of formal employment in the economy, the use of bank account deposits for salary payments, the availability of electronic

Table 2.6. Gross Annual Issuance of Mortgage-Related Securitization*(In percent of outstanding stock of housing and mortgage debt)*

	2004	2005
Emerging Markets		
Malaysia ¹	1.1	2.6
Mexico	0.3	0.5
India	1.9	2.6
Mature Markets		
United States		
Agency-backed MBS	11.7	10.6
Private label MBS	5.1	10.1
Total	16.8	20.6
Europe		
Private label RMBS	1.9	...
Of which: United Kingdom	3.6	...
Covered mortgage bonds	2.9	...
Of which: France (obligation foncière et communale)	3.3	2.9
Germany (Pfandbrief)	14.1	15.0
Spain (cédula hipotecaria)	3.2	6.2
Total	4.8	5.7

Sources: Bond Market Association; European Securitisation Forum; Dealogic Bondware; Thomson Financial Securities Data; Structured Finance International; central banks of Mexico and Malaysia; National Housing Board of India; European Mortgage Association; and IMF staff calculations.

Note: MBS = mortgage-backed securities; RMBS = residential mortgage-backed securities.

¹Data include RMBS issued by Cagamas Berhad (Malaysia) only. No private label RMBS are considered.

or automated clearinghouse payments, and the judicial treatment applied to such loans.

Credit Insurance

For mortgages, credit insurance may permit transfer of risks to specialized institutions. Certain high risks in mortgages could be covered through mortgage insurance. For example, in Poland, such insurance is required for mortgage loans when the LTV ratio exceeds 70 percent, for bridge financing (before a formal mortgage is established), and for protecting against unemployment. Mortgage insurance provides incentives for borrowers to accept a modest LTV ratio, and encourages fuller assessment of the riskier credits by an unrelated insurer. Such insurance still has considerable potential for growth, possibly with some participation of international financial institutions

(IFIs) and government institutions together with the domestic insurance industry and other investors, and is a useful evolution for government housing finance programs. However, as with all forms of insurance, mortgage insurance must be properly priced and monitored to reduce moral hazard on the part of originating banks.

Legal and Regulatory Framework

The development of household credit suffers from several general weaknesses in the legal and regulatory framework in EM countries. In some countries, laws and regulations still require directed credit to household sector, especially for low-income housing. The laws and legal systems in many countries often provide excessive protection to borrowers, resulting in time-consuming, expensive, or ineffective enforcement of creditors' rights, and a weak credit culture. Pervasive under-reporting of property values or income may also make it difficult to adequately assess credit risk.

The prudential regulation of household credit generally poses fewer problems than corporate credit. Household borrowers may not typically provide formal accounts, and their antecedents may often be more difficult to verify, especially in countries with underdeveloped credit bureaus, small taxpayer populations, or high levels of informal employment. On the one hand, as a general rule, assessing a household credit is far simpler than assessing a business credit, which may require greater knowledge of business, financial analysis, and monitoring. On the other hand, a large number of household credits requires greater diffusion across branch networks, and more laborious effort to process loans, monitor delinquency, and collect delinquent accounts. Thus, it is important that banks invest in adequate origination systems, risk monitoring, and staff training.

Household credit requires the same broad regulatory approach as does institution-specific and systemic risk management. This entails capital adequacy requirements and risk weights

Box 2.3. Korean Credit Card Crisis and Its Resolution

Origins of the Crisis

After the 1997 crisis, Korea's large industrial groups sharply reduced their demand for credit. Credit providers looked for new growth areas. The government was seeking to mitigate the impact of the information technology bubble crash in 2001, expand consumption, and broaden the tax base by bringing the informal sector into the tax net by replacing cash with credit card transactions. The authorities encouraged the creation of a consumer-lending industry, with little regulation and a somewhat unusual product design. The credit card industry expanded massively from 1999 to 2002. In this short period, the number of cards issued by credit card companies more than doubled to over 100 million, an average of three cards for every adult. Annual card usage, including overdrafts and loans, increased sixfold to 114 percent of GDP.

Credit cards were provided with undemanding requirements from borrowers; with little regulation of the maximum limit with respect to income; and with gifts, other incentives, and official lotteries offered with credit card purchases. The structure of the loans extended on the cards was a problem. In Korea, credit cards represented not a revolving loan, but a credit repayable in *full* at the end of one month. Moreover, borrowers who could not repay (and should not have been issued a card) found it rather easy, given the lack of good information on borrower payments histories and lax screening, to transfer balances between different cards until limits were eventually hit. This resulted in a large number of individuals delinquent on multiple credit cards. Financial supervisors, lacking experience with credit card companies, also underestimated the risks, especially as the companies appeared well capitalized.

Note: The main authors of this box are Edward Frydl and Jack Ree.

Already in 2002, delinquency rates had begun to rise, as credit bureaus began accumulating information about the debts of clients to multiple credit card companies. In response, the authorities tightened prudential regulations and the companies began cutting credit lines and selling impaired assets. The industry's problems were aggravated in March 2003, when the SK Global scandal triggered a run on corporate bonds and a collapse of the market for credit card company bonds. By November 2003, total impaired assets, including rescheduled loans, reached 37 percent (see the table), and 2.3 million card borrowers were delinquent, representing 6 percent of the population aged 15 or more—out of a total of 3.7 million persons delinquent on household loans (10 percent of the adult population). In December, the largest company, LG Card, lost access to the capital market, creating a liquidity crisis; the government-owned Korean Development Bank rescued the company, averting the threat of bankruptcy, which could have cascaded through the entire credit card company sector.

Resolution

The aftermath of the crisis implied severe capital shortages for the entire credit card industry. The resolution of the capital shortage was made through (1) converting existing debt to equity, in the case of LG Card; (2) capital injection by affiliated industrial groups; and (3) merging into parent banks. The authorities further strengthened prudential regulations on card issuance and cash advances, introduced prompt corrective action clauses (to maintain and improve capital adequacy ratios), and concluded management improvement agreements with remaining institutions.

As a result, the average impaired assets of six existing credit card companies declined to 10.1 percent at end-2005, largely because of write-offs; their capital adequacy ratio increased from -3.3 to 19.0 percent between 2004 and end-2005; and all six credit card companies posted profits in the first quarter of 2006.

Impaired Credit Card Assets¹*(In percent of total assets)*

	2002		2003		
	December	March	June	September	December
I. Overdue receivables	6.0	9.4	9.4	11.2	14.3
II. Rescheduled loans	5.2	8.0	13.2	20.7	22.3
III. Total distressed loans (I + II)	11.2	17.4	22.6	31.9	36.6

Sources: Korean authorities; and IMF staff estimates.

¹Credit card companies excluding Kookmin Card.

The extent of the mismanagement of the Korean credit card debacle is illustrated by the fact that 6 percent of the adult population became delinquent on their debts. Delinquencies were concentrated among the young borrowers. Half of the delinquents were under 40 years and almost 20 percent were under 30. Many of these debtors were effectively insolvent and incapable of servicing even rescheduled debt. Resolution of delinquent debt is an ongoing process and involves the following main elements.

- *Credit Counseling and Recovery Service*. CCRS, a consortium of financial companies, runs the largest workout program. It serves those with debts to more than two institutions of not more than 500 million won (around \$500,000). Debt reduction of up to one-third of total debt and waiver of past due interest are obtainable when rescheduling is agreed. By the end of May 2006, the CCRS had provided restructuring to some 556,060 debtors.
- *Hanmaeum finance (the “bad bank”)*. In May 2004, the government-run Korean Asset Management Corporation established Hanmaeum to restructure small individual debts (less than 50 million won or \$50,000) from creditor institutions. Qualifying participants (about 211,000) have up to eight years to repay written-off loan principals and can be instantly delisted as credit delinquents.
- *Personal debtor recovery system*. Effective September 2004, rehabilitation procedures, more flexible than personal bankruptcy

procedures, were established. To qualify, debtors must meet the insolvency criteria and a least-cost principle requiring the value of restructured debt to exceed its liquidation value. Restructured debt is valued using a court-supervised measurement of ability to pay and participants have to surrender their entire residual income to creditors for up to five years.

These measures have contributed to a slow decline in the number of total delinquent borrowers to below three million. The fear that the debt overhang would depress consumption resulting in a deep recession did not materialize, although credit card debts among the poorest groups, which do not have regular employment, remained unresolved. The bailout of LG Card and small credit delinquents were made under government initiatives. The moral hazard implications of these programs remain to be seen.

Lessons

The Korean credit card crisis demonstrates some key lessons. Financial innovations should be carefully introduced to promote efficient intermediation rather than achieve macroeconomic policy objectives, and with adequate regard to credit assessment and prudential regulation. Credit cards could have been introduced with better safeguards, and measures should have been taken to promote an adequate infrastructure to assess creditworthiness. An overly generous bailout of defaulting borrowers can damage the establishment of a responsible credit culture.

Table 2.7. Regulation of Household Credit in Selected Emerging Markets

Measure	Examples
	Residential Mortgages
Maximum loan-to-value ratio	Thailand: 70 percent for property value exceeding 10 million baht; Korea: Maximum ranges from 40 to 70 percent with tighter limits in “overpriced” areas; Philippines: 70–80 percent.
Maximum debt-service-to-disposable-income ratio	Korea: Debt service must be less than 40 percent of the household income for high value apartments (with prices exceeding 0.6 billion won) in designated areas.
Minimum lending	Brazil: Housing loans (individual mortgages and to construction sector) of minimum 65 percent of savings accounts, of which 80 percent at below-market rates.
Risk weight	50 percent for owner-occupied residential properties under Basel I. India: Increased from 50 to 75 percent in December 2004; Malaysia: Increased risk weight on NPLs for housing loans secured by first charge from 50 to 100 percent.
	Credit Cards and Personal Loans
Maximum credit-to-income ratio and eligibility rules	Philippines: No loans without an income tax return (limits the potential applicants to 6 out of 55 million); Thailand: Credit cards can only be issued to applicants with monthly income of at least 15,000 baht (\$350), maximum loan five times the monthly income.
Minimum monthly repayment	Emerging Europe: 10 percent of outstanding balance; Turkey: 20 percent of outstanding balance.
Maximum interest rate	Malaysia: Interest rates on credit cards are capped at 18 percent; Poland: Four times the Lombard rate; Thailand: Interest rate on personal loans is capped at 28 percent and interest charges and other fees on credit cards at 18 percent.
Risk weight	Usually 100 percent. India: Raised to 125 percent in December 2004.
	Auto Loans
Eligibility criteria	India: Minimum gross annual salary of Rs. 100,000.
	Qualitative and Other Measures
Loans in foreign currency	Brazil: Prohibition on household credits in foreign currencies, but foreign-currency-indexed loans allowed; Chile: Approval by the regulator of internal policies to manage foreign exchange loans required prior to commencing such business; Croatia and Romania: Higher liquidity requirements for foreign currency loans; Poland: 20 percent higher reserves for foreign currency loans as opposed to domestic currency loans; Singapore: Higher capital requirement of 10 percent for foreign exchange credits.
Stress testing	Czech Republic, Hungary, and Poland: Regular stress tests to check robustness to large exchange rate depreciations; Thailand: Stress tests with respect to large fall in property prices.
Special reporting and analyses	Korea: Special diagnostic report on mortgage lending practices and compliance with tighter regulation; Thailand: Quarterly reports on approvals of real estate loans of over 100 million baht.
Inspection and supervision	Hungary: Increased risk management requirements for foreign currency lending, enhanced supervision (more frequent off-site and on-site inspections) of banks with dynamic foreign currency lending or banks in a weak financial position.
Restrictions on aggressive marketing	Thailand: Regulations on specific marketing strategies, hours during which prospects may be approached, incentive gifts; Korea: Street soliciting and signing gifts banned.
Moral suasion, education	Croatia, Hungary, and Poland: Media campaigns to educate borrowers on risks of foreign currency borrowing; Malaysia: Credit Counseling and Debt Management Agency.

Sources: Country authorities; and IMF staff.

Box 2.4. Securitization of Household Credit: Approaches and Problems

Household credit can be refinanced in the capital markets through either covered mortgage bonds or asset-backed securitization. The former are simply bonds of the issuer (e.g., a bank) but collateralized with a pool of mortgage or other credits. Thus the issuer retains the risks of the underlying loan, while bond investors are exposed to the risk of the issuer. Under a mortgage-backed securities (MBS) or an asset-backed securities (ABS) transaction, the issuer transfers mortgages (or other receivables) to a special purpose vehicle (SPV) or a trust, which then issues MBS or ABS to investors. An SPV is structured to ensure “bankruptcy-remoteness,” so that investors have a legal claim only on principal and interest payments from the underlying credits, and other creditors of the originator cannot access such payments in case of originator bankruptcy. Typically, MBS transactions are “tranching” in a subordinated structure, with different tranches having different tenors, priorities in debt servicing, claims on specific debt service flows, and thus ratings. Unlike mortgage bonds, ABS permit issuers to shrink their balance sheets, reduce their capital requirements, and divest the risks of the underlying credits to capital markets, which can materially contribute to systemic stability.

Given this potential for efficient risk transfer, most EMs have taken measures to develop an adequate infrastructure for securitization. This includes a complete law on securitization and SPV and trust structures, elimination of multiple transaction taxes on transfer of assets, promotion of rating agencies, good practice origination and standardization, and full articulation of regulatory and tax treatment. Nonetheless, a review of these initial attempts reveals several important problems.

True Sale Treatment

In several countries, the current legal frameworks do not achieve a full true sale treatment for legal, regulatory, and accounting purposes.

Note: The main authors of this box are Andy Jobst, Bozena Radzewicz-Bak, and Hemant Shah.

Complexities of bankruptcy and contracting laws may allow creditors of the originators, under certain circumstances (e.g., in case of fraud in Colombia), to challenge, nullify, or override the asset transfer, or permit an SPV to transfer the assets back to the originator (e.g., in the Philippines), thus threatening the debt service to ABS investors. These weaknesses or uncertainties may prevent securitization or make it risky.

Requirements to Notify Borrowers

Several countries (e.g., Indonesia, Thailand, and Taiwan Province of China) have actual (or legally unclear but potential) requirements for notifying borrowers whose loans may be securitized and thus transferred to an SPV. These requirements add to the costs and uncertainties of the collection of securitized credits and need to be judiciously removed while protecting borrowers’ reasonable interests.

Excessive Transfer Taxes

In many countries, the underlying laws relating to taxation of transfer of assets generally precede the advent of securitization. Thus, without specific exemptions, they result in multiple taxation of the same financial intermediation, making securitization unviable. For example, in India, stamp duty varies between 0.1 percent and 8 percent depending on the state and asset, which causes some geographical concentration in SPVs and ABS. In Hong Kong SAR, stamp duty is payable on transfers of land and mortgages at up to 3.75 percent, but regulations allow MBS structures to avoid such taxes. Many countries (Malaysia, Poland, Russia, the Slovak Republic, Taiwan Province of China, and Ukraine) have exempted securitization transactions from stamp duties. However, in Russia and the Slovak Republic, tax implications depend on the type of receivables and whether the transaction is domestic or cross border.

Lack of Standardization

Standardization of underlying credits is essential to minimize the cost of understanding and assessing risks of ABS, but is frequently

Box 2.4 (concluded)

lacking across most EMs. For instance, loan-to-value ratios, and origination and documentation standards differ considerably, and such variations are indeed used as marketing tactics. In many EMs, there is no common interest rate benchmark, with mortgages and credit cards linked to a bank's own lending rate or deposit rate. These variations make it difficult or expensive to pool credits from different issuers and price ABS.

Underdeveloped Legal Framework

In some EMs, such as Thailand and Turkey, the legal framework does not allow for the securitization of future receivables and does not fully ensure bankruptcy remoteness (i.e., the SPV and its assets are not fully protected from attachment by the creditors of the originator in the event of insolvency of the originator). In some countries, basic trust law is underdeveloped, requiring SPVs to be corporations, attracting many of the provisions of the standard corporate law unsuitable or onerous to securitization. In Thailand, a trust law is awaiting parliamentary approval.

Lack of Clarity

As relatively new products, securitized assets are often insufficiently recognized in existing law. For example, the risk weights for the MBS and ABS have not yet been fixed in some EM countries, preventing investment by banks in such products. In some countries (e.g., India), ABS products are inadequately defined as "security" for stock exchange listing purposes. In most EMs, ABS are also infrequently traded and hence lack daily quotations. In the absence of well-developed rules for price estimation or extrapolation, certain investors (such as mutual or pension funds) subject to mark-to-market find it difficult to invest in such securities.

Lengthy Approval Process

In many EMs (e.g., Chile), securitization issuance entails a somewhat lengthy process. In some countries, such as Malaysia and Turkey, the approval of both the bank supervisory authority and the securities commission is required when assets originated by financial institutions are securitized.

for normal and impaired loans, standards for classification and provisioning, and adequate supervision. Several EM countries have supplemented these measures with a variety of approaches to limit imprudent household credit extension (see Table 2.7). These include setting interest rate caps, standards restricting loan amounts and eligibility (e.g., debt-service-to-income ratio, maximum lending limits, maximum LTV ratio, and maximum debt service ratios), dynamic provisioning, documentation requirements, guarantee requirements, prohibition of special promotion, and higher capital adequacy requirements or risk-weights for foreign exchange or nonperforming loans (see Hilbers and others, 2005). Qualitative measures may include setting limits on aggressive marketing practices, gaining prior approval of banks' household credit risk management systems, and

establishing programs for consumer education and protection.

There are no easily identifiable global "best practice" parameters with respect to prudential regulation of household credit. Nonetheless, most regulators regard maximum LTV ratios around 70–80 percent in property markets that are not overheated, maximum debt-service-to-income ratios of around 35–40 percent for all household credit, a minimum repayment rate of 10 percent of outstanding balance for credit cards, and a maximum credit card limit equal to three to four months' income as sensible benchmarks around which to design country-specific rules. Regulators in EM countries should also be vigilant about financial innovations such as interest-only or negative amortization (where payment does not fully cover interest) mortgages, which are obviously

more susceptible to speculative borrowings and higher NPLs.

In some EM countries, *margin lending* to individuals for the purchase of stocks and bonds is becoming an important form of noncorporate credit. Although margin lending increases access to securities markets, diversifies the investor base, and contributes to make markets more liquid, it may also exacerbate asset price fluctuations. These problems can be easily addressed with prudent lending limits. Although not in the same class of household credit as discussed here, margin lending can be easily diverted to personal consumption or housing and can have similar effects as excessive household credit growth.

Conversations with many EM banks suggest that, under competitive pressures, lenders may engage in practices that may prove to be imprudent in the long run. Thus, there may be much to gain through a collaborative dialogue with bankers' associations and consumer advocacy groups to promote the adoption of good practice origination standards, adequate sharing of credit information, standard disclosure of household credit terms, and avoidance of proliferation of terms.

Foreign lenders can significantly enhance the efficiency of the EM domestic banking industry through competition, technology transfer, and new products; but they can also present special regulatory and supervisory challenges. As with any domestic institution, EM regulators should take steps to adequately regulate and supervise foreign bank affiliates, especially because such affiliates may be of marginal importance to the parent bank and its supervisor, but of systemic importance to the host country.

Several MM and EM financial crises have underscored the interactions between the financial sector and the macroeconomic conditions, and regulators are paying increasing attention to such links. However, they also remain handicapped by the lack of a robust conceptual framework that links household credit and macroprudential variables or financial regula-

tion and monetary policy.¹³ Nonetheless, central banks of several EM countries have started to incorporate financial stability analysis in their regular tool kits and publish financial stability reports that contain assessment of the risks from a macroprudential perspective.

Conclusions and Policy Implications

The healthy development of household credit is likely to generate important benefits for borrowers, lenders, the financial system, and the economy. It can also alleviate some of the current global imbalances. The resulting welfare gains could be substantial. Therefore, there is a need to encourage the sound development of this still-nascent market in EM and developing countries.

In most EM—compared with MM—countries, retail credit expansion from relatively low levels is desirable and does not seem to pose a direct threat to financial stability. Nonetheless, minimizing risks that are frequently associated with high credit growth requires action on four related fronts. In addition to ensuring a sound macroeconomic policy environment, authorities need to implement appropriate prudential regulation, create or facilitate legal and institutional infrastructure conducive to sound household credit markets, and improve their capacity to assess vulnerabilities and take preventive action.

First, macroeconomic stability and the resulting reduction in uncertainties related to inflation, interest rates, and exchange rates are indispensable for the healthy development of all credit markets, including household credit. In addition, rapid credit growth can compound the problems of excessive consumption, current account imbalances, and property boom-bust cycles. If credit is predominantly financed by external capital flows, it can heighten the vulnerability to sudden stops and financial crises. These macroeconomic risks cannot be minimized by measures to reduce credit growth

¹³See Caruana (2005).

alone, and require appropriate fiscal and monetary policies.

Prudential regulation is the second critical element to ensure healthy growth of household credit, for which EM regulators are generally well equipped. The regulation of household credit does not entail a fundamentally different approach from that for other credits, and the standard prudential apparatus—risk-weighting, capital adequacy, classification, and provisioning—should suffice. Household credit is also somewhat easier to evaluate and classify than corporate credit. When household credit is growing rapidly, consideration may also be given to ex ante provisioning, recognizing the procyclical nature of household credit. In addition, unlike corporate credit, household credit is more amenable to specific guidelines to ensure conservative origination standards such as LTV ratios, debt-service-to-income ratios, interest rate caps (e.g., for credit cards), documentation, and guarantee requirements. As a general rule, regulators should refrain from direct intervention in product design; it may be appropriate to limit the riskier forms of credit, such as negative amortization mortgages, through more stringent capital and provisioning requirements. In addition, the large number of household credits may require regulators to become better equipped to assess the banks' overall retail business models, origination practices at branches, and quality and robustness of credit scoring and other models used.

In countries where household credit is materially dependent on cross-border capital inflows, such as in emerging Europe, prudent macroeconomic policies are of critical importance to prevent boom-bust cycles. In addition, regulators should improve their dialogue and coordination with home country regulators of large foreign banks and other regional recipients of such flows to guard adequately against possibilities of sudden capital flow reversals. Direct controls on lending are often circumvented and distortionary, and should be considered only on an exceptional basis in the face of large systemic risks.

Third, authorities must take several steps to improve the overall legal environment and infrastructure conducive to the healthy growth of household credit and risk management. As discussed in this chapter, these include the need to adopt enabling reforms in the regulatory and legal frameworks for (1) securitization; (2) effective enforcement of collateral; (3) provision and sharing of credit information; (4) promotion of rating agencies and credit bureaus; and (5) transparency in lending, consumer protection, and consumer education. The authorities must also be able to exercise effective moral suasion and facilitate cooperative efforts, for example, through dialogue with industry associations on development of good product standards, fair marketing practices, and information sharing.

Fourth, a key building block to effectively monitor and manage potential vulnerabilities is improving data availability. In most EM countries, there is a need to increase efforts to monitor and assess the buildup of credit, interest rate, rollover, and exchange rate risks within the household credit portfolios at both the aggregate and the individual levels. These risks are closely linked to global and domestic macroeconomic developments, property price movements, and other variables. Thus, risk measurement based solely on bank reporting would need to be complemented with improved measuring and monitoring of household debt and net worth, asset prices, and stress testing of specific shocks. In many EMs, this may require a significant upgrading of the analytical skills that would support regulatory policy and supervision.

Fifth, the authorities should recognize the possible constraints on using traditional policy measures (e.g., higher interest rates and exchange rate depreciation) in the case of systemic distress affecting a large number of households. The political implications of a massive household bankruptcy may be quite different from that of large-scale corporate distress. Accordingly, and depending on country-specific circumstances, a high level of

distressed household credit may require some rethinking of conventional crisis management tools (e.g., how to deal with large numbers of delinquent debtors and how to realize collateral). Countries in which households carry large interest rate and exchange rate exposures should maintain adequate reserves at the level of both the authorities and the commercial banks, and formulate adequate contingency plans in the event of a large interest and/or exchange rate movement.

To summarize, recent growth of household credit in most EMs is a broadly welcome phenomenon that needs to be encouraged and rendered sustainable by appropriate policy actions that would prevent excessive vulnerabilities.

Annex: Description of Data

This annex provides a summary of the data used in the chapter. The data were obtained from country authorities and public sources. Due to limited data availability, the sample size varies by year and variable; more complete data exist for 2003–05 than for earlier periods.

Household credit data, mainly provided by banks, were collected from 23 EMs and 10 MMs. The EM country coverage was as follows:

- *Africa*: South Africa.
- *Emerging Asia*: China, India, Indonesia, Korea, Malaysia, Philippines, Taiwan Province of China, and Thailand.
- *Emerging Europe*: Bulgaria, Czech Republic, Hungary, Poland, Romania, Russia, and Turkey.
- *Latin America*: Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela.

The MM countries included Australia, France, Germany, Ireland, Italy, Japan, New Zealand, Spain, the United Kingdom, and the United States.

Detailed data on the debt structure, such as the types of household credit (and its composition by maturity, currency, and interest rate structure), the sources (providers) of household credit, securitization of household debt, and the composition and liquidity of household assets

and delinquencies, were requested from country authorities.

Complete data were not available for all countries; a summary of data obtained is provided below. Data were collected on

- the *structure of household debt* (credit product, maturity, currency denomination, and interest rate) for 21 EMs and 7 MMs;
- the *providers of household credit* (by type of lender) for seven EMs and six MMs;
- the *securitization of household debt* for three EMs and five MMs; and
- the *household assets and delinquencies* for eight EMs and seven MMs.

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The following remarks by the Acting Chair were made at the conclusion of the Executive Board's discussion of the Global Financial Stability Report on August 23, 2006.

Assessment of Financial Stability and Policy Implications

Directors welcomed the concise and focused analysis of the *Global Financial Stability Report* (GFSR). The staff's assessment was seen as balanced, pointing to both the resilience of international financial systems and the downside risks to the baseline scenario of continued strong growth.

Directors noted that increased uncertainty about the sustainability of current global growth amid rising inflationary pressures, persistent global imbalances, and a weakening U.S. housing market had triggered a bout of volatility in mature markets and turbulence in emerging markets (EMs) during May and June 2006. Global financial markets calmed subsequently as inflation fears declined, as the likelihood ebbed that key central banks would tighten more significantly, and as some EMs were seen as correcting from lofty valuations. Directors considered that markets remain underpinned by a favorable overall outlook for the global economy, and that recent market volatility does not foreshadow a sustained downturn in global growth. Corporate balance sheets and profitability are strong and financial institutions are healthy, supporting the resilience of international financial systems.

However, Directors agreed that international financial markets face risks—tilted to the downside—to the *World Economic Outlook* baseline scenario. These risks are an intensification of inflation pressures requiring more monetary tightening than currently expected; further increases in oil prices due to geopolitical uncertainties; and a more pronounced slowdown in the U.S. economy, led by a rapid cooling of the

housing market. Also, a rapid unwinding of global economic imbalances, although unlikely, could be accompanied by financial turbulence. Several Directors cautioned that standard measures of expectations indicate that financial markets may not be factoring in potential greater uncertainty, increasing the risk that market movements could be amplified in the event of unexpected shocks. A number of Directors commented that while the development of credit derivative and structured credit markets have been, on balance, supportive of a diversification of credit risks, the rapid growth of hedge funds and credit derivative mechanisms in recent years adds to uncertainty, and that they merit further analysis. They stressed the importance of being able to anticipate how these entities will react in the event of market turbulence and the systemic impact.

Directors concurred with the staff's conclusions regarding policies for sustainable capital flows and the orderly adjustment of global economic imbalances. The depth, liquidity, and breadth of U.S. financial markets have played an important role in attracting capital inflows from both the foreign official and private sectors. At the same time, most Directors considered that these comparative advantages may diminish over time as the demand for foreign holdings of U.S. assets approaches its limits, and as structural improvements are made in competing international financial markets. Most Directors noted that growing liberalization of private capital outflows and the diversification of the investment of official reserve holdings support the smooth adjustment of global financing flows. Nevertheless, although considered unlikely, the

risk cannot be ruled out that a dollar decline could create financial turbulence, given that foreign investors' exposures to losses from such a decline are large and growing.

Directors agreed with the staff's assessment that the recent turbulence in EMs reflected corrections in the wake of substantial past investment inflows and price increases, rather than a reassessment of EM fundamentals. The resilience of EM sovereign bond and credit risk spreads reflects investors' perceptions of improved fundamentals in many EMs, including lower current account and fiscal deficits, higher levels of reserves, and improved public debt structures. Nonetheless, Directors agreed that the correction also underscored that some EMs remain susceptible to a retrenchment by foreign investors because of greater uncertainty in the external environment. In particular, those countries with large balance of payments needs, coupled with excessive reliance on portfolio inflows, and/or where monetary and fiscal policy credibility is less well established, are more vulnerable. Directors noted that private sector debt inflows have increased sharply in recent years and may require close monitoring, particularly bank flows to private borrowers—including to households—in Central and Southeastern Europe.

Directors observed that policymakers in both mature and emerging markets face renewed challenges in ensuring balanced economic growth and financial stability, against the backdrop of heightened uncertainty and downside risks to the global economic outlook. Country authorities need to work cooperatively so that policies reinforce an orderly adjustment of global imbalances and prevent the emergence of disruptive market conditions. Supervisors and important financial institutions need to intensify their efforts to monitor and manage risks in the financial system. EMs will need to continue to reduce their vulnerabilities, particularly those with macroeconomic imbalances and a heavy reliance on external financing. Directors endorsed the continuation of debt management policies to further improve public debt struc-

tures, and the strengthening of local markets to help them absorb smoothly inflows from foreign investors and reduce their exposure to foreign currency financing.

Household Credit Growth in Emerging Market Countries

Directors welcomed the opportunity to review household credit in EM countries. Household credit can have important benefits for borrowers, lenders, the financial system, and the economy, and the sound development of this sector should be encouraged. Directors considered that in most EM countries, retail credit expansion has been from relatively low levels and does not pose a threat to financial stability.

Directors cautioned that the growth of EM household credit in recent years has occurred in a benign environment of low interest rates in mature markets, falling EM interest rates, ample liquidity, and rising incomes and housing prices. The monetary tightening by many mature market and EM countries since the first quarter of 2006 could yet reveal weaknesses in the household credit sector in some EM countries. These countries should work to manage the risks and vulnerabilities through prudent macroeconomic management, sound prudential regulations, a supportive legal environment, and robust banking and financial data systems.

Directors emphasized that prudent macroeconomic management is the key to minimizing the buildup of interest and exchange rate risks. Appropriate fiscal and monetary policies will help prevent excessive credit growth, which can result in unsustainable consumption levels, current account imbalances, and property boom-and-bust cycles. Directors warned that credit financed predominantly by external capital inflows heightens the vulnerability to sudden stops and financial crises, and needs to be managed carefully.

Directors agreed that informed prudential regulation is essential to ensure healthy household credit growth. They suggested supplementing the standard prudential mechanisms with ex-

ante provisioning, given the pro-cyclical nature of household credits. Also, regulators should promote conservative origination standards, but refrain from direct intervention in product design. For countries such as those in emerging Europe, where household credits are materially dependent on cross-border capital inflows, regulators should improve their dialogue and coordination with home-country regulators of large foreign banks, to ensure that the possibility of a sudden capital flow reversal is adequately guarded against. A number of Directors advised that direct controls on lending be considered only when the lending presents large systemic risks.

Directors recommended that, to improve the legal environment and infrastructure to support household credit and risk management, enabling reforms be implemented in the areas of securitization, the enforcement of collateral, the sharing of credit information, rating agencies and credit bureaus, transparency in lending, and consumer protection and education. Directors encouraged member countries to facilitate cooperative efforts to develop good product standards, fair marketing practices, and information sharing.

Directors noted the importance of improving data availability for effective monitoring and management of potential vulnerabilities. Increased efforts are needed to monitor and assess the buildup of credit, interest, rollover, and exchange rate risks in household credit portfolios, which may require upgrading the analytical capacity of regulators and supervisors. Directors recommended that risk measurement based on bank reporting be complemented with improved measuring and monitoring of asset prices and of household debt and net worth, and with stress testing of specific shocks.

Directors pointed to the possible constraints on the use of traditional policy measures in case of systemic distress affecting a large number of households. A situation in which household bankruptcies become commonplace may be quite different from a situation of large-scale corporate distress, as political pressures may make conventional crisis management tools difficult to use. For this reason, Directors suggested that countries in which the interest and exchange rate exposure of households is large should maintain adequate reserves and set in place contingency plans to confront large interest and/or exchange rate movements.

This statistical appendix presents data on financial developments in key financial centers and emerging markets. It is designed to complement the analysis in the text by providing additional data that describe key aspects of financial market developments. These data are derived from a number of sources external to the IMF, including banks, commercial data providers, and official sources, and are presented for information purposes only; the IMF does not, however, guarantee the accuracy of the data from external sources.

Presenting financial market data in one location and in a fixed set of tables and charts, in this and future issues of the *Global Financial Stability Report*, is intended to give the reader an overview of developments in global financial markets. Unless otherwise noted, the statistical appendix reflects information available up to July 14, 2006. Please note that following the declaration of independence of Serbia from Montenegro, it has been determined that Serbia is the continuing state of the former state union

of “Serbia and Montenegro” and that Montenegro has seceded as a new independent state.

Mirroring the structure of the chapters of the report, the appendix presents data separately for key financial centers and emerging market countries. Specifically, it is organized into three sections:

- Figures 1–14 and Tables 1–9 contain information on market developments in key financial centers. This includes data on global capital flows, and on markets for foreign exchange, bonds, equities, and derivatives, as well as sectoral balance sheet data for the United States, Japan, and Europe.
- Figures 15 and 16, and Tables 10–21 present information on financial developments in emerging markets, including data on equity, foreign exchange, and bond markets, as well as data on emerging market financing flows.
- Tables 22–27 report key financial soundness indicators for selected countries, including bank profitability, asset quality, and capital adequacy.

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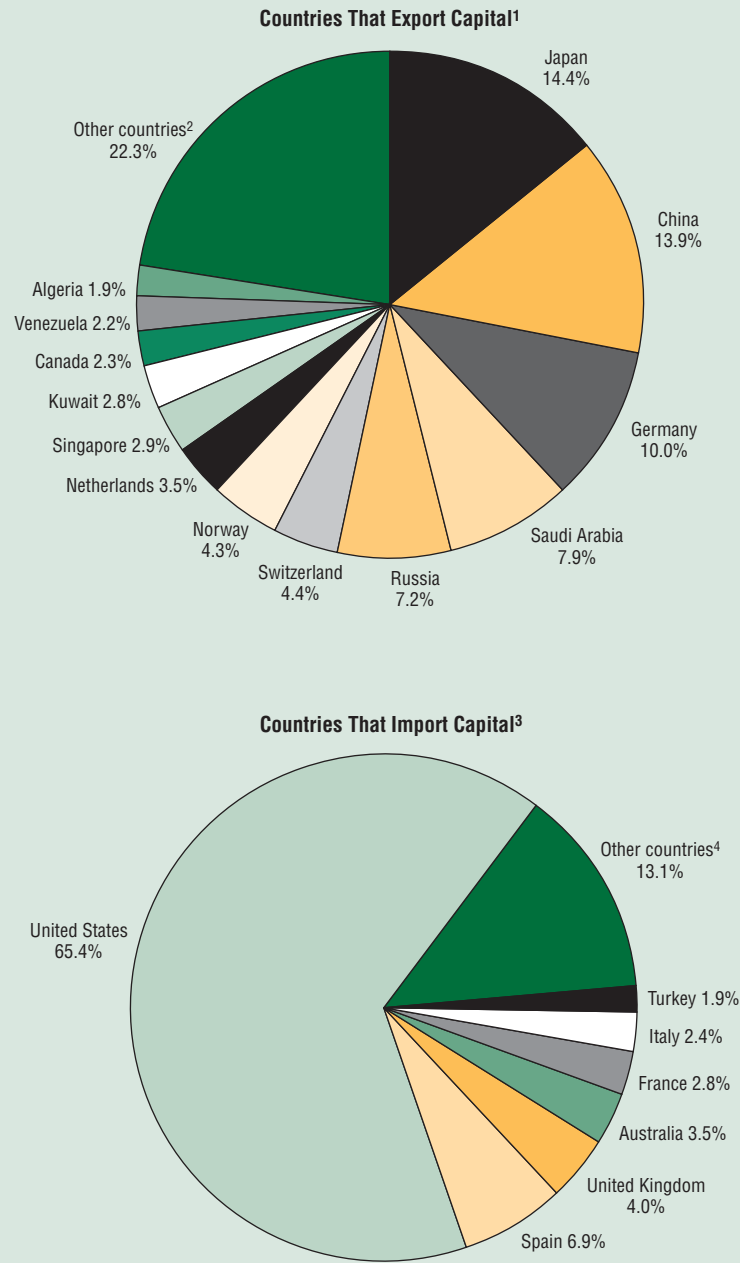
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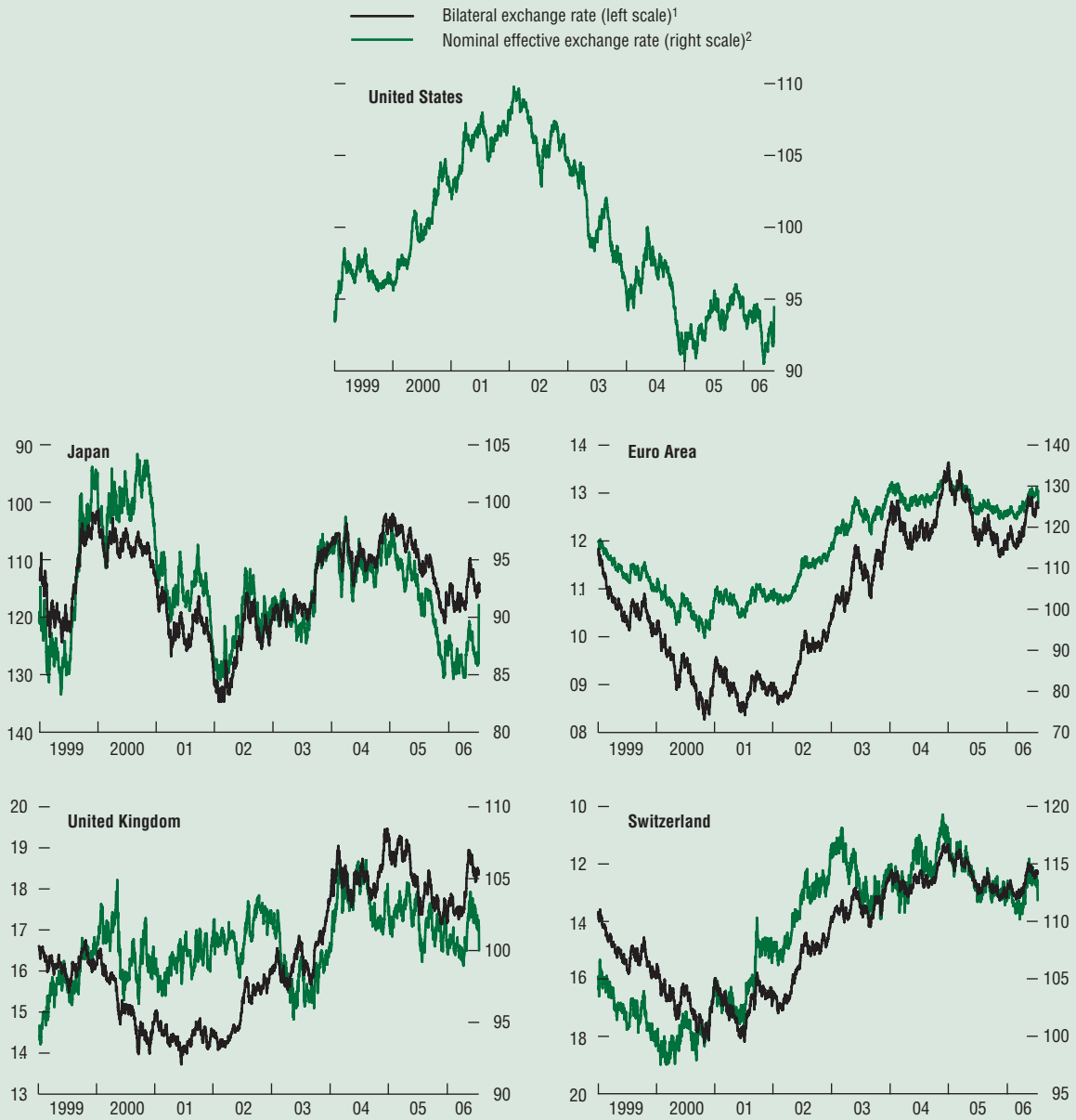
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Figure 1. Major Net Exporters and Importers of Capital in 2005



Source: International Monetary Fund, September 2006 *World Economic Outlook* database.
¹As measured by countries' current account surplus (assuming errors and omissions are part of the capital and financial accounts).
²Other countries include all countries with shares of total surplus less than 1.9 percent.
³As measured by countries' current account deficit (assuming errors and omissions are part of the capital and financial accounts).
⁴Other countries include all countries with shares of total deficit less than 1.9 percent.

Figure 2. Exchange Rates: Selected Major Industrial Countries



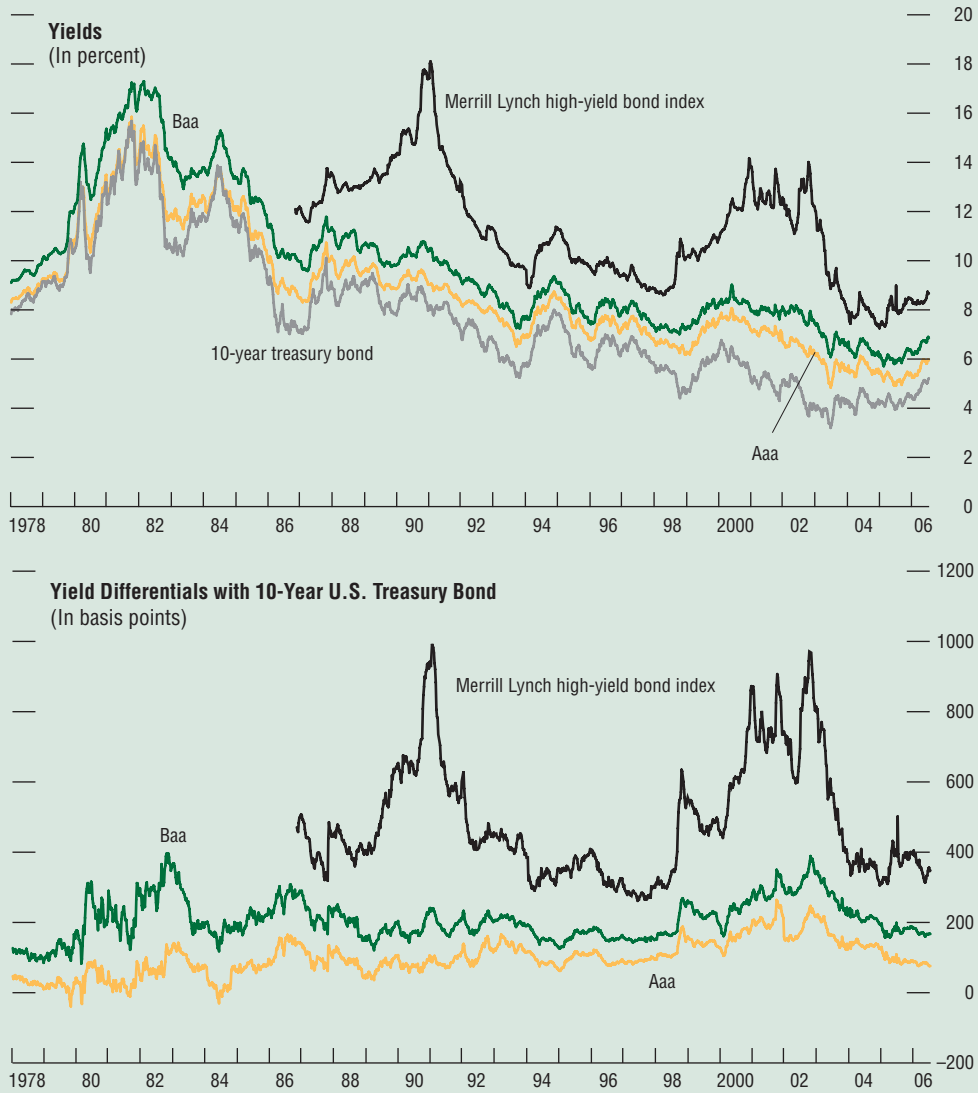
Sources: Bloomberg L.P.; and the IMF Global Data System.

Note: In each panel, the effective and bilateral exchange rates are scaled so that an upward movement implies an appreciation of the respective local currency.

¹Local currency units per U.S. dollar except for the euro area and the United Kingdom, for which data are shown as U.S. dollars per local currency.

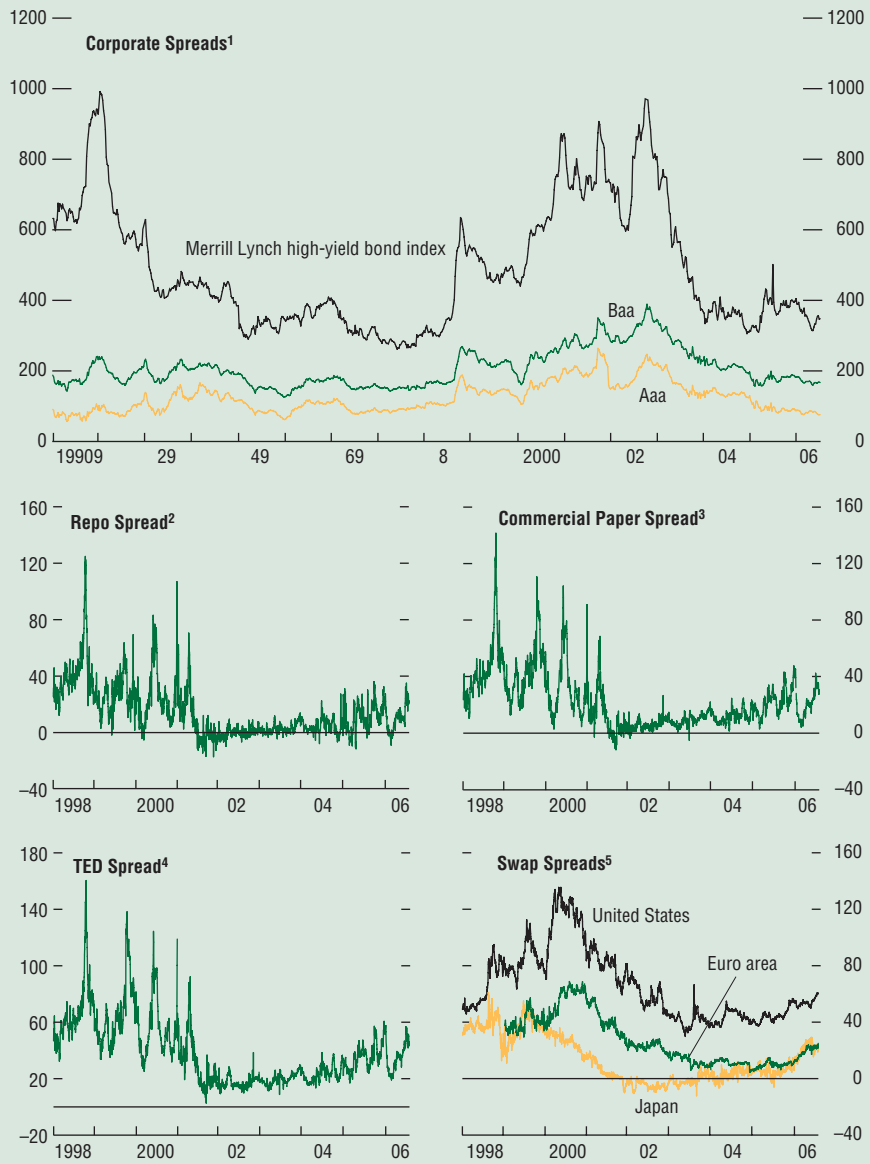
²2000 = 100; constructed using 1999–2001 trade weights.

Figure 3. United States: Yields on Corporate and Treasury Bonds
(Weekly data)



Sources: Bloomberg L.P.; and Merrill Lynch.

Figure 4. Selected Spreads
(In basis points)



Sources: Bloomberg L.P.; and Merrill Lynch.

¹Spreads over 10-year U.S. treasury bond; weekly data.

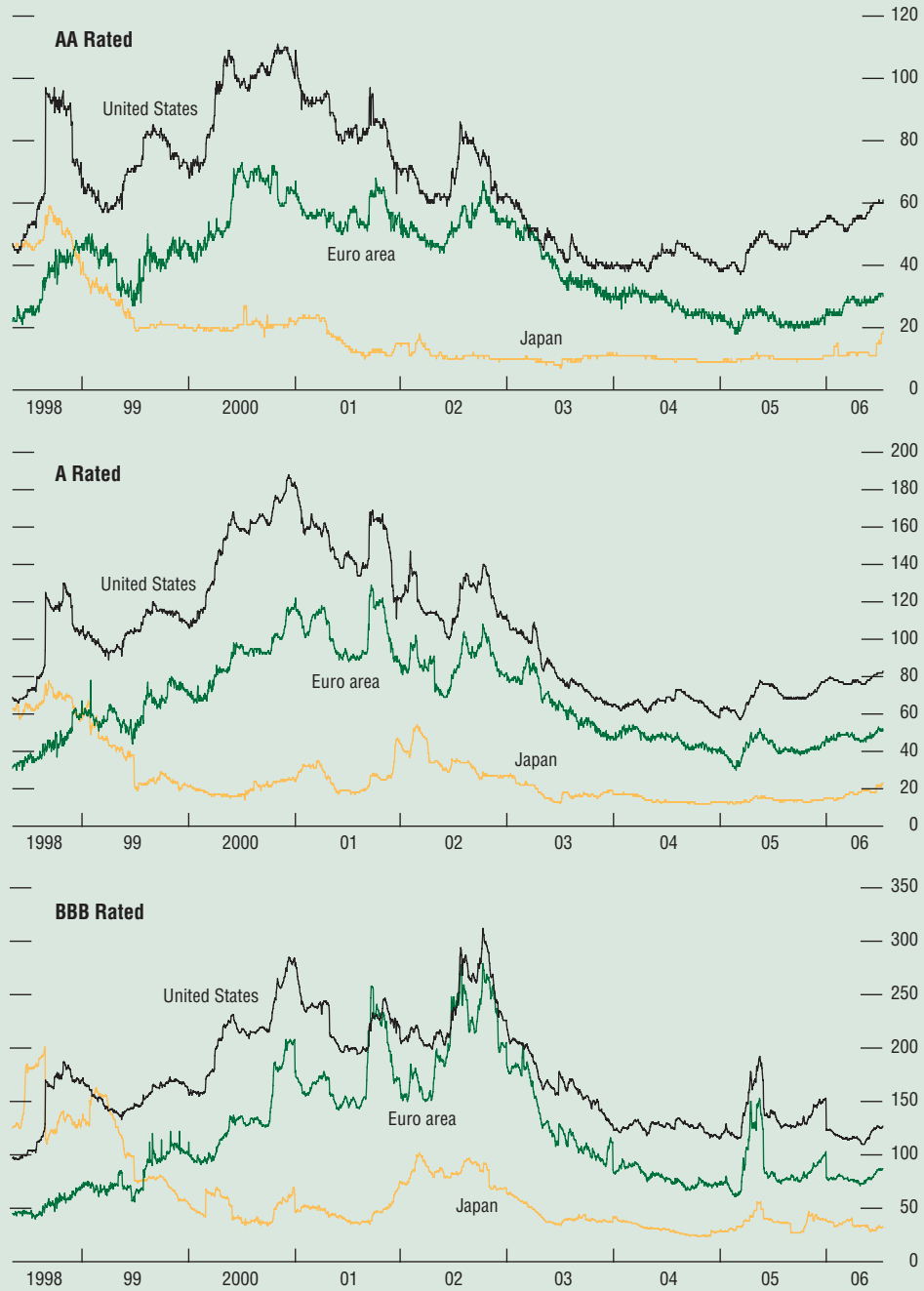
²Spread between yields on three-month U.S. treasury repo and on three-month U.S. treasury bill.

³Spread between yields on 90-day investment-grade commercial paper and on three-month U.S. treasury bill.

⁴Spread between three-month U.S. dollar LIBOR and yield on three-month U.S. treasury bill.

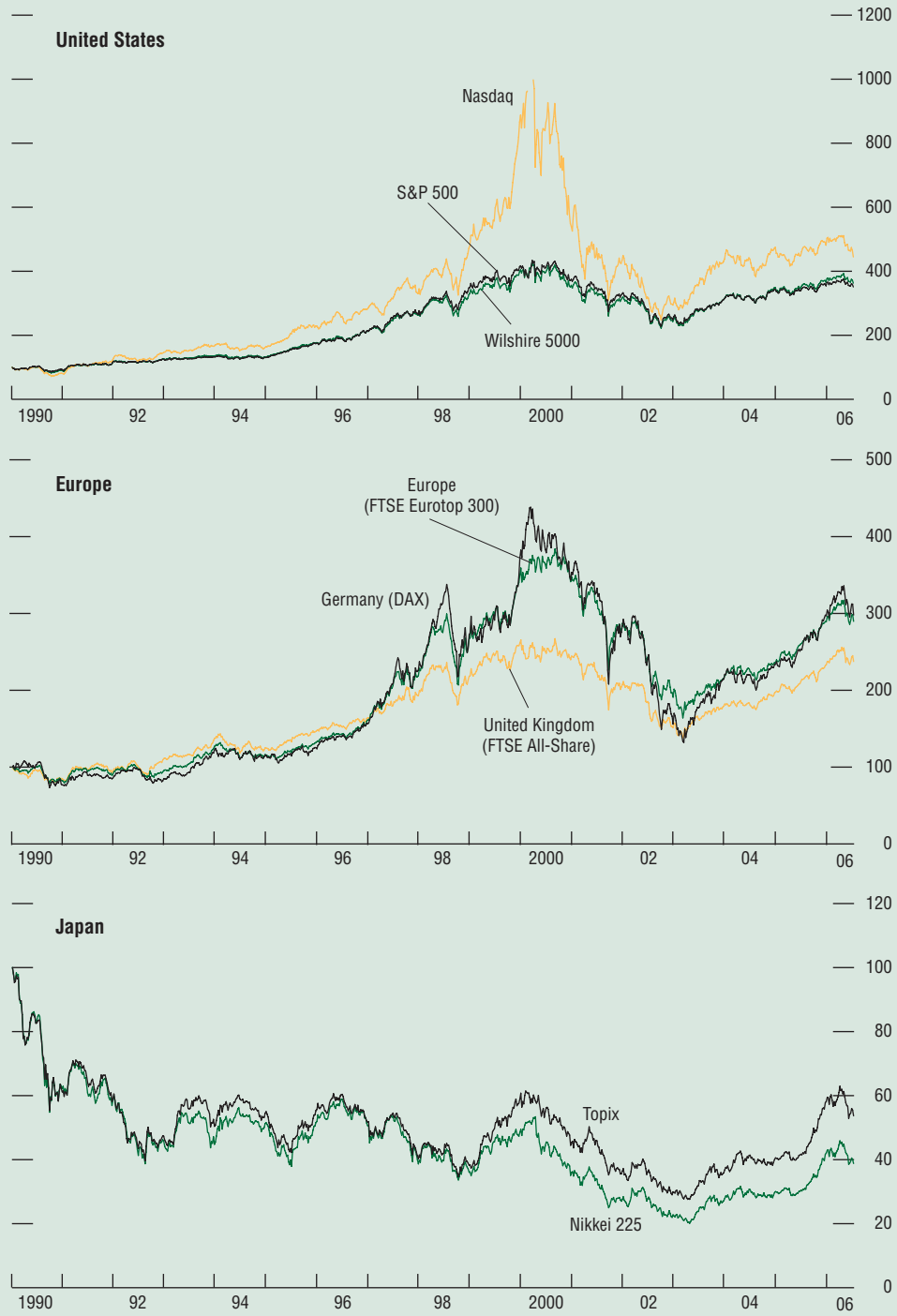
⁵Spreads over 10-year government bond.

Figure 5. Nonfinancial Corporate Credit Spreads
(In basis points)



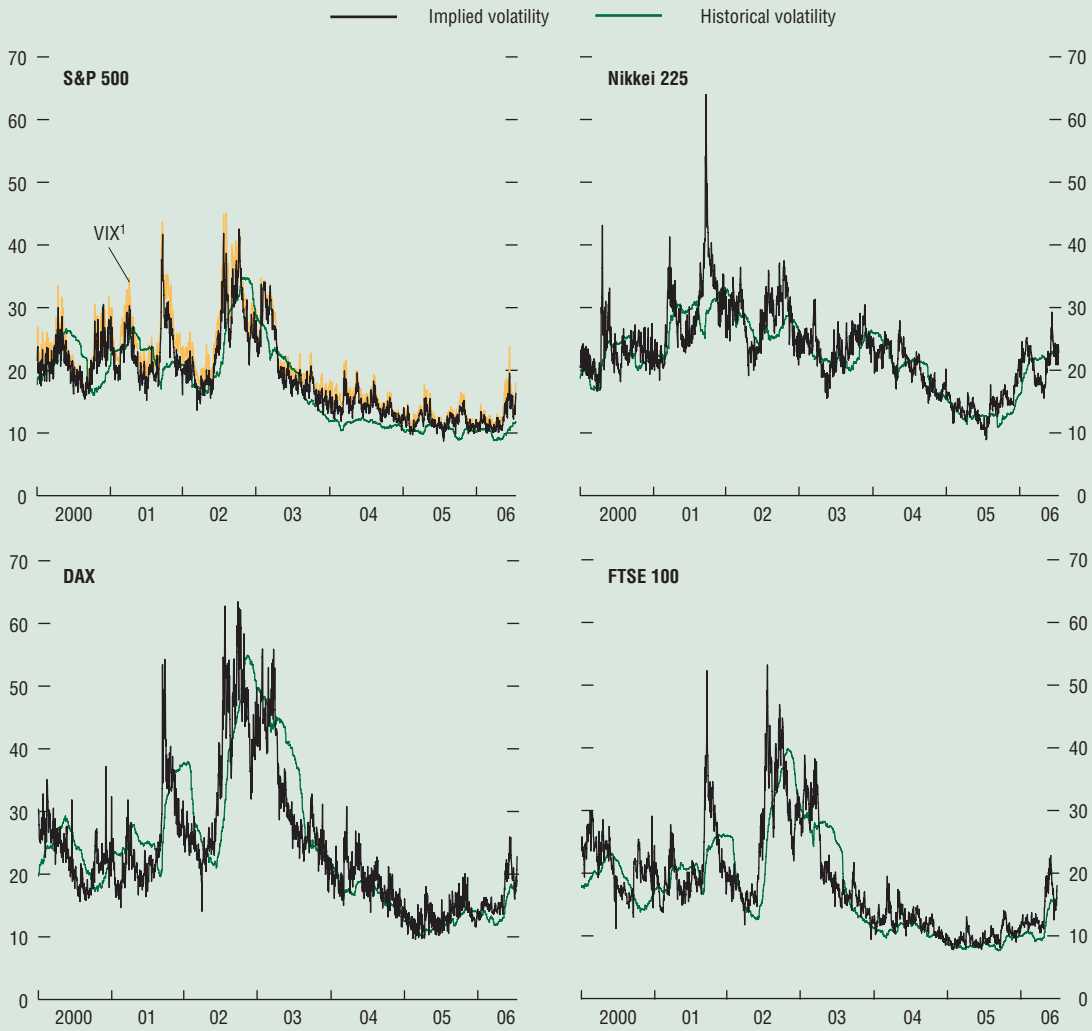
Source: Merrill Lynch.

Figure 6. Equity Markets: Price Indices
(January 1, 1990 = 100; weekly data)



Source: Bloomberg L.P.

Figure 7. Implied and Historical Volatility in Equity Markets

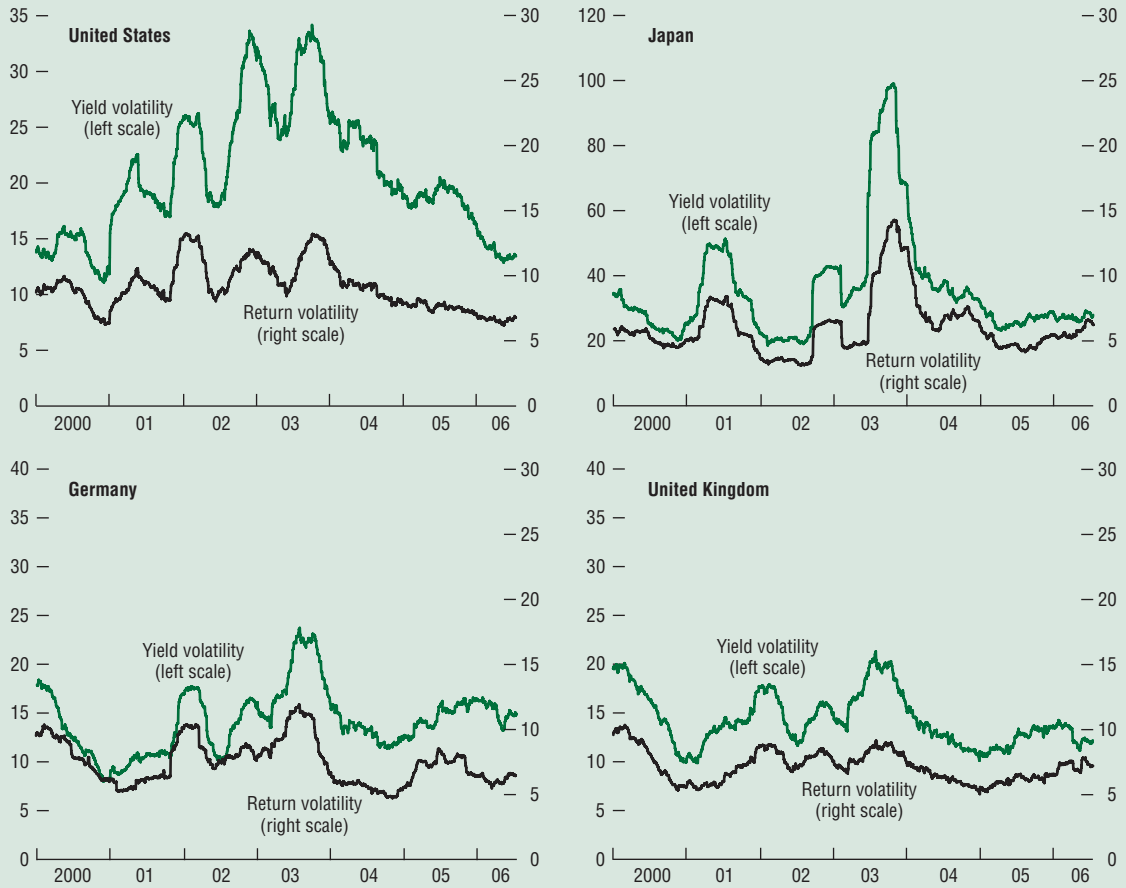


Sources: Bloomberg L.P.; and IMF staff estimates.

Note: Implied volatility is a measure of the equity price variability implied by the market prices of call options on equity futures. Historical volatility is calculated as a rolling 100-day annualized standard deviation of equity price changes. Volatilities are expressed in percent rate of change.

¹VIX is the Chicago Board Options Exchange volatility index. This index is calculated by taking a weighted average of implied volatility for the eight S&P 500 calls and puts.

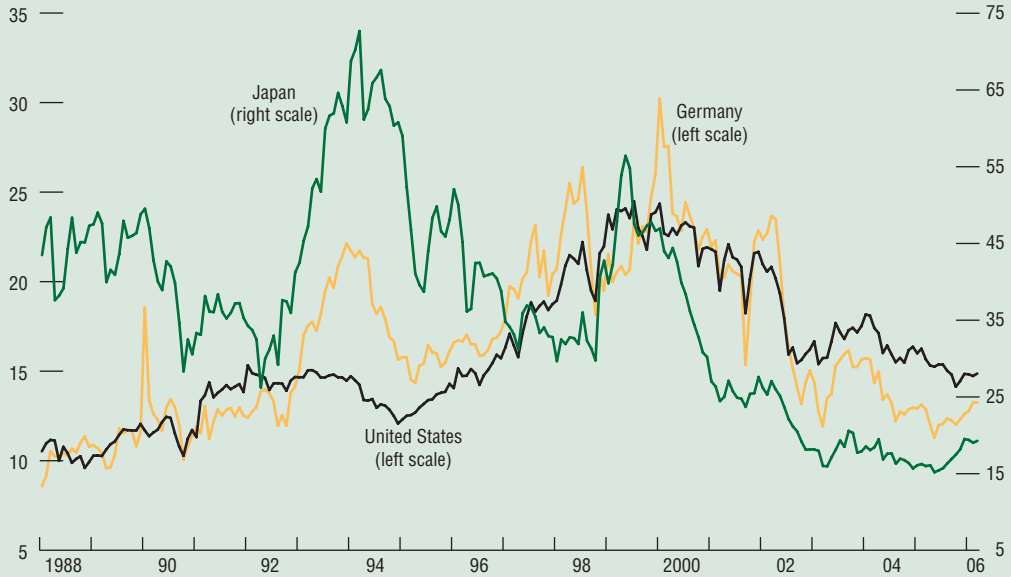
Figure 8. Historical Volatility of Government Bond Yields and Bond Returns for Selected Countries¹



Sources: Bloomberg L.P.; and Datastream.

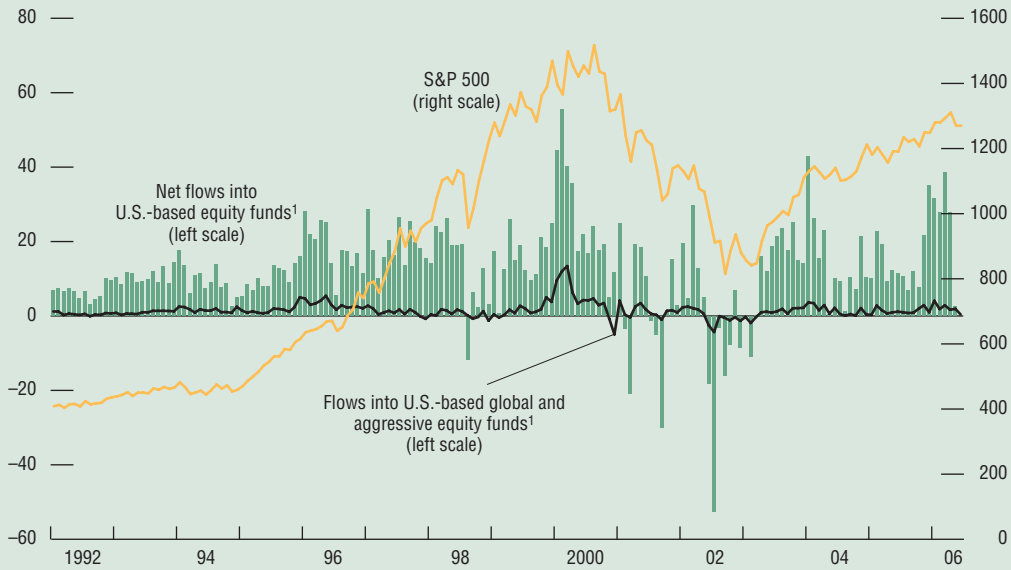
¹Volatility calculated as a rolling 100-day annualized standard deviation of changes in yield and returns on 10-year government bonds. Returns are based on 10-plus year government bond indices.

Figure 9. Twelve-Month Forward Price/Earnings Ratios



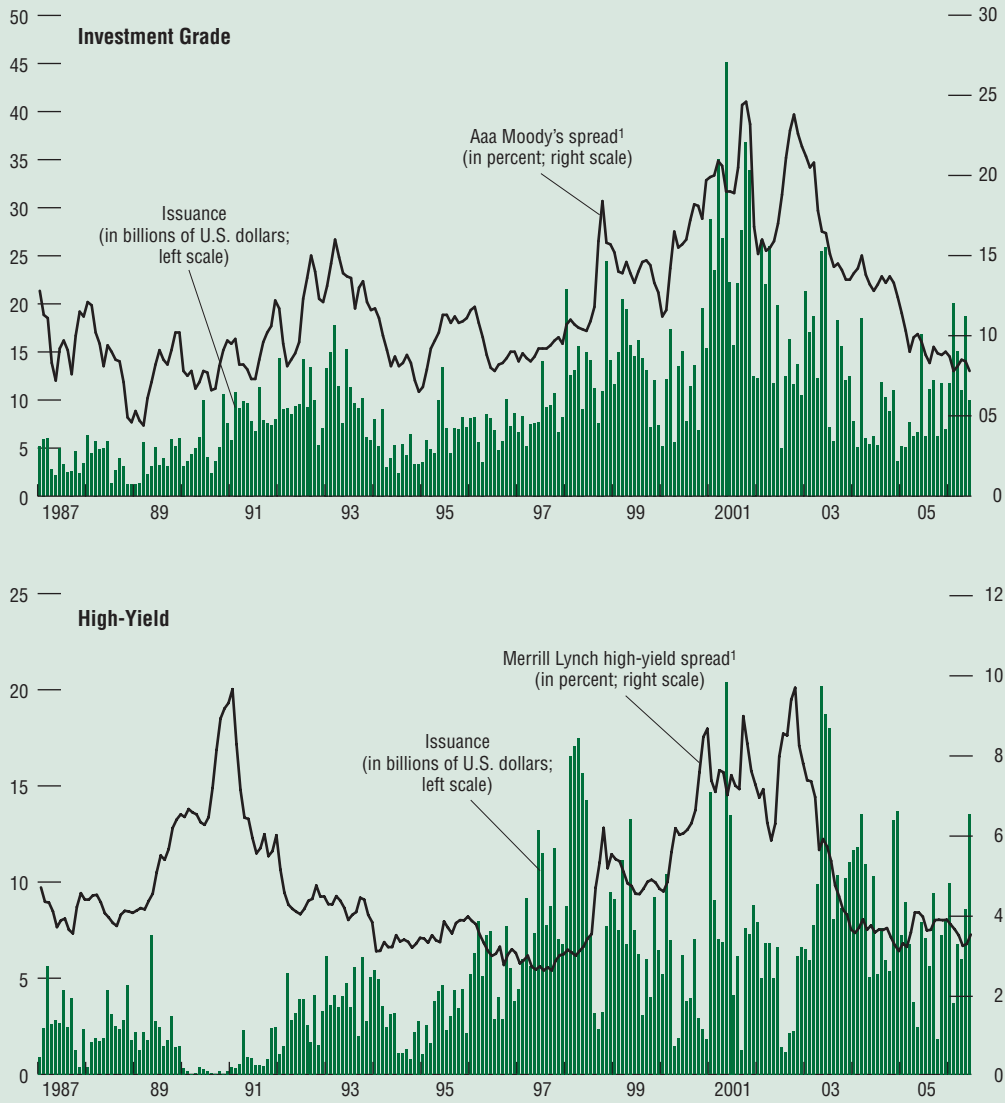
Source: I/B/E/S.

Figure 10. Flows into U.S.-Based Equity Funds



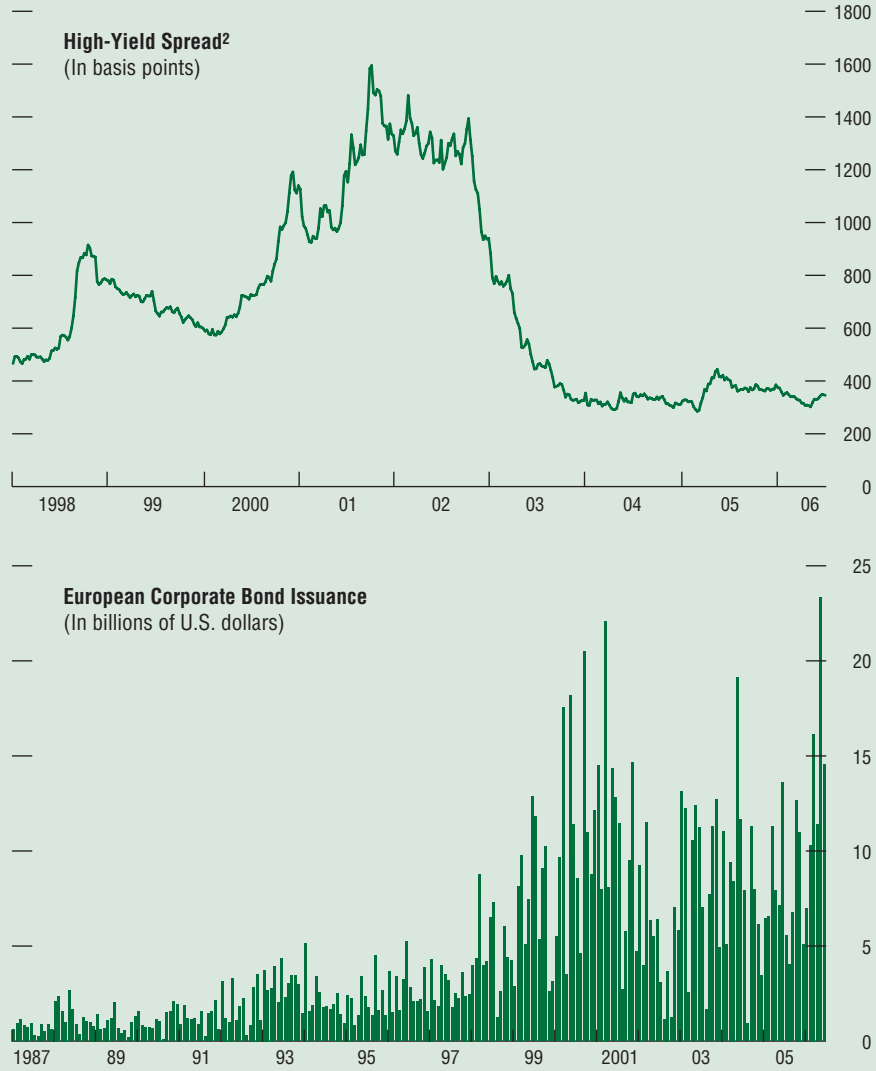
Sources: AMG Data Services; Investment Company Institute; and Datastream.
¹In billions of U.S. dollars.

Figure 11. United States: Corporate Bond Market



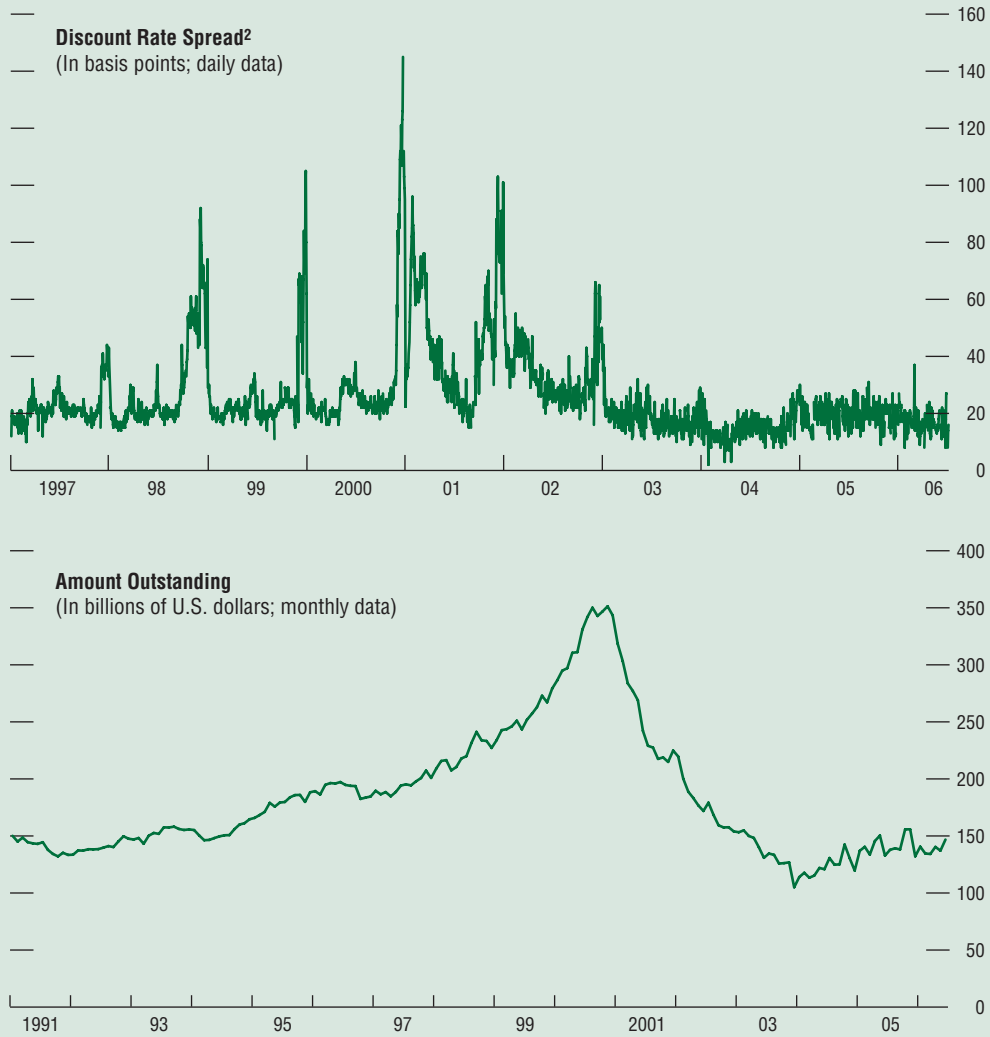
Sources: Board of Governors of the Federal Reserve System; and Bloomberg L.P.
¹Spread against yield on 10-year U.S. government bonds.

Figure 12. Europe: Corporate Bond Market¹



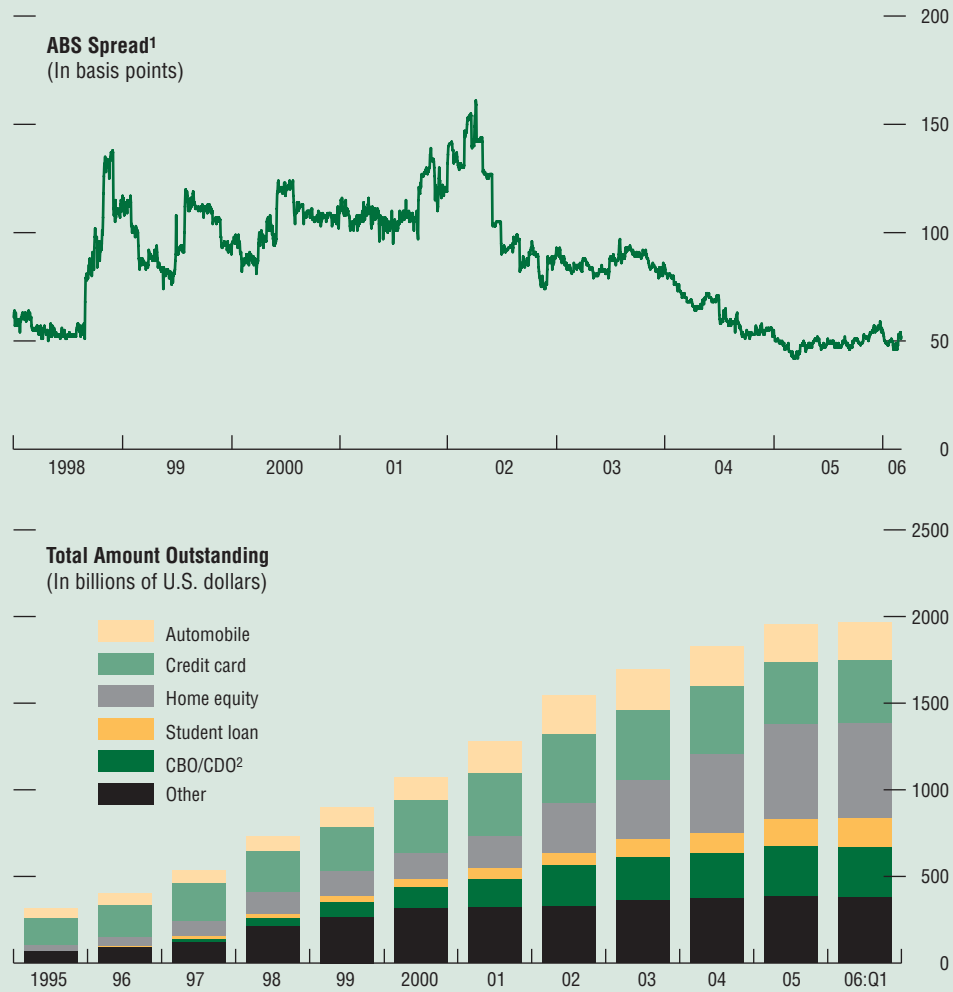
Sources: Bondware; and Datastream.
¹Nonfinancial corporate bonds.
²Spread between yields on a Merrill Lynch High-Yield European Issuers Index bond and a 10-year German government benchmark bond.

Figure 13. United States: Commercial Paper Market¹



Source: Board of Governors of the Federal Reserve System.
¹Nonfinancial commercial paper.
²Difference between 30-day A2/P2 and AA commercial paper.

Figure 14. United States: Asset-Backed Securities



Sources: Merrill Lynch; Datastream; and the Bond Market Association.
¹Merrill Lynch AAA Asset-Backed Master Index (fixed rate) option-adjusted spread.
²Collateralized bond/debt obligations.

Table 1. Global Capital Flows: Inflows and Outflows¹*(In billions of U.S. dollars)*

	Inflows										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
United States											
Direct investment	57.8	86.5	105.6	179.0	289.4	321.3	167.0	84.4	64.0	133.2	109.8
Portfolio investment	210.4	332.8	333.1	187.6	285.6	436.6	428.3	427.6	520.3	766.2	908.5
Other investment	170.4	131.8	268.1	57.0	165.2	289.1	187.5	285.8	280.5	550.9	193.9
Reserve assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total capital flows	438.6	551.1	706.8	423.6	740.2	1,046.9	782.9	797.8	864.8	1,450.2	1,212.2
Canada											
Direct investment	9.3	9.6	11.5	22.7	24.8	66.1	27.7	22.1	7.3	1.2	34.1
Portfolio investment	18.4	13.7	11.7	16.6	2.7	10.3	24.2	11.9	13.9	41.6	7.0
Other investment	-3.9	15.7	28.0	5.4	-10.8	0.8	7.8	5.1	11.4	-4.7	24.9
Reserve assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total capital flows	23.9	39.1	51.2	44.8	16.6	77.2	59.7	39.0	32.6	38.1	66.0
Japan											
Direct investment	0.0	0.2	3.2	3.3	12.3	8.2	6.2	9.1	6.2	7.8	3.2
Portfolio investment	59.8	66.8	79.2	56.1	126.9	47.4	60.5	-20.0	81.2	196.7	183.1
Other investment	97.3	31.1	68.0	-93.3	-265.1	-10.2	-17.6	26.6	34.1	68.3	45.9
Reserve assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total capital flows	157.1	98.1	150.4	-34.0	-125.9	45.4	49.1	15.7	121.5	272.8	232.3
United Kingdom											
Direct investment	21.7	27.4	37.5	74.7	89.3	122.2	53.8	25.5	27.6	78.0	164.0
Portfolio investment	58.8	68.0	43.7	35.1	183.8	255.8	69.6	76.2	156.8	158.4	240.6
Other investment	106.2	251.8	322.2	110.5	90.0	414.6	327.1	109.1	409.6	758.4	962.7
Reserve assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total capital flows	186.7	347.2	403.4	220.3	363.2	792.5	450.4	210.8	594.1	994.8	1,367.4
Euro area											
Direct investment	...	...	...	...	216.3	379.5	199.7	183.8	151.1	126.2	94.5
Portfolio investment	...	...	...	...	305.1	268.1	318.3	298.3	398.0	496.6	747.7
Other investment	...	...	...	...	198.4	340.3	238.1	60.5	195.7	345.2	801.7
Reserve assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total capital flows	...	...	...	...	719.8	987.8	756.2	542.5	744.8	968.0	1,643.9
Emerging Markets and Developing Countries²											
Direct investment	124.3	146.4	188.7	186.6	212.2	208.6	223.3	178.6	191.7	257.0	338.7
Portfolio investment	89.2	176.5	147.7	31.0	102.7	92.2	11.5	-12.0	91.1	135.6	205.8
Other investment	109.8	90.4	168.1	-116.8	-77.3	-14.6	-67.3	-12.9	115.6	178.1	130.1
Reserve assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total capital flows	323.3	413.3	504.5	100.8	237.6	286.2	167.6	153.7	398.4	570.7	674.5

Sources: International Monetary Fund, September 2006 *World Economic Outlook* database, and *International Financial Statistics*.¹The total net capital flows are the sum of direct investment, portfolio investment, other investment flows, and reserve assets. "Other investment" includes bank loans and deposits.²This aggregate comprises the group of Other Emerging Market and Developing Countries defined in the *World Economic Outlook*, together with Hong Kong SAR, Israel, Korea, Singapore, and Taiwan Province of China.

Outflows										
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
-98.8	-91.9	-104.8	-142.6	-224.9	-159.2	-142.3	-154.5	-149.9	-244.1	-9.1
-122.4	-149.3	-116.9	-130.2	-122.2	-127.9	-90.6	-48.6	-146.7	-146.5	-180.1
-121.4	-178.9	-262.8	-74.2	-165.6	-273.1	-144.7	-87.9	-31.3	-479.9	-251.7
-9.7	6.7	-1.0	-6.7	8.7	-0.3	-4.9	-3.7	1.5	2.8	14.1
-352.3	-413.4	-485.5	-353.8	-504.1	-560.5	-382.6	-294.7	-326.4	-867.8	-426.8
-11.5	-13.1	-23.1	-34.1	-17.3	-44.5	-36.2	-26.8	-22.2	-42.5	-34.2
-5.3	-14.2	-8.6	-15.1	-15.6	-43.0	-24.4	-18.6	-13.8	-18.9	-42.7
-8.3	-21.1	-16.2	9.4	10.2	-4.2	-10.7	-7.9	-14.6	-7.9	-16.6
-2.7	-5.5	2.4	-5.0	-5.9	-3.7	-2.2	0.2	3.3	2.8	-1.3
-27.9	-53.9	-45.4	-44.8	-28.5	-95.4	-73.4	-53.2	-47.4	-66.5	-94.8
-22.5	-23.4	-26.1	-24.6	-22.3	-31.5	-38.5	-32.0	-28.8	-31.0	-45.4
-86.1	-100.6	-47.1	-95.2	-154.4	-83.4	-106.8	-85.9	-176.3	-173.8	-196.4
-102.2	5.2	-192.0	37.9	266.3	-4.1	46.6	36.4	149.9	-48.0	-106.6
-58.6	-35.1	-6.6	6.2	-76.3	-49.0	-40.5	-46.1	-187.2	-160.9	-22.3
-269.4	-154.0	-271.6	-75.8	13.4	-168.0	-139.2	-127.7	-242.3	-413.6	-370.8
-45.3	-34.8	-62.4	-122.1	-201.6	-245.4	-59.7	-49.5	-59.8	-95.9	-101.7
-61.7	-93.4	-85.0	-53.2	-34.3	-97.2	-124.7	1.2	-58.4	-259.2	-293.2
-74.9	-214.7	-277.9	-23.0	-96.8	-426.2	-255.0	-150.7	-421.3	-597.2	-922.8
0.9	0.7	3.9	0.3	1.0	-5.3	4.5	0.6	2.6	-0.4	-1.7
-181.0	-342.2	-421.5	-198.0	-331.7	-774.1	-434.9	-198.3	-536.9	-952.7	-1,319.5
...	...	...	...	-348.8	-413.7	-298.0	-163.4	-165.8	-178.7	-287.3
...	...	...	...	-341.7	-385.3	-255.0	-163.2	-313.2	-420.8	-551.7
...	...	...	...	-30.3	-165.8	-243.8	-220.1	-284.4	-392.0	-708.1
...	...	...	...	11.6	16.2	16.5	-2.9	33.3	15.6	23.9
...	...	...	...	-709.3	-948.7	-780.3	-549.6	-730.1	-975.8	-1,523.2
-26.9	-31.0	-40.7	-26.8	-34.9	-40.2	-44.0	-27.9	-32.6	-80.1	-82.8
-51.1	-86.2	-111.2	-6.9	-46.2	-105.2	-103.1	-90.9	-136.9	-163.9	-276.5
-54.2	-96.3	-133.3	33.2	-68.2	-126.7	40.7	38.2	-116.4	-185.5	-228.6
-113.3	-94.6	-104.9	-29.6	-98.4	-132.3	-121.9	-200.6	-362.7	-513.5	-592.5
-245.5	-308.1	-390.1	-30.0	-247.6	-404.5	-228.2	-281.2	-648.6	-943.0	-1180.4

Table 2. Global Capital Flows: Amounts Outstanding and Net Issues of International Debt Securities by Currency of Issue and Announced International Syndicated Credit Facilities by Nationality of Borrower*(In billions of U.S. dollars)*

	1999	2000	2001	2002	2003	2004	2005	2006 Q1
Amounts outstanding of international debt securities by currency of issue								
U.S. dollar	2,468.0	3,031.5	3,699.2	4,123.1	4,537.4	4,906.3	5,380.5	5,593.3
Japanese yen	497.7	452.4	411.4	433.2	488.0	530.5	472.2	471.7
Pound sterling	391.1	452.7	505.6	618.2	776.4	981.8	1,063.7	1,133.7
Canadian dollar	56.6	51.6	47.6	51.6	79.5	112.6	146.7	155.6
Swedish krona	7.2	7.7	8.2	11.1	15.8	20.9	23.2	24.3
Swiss franc	135.6	132.0	123.6	159.2	195.6	227.9	208.8	218.7
Euro	1,454.8	1,771.4	2,290.0	3,283.0	4,827.1	6,216.0	6,317.8	6,792.6
Other	98.2	97.1	110.1	151.8	216.6	285.8	371.1	388.1
Total	5,109.2	5,996.4	7,195.7	8,831.2	11,136.4	13,281.8	13,984.0	14,778.0
Net issues of international debt securities by currency of issue								
U.S. dollar	513.5	563.5	667.5	424.0	414.2	368.9	474.2	212.7
Japanese yen	-23.4	10.6	18.6	-17.5	3.7	26.9	4.1	-1.8
Pound sterling	77.8	92.1	65.2	52.3	84.4	133.9	198.0	60.5
Canadian dollar	-2.3	-2.8	-1.1	3.6	15.6	25.4	29.4	8.9
Swedish krona	0.1	1.2	1.4	1.1	2.0	3.5	6.1	0.7
Swiss franc	4.0	-0.3	-5.1	8.0	15.7	12.7	13.3	8.5
Euro	506.7	423.2	622.8	491.8	779.6	921.1	992.0	308.8
Other	14.5	8.9	19.1	30.6	38.3	53.1	103.4	23.9
Total	1,090.9	1,096.4	1,388.4	993.9	1,353.5	1,545.5	1,820.5	622.2
Announced international syndicated credit facilities by nationality of borrower								
All countries	286.0	402.8	330.2	314.8	345.3	559.0	563.1	417.7
Industrial countries	267.0	361.8	302.9	292.0	309.0	500.8	477.2	380.6
Of which:								
United States	149.7	201.4	176.2	151.1	164.4	226.0	245.6	193.3
Japan	1.7	3.8	2.1	2.3	3.3	3.8	2.5	17.5
Germany	5.4	21.8	7.8	28.2	26.2	59.1	25.4	14.9
France	14.7	11.8	12.0	29.2	13.0	33.0	35.6	37.2
Italy	8.0	9.8	17.2	6.0	13.6	3.6	11.3	2.5
United Kingdom	41.1	33.5	33.1	23.8	21.1	61.1	32.7	27.3
Canada	4.6	13.7	10.1	9.0	6.5	18.6	30.0	12.2

Source: Bank for International Settlements.

Table 3. Selected Indicators on the Size of the Capital Markets, 2005*(In billions of U.S. dollars unless noted otherwise)*

	GDP	Total Reserves Minus Gold ¹	Stock Market Capitalization	Debt Securities			Bank Assets ²	Bonds, Equities, and Bank Assets ³	Bonds, Equities, and Bank Assets ³ (In percent of GDP)
				Public	Private	Total			
World	44,445.5	4,234.5	37,168.4	23,055.5	35,893.6	58,949.1	55,673.0	151,790.5	341.5
European Union	12,808.0	241.4	9,555.7	6,677.2	12,012.5	18,689.7	27,290.2	55,535.6	433.6
Euro area	9,960.1	147.9	5,990.6	5,734.7	9,442.4	15,177.1	19,453.6	40,824.2	409.9
North America	13,588.3	87.0	18,483.0	6,596.7	18,350.4	24,947.1	10,969.4	54,399.5	400.3
Canada	1,132.4	33.0	1,482.2	668.8	437.6	1,106.4	1,626.4	4,215.0	372.2
United States	12,455.8	54.1	17,000.9	5,927.9	17,912.8	23,840.7	9,343.0	50,184.6	402.9
Japan	4,567.4	834.3	7,542.7	6,607.9	2,037.8	8,645.7	4,389.3	20,577.7	450.5
<i>Memorandum items:</i>									
EU countries									
Austria	305.3	6.8	126.3	160.4	260.1	420.5	375.2	922.0	302.0
Belgium	371.7	8.2	264.3	379.4	325.0	704.4	1,554.3	2,523.0	678.8
Denmark	259.6	32.9	159.7	95.9	398.8	494.7	634.8	1,289.2	496.5
Finland	196.1	10.6	183.7	112.9	84.1	197.0	202.9	583.6	297.7
France	2,126.7	27.8	1,550.9	1,107.3	1,762.8	2,870.1	5,215.1	9,636.1	453.1
Germany	2,791.7	45.1	1,221.1	1,267.1	2,828.1	4,095.2	3,490.0	8,806.3	315.4
Greece	225.6	0.5	145.1	294.7	48.0	342.7	242.8	730.6	323.9
Ireland	200.8	0.8	114.1	38.7	255.5	294.2	998.5	1,406.8	700.7
Italy	1,765.5	25.5	798.1	1,515.2	1,368.8	2,884.0	2,578.8	6,260.9	354.6
Luxembourg	36.5	0.2	51.2	0.0	49.4	49.4	587.7	688.3	1,884.3
Netherlands	629.9	9.1	508.8	261.0	1,147.6	1,408.6	2,329.2	4,246.6	674.2
Portugal	183.6	3.5	67.1	133.6	152.7	286.3	160.4	513.8	279.8
Spain	1,126.6	9.7	959.9	464.4	1,160.3	1,624.7	1,921.6	4,506.2	400.0
Sweden	358.8	22.1	347.2	161.1	301.2	462.3	451.9	1,261.4	351.5
United Kingdom	2,229.5	38.5	3,058.2	685.5	1,870.1	2,555.6	6,547.0	12,160.8	545.5
Emerging market countries ⁴	11,969.0	1,937.4	6,573.7	2,896.3	1,583.0	4,479.3	9,432.8	20,485.8	171.2
Of which:									
Asia	5,393.7	1,249.1	4,408.6	1,208.8	1,170.9	2,379.7	6,522.4	13,310.7	246.8
Latin America	2,436.4	195.5	1,161.1	1,014.6	275.6	1,290.2	1,166.3	3,617.6	148.5
Middle East	1,120.4	149.5	159.0	34.1	27.4	61.5	734.3	954.8	85.2
Africa	807.1	91.6	549.3	85.7	36.8	122.5	330.6	1,002.4	124.2
Europe	2,211.3	251.7	295.6	553.1	72.3	625.4	679.2	1,600.2	72.4

Sources: World Federation of Exchanges; Bank for International Settlements; International Monetary Fund, *International Financial Statistics* (IFS) and September 2006 *World Economic Outlook* database; and ©2003 Bureau van Dijk Electronic Publishing-Bankscope.

¹Data are from IFS.

²Assets of commercial banks.

³Sum of the stock market capitalization, debt securities, and bank assets.

⁴This aggregate comprises the group of Other Emerging Market and Developing Countries defined in the *World Economic Outlook*, together with Hong Kong SAR, Israel, Korea, Singapore, and Taiwan Province of China.

Table 4. Global Over-the-Counter Derivatives Markets: Notional Amounts and Gross Market Values of Outstanding Contracts¹*(In billions of U.S. dollars)*

	Notional Amounts					Gross Market Values				
	End-Dec. 2003	End-June 2004	End-Dec. 2004	End-June 2005	End-Dec. 2005	End-Dec. 2003	End-June 2004	End-Dec. 2004	End-June 2005	End-Dec. 2005
Total	197,167	220,058	251,499	271,282	284,819	6,987	6,395	9,244	10,417	9,139
Foreign exchange	24,475	26,997	29,289	31,081	31,609	1,301	867	1,546	1,141	998
Outright forwards and forex swaps	12,387	13,926	14,951	15,801	15,915	607	308	643	464	407
Currency swaps	6,371	7,033	8,223	8,236	8,501	557	442	745	549	452
Options	5,717	6,038	6,115	7,045	7,193	136	116	158	129	139
Interest rate²	141,991	164,626	190,502	204,795	215,237	4,328	3,951	5,417	6,699	5,463
Forward rate agreements	10,769	13,144	12,789	13,973	14,483	19	29	22	31	29
Swaps	111,209	127,570	150,631	163,749	172,869	3,918	3,562	4,903	6,077	4,864
Options	20,012	23,912	27,082	27,072	27,885	391	360	492	592	570
Equity-linked	3,787	4,521	4,385	4,551	5,057	274	294	498	382	560
Forwards and swaps	601	691	756	1,086	1,111	57	63	76	88	105
Options	3,186	3,829	3,629	3,464	3,946	217	231	422	294	455
Commodity³	1,406	1,270	1,443	2,940	3,608	128	166	169	376	523
Gold	344	318	369	288	334	39	45	32	24	51
Other	1,062	952	1,074	2,652	3,273	88	121	137	351	472
Forwards and swaps	420	503	558	1,748	2,319	...	...	...	...	...
Options	642	449	516	904	955	...	...	...	...	...
Other	25,508	22,644	25,879	27,915	29,308	957	1,116	1,613	1,818	1,595
<i>Memorandum items:</i>										
Gross credit exposure ⁴	n.a.	n.a.	n.a.	n.a.	n.a.	1,969	1,478	2,075	1,897	2,003
Exchange-traded derivatives	24,475	26,997	29,289	31,081	31,609	...	...	...	...	...

Source: Bank for International Settlements.

¹All figures are adjusted for double-counting. Notional amounts outstanding have been adjusted by halving positions vis-à-vis other reporting dealers. Gross market values have been calculated as the sum of the total gross positive market value of contracts and the absolute value of the gross negative market value of contracts with nonreporting counterparties.

²Single-currency contracts only.

³Adjustments for double-counting are estimated.

⁴Gross market values after taking into account legally enforceable bilateral netting agreements.

Table 5. Global Over-the-Counter Derivatives Markets: Notional Amounts and Gross Market Values of Outstanding Contracts by Counterparty, Remaining Maturity, and Currency¹*(In billions of U.S. dollars)*

	Notional Amounts					Gross Market Values				
	End-Dec. 2003	End-June 2004	End-Dec. 2004	End-June 2005	End-Dec. 2005	End-Dec. 2003	End-June 2004	End-Dec. 2004	End-June 2005	End-Dec. 2005
Total	197,167	220,058	251,499	271,282	284,819	6,987	6,395	9,244	10,417	9,139
Foreign exchange	24,475	26,997	29,289	31,081	31,609	1,301	867	1,546	1,141	998
By counterparty										
With other reporting dealers	8,660	10,796	11,668	12,179	12,092	395	247	486	377	322
With other financial institutions	9,450	10,113	11,417	12,334	13,039	535	352	648	470	415
With nonfinancial customers	6,365	6,088	6,204	6,568	6,479	370	267	413	294	261
By remaining maturity										
Up to one year ²	18,840	21,252	22,834	24,256	24,134	...	...	...	...	...
One to five years ²	3,901	3,912	4,386	4,729	5,180	...	...	...	...	...
Over five years ²	1,734	1,834	2,069	2,097	2,295	...	...	...	...	...
By major currency										
U.S. dollar ³	21,429	24,551	25,726	27,584	26,364	1,212	808	1,408	1,024	868
Euro ³	10,145	10,312	11,900	12,404	12,870	665	380	752	512	397
Japanese yen ³	5,500	6,516	7,076	6,907	7,793	217	178	258	220	256
Pound sterling ³	4,286	4,614	4,331	4,273	4,422	179	130	220	150	121
Other ³	7,590	8,001	9,545	10,994	11,769	329	238	454	376	354
Interest rate⁴	141,991	164,626	190,502	204,795	215,237	4,328	3,951	5,417	6,699	5,463
By counterparty										
With other reporting dealers	63,579	72,550	82,258	87,049	90,984	1,872	1,606	2,155	2,598	2,066
With other financial institutions	57,564	70,219	85,729	92,092	99,162	1,768	1,707	2,631	3,265	2,719
With nonfinancial customers	20,847	21,857	22,516	25,655	25,092	687	638	631	837	677
By remaining maturity										
Up to one year ²	46,474	57,157	62,659	66,681	69,091	...	...	...	...	...
One to five years ²	58,914	66,093	77,929	82,341	88,402	...	...	...	...	...
Over five years ²	36,603	41,376	49,915	55,773	57,744	...	...	...	...	...
By major currency										
U.S. dollar	46,178	57,827	61,103	72,558	75,354	1,734	1,464	1,535	1,826	1,535
Euro	55,793	63,006	76,161	76,426	82,641	1,730	1,774	2,986	3,692	3,002
Japanese yen	19,526	21,103	24,209	25,224	26,561	358	324	352	454	301
Pound sterling	9,884	11,867	15,289	16,621	15,248	228	188	240	372	346
Other	10,610	10,823	13,740	13,966	15,433	278	201	304	355	279
Equity-linked	3,787	4,521	4,385	4,551	5,057	274	294	498	382	560
Commodity⁵	1,406	1,270	1,443	2,940	3,608	128	166	169	376	523
Other	25,508	22,644	25,879	27,915	29,308	957	1,116	1,613	1,818	1,595

Source: Bank for International Settlements.

¹All figures are adjusted for double-counting. Notional amounts outstanding have been adjusted by halving positions vis-à-vis other reporting dealers. Gross market values have been calculated as the sum of the total gross positive market value of contracts and the absolute value of the gross negative market value of contracts with nonreporting counterparties.

²Residual maturity.

³Counting both currency sides of each foreign exchange transaction means that the currency breakdown sums to twice the aggregate.

⁴Single-currency contracts only.

⁵Adjustments for double-counting are estimated.

Table 6. Exchange-Traded Derivative Financial Instruments: Notional Principal Amounts Outstanding and Annual Turnover

	1991	1992	1993	1994	1995	1996	1997
	<i>(In billions of U.S. dollars)</i>						
Notional principal amounts outstanding							
Interest rate futures	2,157.4	2,913.1	3,563.5	3,949.7	4,512.6	4,960.4	6,193.1
Interest rate options	1,069.6	1,383.8	1,816.0	2,094.6	2,315.4	2,361.4	2,989.0
Currency futures	18.3	26.5	27.1	30.8	27.6	34.7	30.1
Currency options	62.9	71.6	89.8	90.0	93.2	75.9	85.2
Stock market index futures	76.0	79.8	95.9	96.0	113.8	110.0	124.9
Stock market index options	136.8	163.1	187.6	175.9	231.3	231.6	279.7
Total	3,521.0	4,637.9	5,779.8	6,437.0	7,293.8	7,774.1	9,702.1
North America	2,152.8	2,698.1	3,332.9	3,647.5	4,083.2	4,359.9	5,080.1
Europe	710.7	1,114.4	1,420.3	1,491.9	1,783.6	1,777.9	2,488.4
Asia-Pacific	657.0	823.5	1,022.9	1,286.5	1,403.8	1,606.0	2,076.4
Other	0.5	1.9	3.7	11.1	23.2	30.3	57.2
	<i>(In millions of contracts traded)</i>						
Annual turnover							
Interest rate futures	230.9	330.1	427.0	628.5	561.0	612.2	701.6
Interest rate options	50.8	64.8	82.9	116.6	225.5	151.1	116.7
Currency futures	30.0	31.3	39.0	69.8	99.6	73.6	73.5
Currency options	22.9	23.4	23.7	21.3	23.3	26.3	21.1
Stock market index futures	54.6	52.0	71.2	109.0	114.8	93.9	115.9
Stock market index options	121.4	133.9	144.1	197.6	187.3	172.3	178.2
Total	510.4	635.6	787.9	1,142.9	1,211.6	1,129.3	1,207.2
North America	302.6	341.4	382.4	513.5	455.0	428.4	463.6
Europe	110.5	185.1	263.4	398.1	354.7	391.8	482.8
Asia-Pacific	85.8	82.9	98.5	131.7	126.4	115.9	126.8
Other	11.5	26.2	43.6	99.6	275.5	193.2	134.0

Source: Bank for International Settlements.

1998	1999	2000	2001	2002	2003	2004	2005	2006 Q1
<i>(In billions of U.S. dollars)</i>								
6,382.9	6,266.9	5,807.6	6,386.4	6,037.3	5,536.7	5,876.2	5,794.2	6,419.8
3,138.3	3,116.1	2,623.2	3,352.6	3,758.6	4,058.5	2,741.8	3,075.4	3,298.7
31.6	38.1	40.4	35.3	29.3	35.1	33.8	35.5	36.9
103.8	83.2	55.7	85.3	80.4	115.1	120.4	158.3	152.8
138.3	133.9	127.7	139.1	137.6	163.0	172.2	221.2	203.2
270.9	304.8	242.7	336.2	352.0	381.6	337.7	368.9	354.1
10,065.9	9,943.1	8,897.2	10,335.0	10,395.1	10,289.9	9,282.1	9,653.5	10,465.4
5,151.1	5,267.9	4,823.5	5,384.6	5,267.0	4,833.2	4,852.3	4,954.9	5,546.5
2,513.4	2,290.8	1,831.8	2,292.8	2,185.5	2,194.6	2,241.3	2,647.9	2,545.2
2,360.3	2,279.4	2,171.8	2,577.7	2,467.6	3,074.9	1,990.2	1,864.1	2,200.0
41.1	105.0	70.1	79.9	475.0	187.2	198.3	186.6	173.7
<i>(In millions of contracts traded)</i>								
760.0	672.7	781.2	1,057.5	1,152.0	1,576.8	1,902.6	1,987.6	2,050.9
129.6	117.9	107.6	199.6	240.3	302.2	361.0	378.3	395.6
54.6	37.2	43.6	49.1	42.7	58.7	83.8	94.5	110.3
12.1	6.8	7.1	10.5	16.1	14.3	13.1	14.0	15.5
178.0	204.8	225.2	337.1	530.2	725.7	804.4	794.9	813.4
195.1	322.5	481.4	1,148.2	2,235.4	3,233.9	2,980.1	2,928.2	2,750.1
1,329.4	1,361.9	1,646.1	2,802.0	4,216.8	5,911.7	6,144.7	6,762.0	1,982.1
530.2	463.0	461.3	675.7	912.2	1,279.7	1,633.6	1,926.8	593.7
525.9	604.5	718.5	957.8	1,074.8	1,346.4	1,412.6	1,592.8	472.2
170.9	207.8	331.3	985.1	2,073.1	3,111.5	2,847.6	2,932.4	825.0
102.4	86.6	135.0	183.4	156.7	174.1	250.9	310.0	91.2

Table 7. United States: Sectoral Balance Sheets*(In percent)*

	1999	2000	2001	2002	2003	2004	2005
Corporate sector							
Debt/net worth	50.9	48.3	50.9	50.1	47.9	45.3	43.1
Short-term debt/total debt	38.8	39.3	33.3	29.9	27.1	27.1	28.0
Interest burden ¹	13.4	15.8	17.7	14.4	12.7	10.9	9.3
Household sector							
Net worth/assets	86.1	85.0	83.7	82.0	82.2	81.9	81.5
Equity/total assets	35.3	31.4	26.8	20.8	24.1	24.1	23.0
Equity/financial assets	50.2	46.3	41.3	33.9	38.4	39.0	38.0
Net worth/disposable personal income	629.0	577.5	543.8	500.0	541.1	559.4	580.6
Home mortgage debt/total assets	9.0	9.8	10.7	12.2	12.4	12.8	13.5
Consumer credit/total assets	3.2	3.5	3.8	4.1	3.8	3.6	3.4
Total debt/financial assets	19.7	22.2	25.1	29.3	28.4	29.3	30.8
Debt service burden ²	12.3	12.6	13.1	13.3	13.2	13.1	13.7
Banking sector³							
Credit quality							
Nonperforming loans ⁴ /total loans	1.0	1.1	1.4	1.5	1.2	0.9	0.8
Net loan losses/average total loans	0.6	0.7	1.0	1.1	0.9	0.7	0.6
Loan-loss reserve/total loans	1.7	1.7	1.9	1.9	1.8	1.5	1.3
Net charge-offs/total loans	0.6	0.7	1.0	1.1	0.9	0.6	0.6
Capital ratios							
Total risk-based capital	12.2	12.1	12.7	12.8	12.8	12.6	12.3
Tier 1 risk-based capital	9.5	9.4	9.9	10.0	10.1	10.0	9.9
Equity capital/total assets	8.4	8.5	9.1	9.2	9.1	10.1	10.1
Core capital (leverage ratio)	7.8	7.7	7.8	7.8	7.9	7.8	7.9
Profitability measures							
Return on average assets (ROA)	1.3	1.2	1.2	1.3	1.4	1.3	1.3
Return on average equity (ROE)	15.7	14.8	13.2	14.5	15.3	13.7	13.3
Net interest margin	4.0	3.9	3.9	4.1	3.8	3.6	3.6
Efficiency ratio ⁵	58.7	58.4	57.7	55.8	56.5	58.0	57.2

Sources: Board of Governors of the Federal Reserve System, *Flow of Funds*; Department of Commerce, Bureau of Economic Analysis; Federal Deposit Insurance Corporation; and Federal Reserve Bank of St. Louis.

¹Ratio of net interest payments to pre-tax income.

²Ratio of debt payments to disposable personal income.

³FDIC-insured commercial banks.

⁴Loans past due 90+ days and nonaccrual.

⁵Noninterest expense less amortization of intangible assets as a percent of net interest income plus noninterest income.

Table 8. Japan: Sectoral Balance Sheets¹*(In percent)*

	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Corporate sector							
Debt/shareholders' equity (book value)	182.5	156.8	156.0	146.1	121.3	121.5	101.7
Short-term debt/total debt	39.4	37.7	36.8	39.0	37.8	36.8	36.4
Interest burden ²	36.3	28.4	32.3	27.8	22.0	18.4	15.6
Debt/operating profits	1,472.1	1,229.3	1,480.0	1,370.0	1,079.2	965.9	839.9
<i>Memorandum item:</i>							
Total debt/GDP ³	110.8	104.2	102.2	101.1	90.9	96.8	85.3
Household sector							
Net worth/assets	84.9	84.7	84.5	84.4	84.5	84.6	...
Equity	5.2	4.7	3.6	3.5	4.9	5.6	...
Real estate	37.8	36.6	35.8	34.7	32.9	31.8	...
Net worth/net disposable income	749.1	754.6	747.2	727.0	726.9	726.3	...
Interest burden ⁴	5.3	5.4	5.3	5.1	4.9	4.8	...
<i>Memorandum items:</i>							
Debt/equity	292.5	324.3	426.9	449.6	316.7	275.7	...
Debt/real estate	40.0	41.7	43.2	45.0	46.9	48.4	...
Debt/net disposable income	133.4	135.9	136.7	134.5	132.9	132.1	...
Debt/net worth	17.8	18.0	18.3	18.5	18.3	18.2	...
Equity/net worth	6.1	5.6	4.3	4.1	5.8	6.6	...
Real estate/net worth	44.5	43.2	42.3	41.1	38.9	37.6	...
Total debt/GDP ³	82.3	80.5	80.4	79.4	77.3	76.3	...
Banking sector							
Credit quality							
Nonperforming loans ⁵ /total loans	5.9	6.3	8.4	7.4	5.8	4.0	2.9
Capital ratio							
Stockholders' equity/assets	4.8	4.6	3.9	3.3	3.9	4.2	4.9
Profitability measures							
Return on equity (ROE) ⁶	2.6	-0.5	-14.3	-19.5	-2.7	4.1	11.3

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

¹Data are for fiscal years beginning April 1. Data on household nonfinancial assets and disposable income are only available through FY2004.

²Interest payments as a percent of operating profits.

³Revised due to the change in GDP figures.

⁴Interest payments as a percent of disposable income.

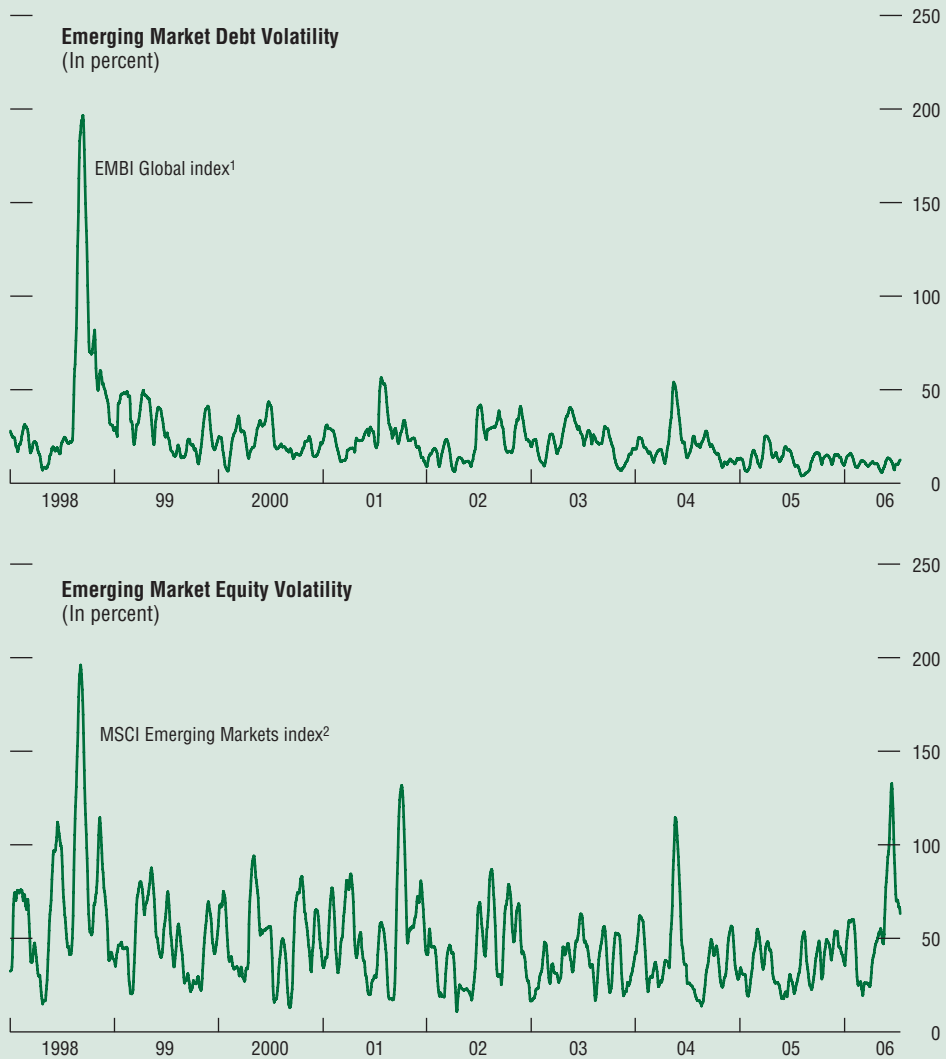
⁵Nonperforming loans are based on figures reported under the Financial Reconstruction Law.

⁶Net income as a percentage of stockholders' equity (no adjustment for preferred stocks, etc.).

Table 9. Europe: Sectoral Balance Sheets¹*(In percent)*

	1998	1999	2000	2001	2002	2003	2004
Corporate sector							
Debt/equity ²	71.5	68.5	67.3	71.3	74.2	71.9	69.6
Short-term debt/total debt	37.0	37.6	39.5	38.7	37.0	36.6	37.2
Interest burden ³	14.9	15.3	18.4	19.7	18.5	17.3	17.6
Debt/operating profits	262.1	290.1	318.4	324.8	339.7	333.2	330.3
<i>Memorandum items:</i>							
Financial assets/equity	1.5	1.5	1.5	1.5	1.3	1.3	1.4
Liquid assets/short-term debt	86.0	78.0	72.0	75.7	76.1	82.6	90.0
Household sector							
Net worth/assets	85.3	85.6	85.3	84.6	84.3	84.4	84.2
Equity/net worth	16.0	18.7	17.6	16.7	13.2	12.9	12.5
Equity/net financial assets	39.6	44.1	43.5	43.5	37.6	36.8	36.2
Interest burden ⁴	6.6	6.3	6.5	6.2	6.1	5.9	6.2
<i>Memorandum items:</i>							
Nonfinancial assets/net worth	59.1	57.0	58.9	61.1	65.2	65.1	65.5
Debt/net financial assets	44.2	41.8	43.4	46.1	51.8	50.6	51.2
Debt/income	90.2	93.3	94.4	94.6	98.2	100.4	104.2
Banking sector⁵							
Credit quality							
Nonperforming loans/total loans	3.4	3.3	3.0	2.9	2.5	2.3	1.7
Loan-loss reserve/nonperforming loans	80.7	79.3	82.1	80.8	81.5	73.0	91.9
Loan-loss reserve/total loans	2.8	2.6	2.5	2.4	2.4	2.4	1.9
Loan-loss provisions/total operating income	51.2	34.5	23.6	38.0	52.1	35.6	22.3
Capital ratios							
Equity capital/total assets	3.9	3.9	4.3	3.3	3.1	2.9	3.3
Capital funds/liabilities	6.4	6.5	6.9	6.8	5.4	5.0	5.6
Profitability measures							
Return on assets, or ROA (after tax)	0.5	0.6	0.8	0.5	0.4	0.5	0.6
Return on equity, or ROE (after tax)	12.1	14.2	18.3	11.2	9.0	11.3	14.2
Net interest margin	1.6	1.5	1.5	1.4	1.6	1.5	1.3
Efficiency ratio ⁶	67.2	65.9	66.4	68.2	69.0	73.1	63.3

Sources: ©2003 Bureau van Dijk Electronic Publishing-Bankscope; ECB, *Monthly Bulletin*; and IMF staff estimates.¹GDP-weighted average for France, Germany, and the United Kingdom, unless otherwise noted.²Corporate equity adjusted for changes in asset valuation.³Interest payments as a percent of gross operating profits.⁴Interest payments as a percent of disposable income.⁵Fifty largest European banks. Data availability may restrict coverage to fewer than 50 banks for specific indicators.⁶Cost-to-income ratio.

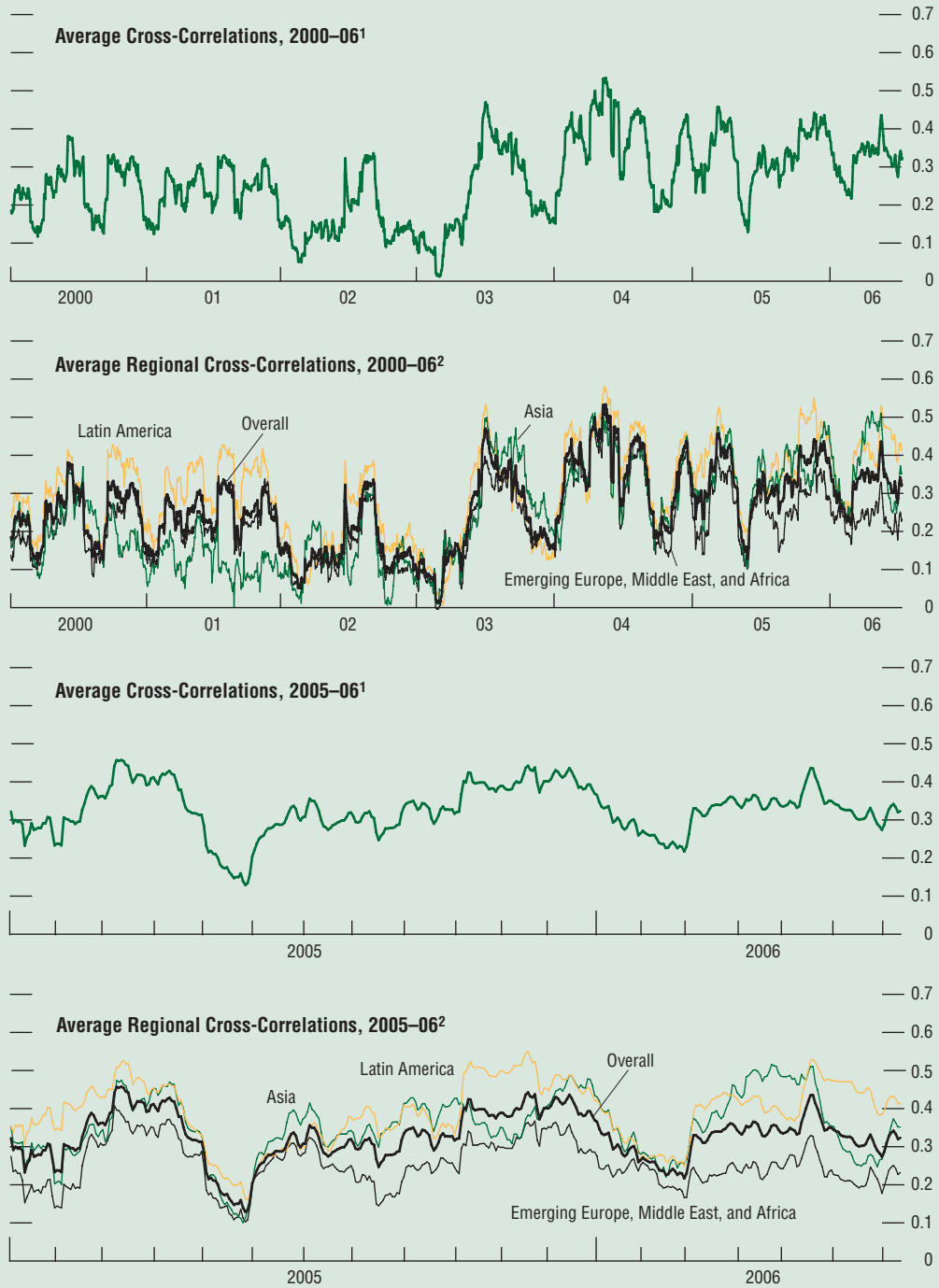
Figure 15. Emerging Market Volatility Measures

Sources: For "Emerging Market Equity Volatility," Morgan Stanley Capital International (MSCI); and IMF staff estimates. For "Emerging Market Debt Volatility," JPMorgan Chase & Co.; and IMF staff estimates.

¹Data utilize the EMBI Global total return index in U.S. dollars to calculate 30-day rolling volatilities.

²Data utilize the MSCI Emerging Markets index in U.S. dollars to calculate 30-day rolling volatilities.

Figure 16. Emerging Market Debt Cross-Correlation Measures



Sources: JPMorgan Chase & Co.; and IMF staff estimates.

¹Thirty-day moving simple average across all pair-wise return correlations of 20 constituents included in the EMBI Global.

²Simple average of all pair-wise correlations of all markets in a given region with all other bond markets, regardless of region.

Table 10. Equity Market Indices¹

	2006 End of Period		2005 End of Period				End of Period					12-	12-	All-	All-
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005	Month High	Month Low	Time High ²	Time Low ²
World	1,335.1	1,319.9	1,151.2	1,148.8	1,224.3	1,257.8	1,003.5	792.2	1,036.3	1,169.3	1,257.8	1,406.3	1,145.2	1,448.8	423.1
Emerging Markets	787.8	747.5	548.7	565.2	661.3	706.5	317.4	292.1	442.8	542.2	706.5	881.5	562.6	881.5	175.3
Latin America	2,469.4	2,368.2	1,510.5	1,617.0	2,093.5	2,150.0	876.2	658.9	1,100.9	1,483.6	2,150.0	2,816.1	1,615.0	2,816.1	185.6
Argentina	2,370.3	2,473.9	1,316.4	1,440.5	2,151.6	1,857.1	959.6	470.3	933.6	1,163.0	1,857.1	2,920.7	1,442.4	2,920.7	152.6
Brazil	1,886.2	1,821.9	1,090.5	1,145.9	1,560.6	1,569.4	597.1	395.4	802.0	1,046.6	1,569.4	2,194.2	1,112.9	2,194.2	84.1
Chile	1,263.7	1,169.3	1,027.3	1,078.5	1,261.6	1,180.7	568.7	445.5	800.6	997.3	1,180.7	1,305.5	1,059.5	1,305.5	183.0
Colombia	580.4	395.3	236.5	277.6	349.7	495.7	57.7	68.3	108.6	245.0	495.7	599.1	275.1	599.1	41.2
Mexico	4,216.0	4,016.0	2,643.4	2,940.3	3,581.0	3,943.6	1,698.2	1,442.8	1,873.1	2,715.6	3,943.6	4,793.7	2,952.3	4,793.7	308.9
Peru	483.5	543.7	355.9	349.8	451.9	441.3	144.1	182.7	344.1	343.4	441.3	600.1	345.8	600.1	73.5
Venezuela	161.1	151.4	127.6	121.7	107.6	107.4	95.4	77.7	103.8	151.0	107.4	169.1	86.7	278.4	56.1
Asia	311.9	303.7	236.4	243.0	263.6	286.2	149.7	140.4	206.4	231.6	286.2	350.9	240.4	433.0	104.1
China	35.6	35.7	25.3	26.1	29.4	29.3	16.8	14.1	25.5	25.3	29.3	39.4	25.5	136.9	12.9
India	459.2	427.5	267.7	296.3	346.5	382.9	141.2	148.8	246.2	273.1	382.9	513.2	293.4	513.2	77.7
Indonesia	1,831.5	1,808.8	1,422.8	1,518.7	1,473.2	1,579.8	437.2	519.6	831.1	1,324.0	1,579.8	2,145.4	1,348.2	2,145.4	280.0
Korea	386.0	365.3	276.0	281.1	345.2	386.3	190.4	184.7	246.0	256.4	386.3	414.1	284.1	414.1	59.5
Malaysia	345.9	338.5	322.3	324.6	340.1	329.0	250.7	244.0	300.4	335.9	329.0	361.6	323.1	465.7	88.3
Pakistan	407.3	335.8	266.5	270.4	292.3	333.3	67.4	146.0	188.2	211.7	333.3	431.5	248.2	431.5	54.4
Philippines	460.4	445.6	405.1	396.8	394.1	431.9	292.2	210.1	303.7	381.1	431.9	537.8	373.5	917.3	132.6
Taiwan Province of China	279.7	279.5	247.5	260.8	256.4	275.8	255.6	189.5	259.1	257.7	275.8	316.1	235.2	483.5	103.9
Thailand	293.5	271.3	266.0	265.5	290.3	292.0	107.5	130.2	280.5	263.9	292.0	315.9	251.7	669.4	72.0
Europe, Middle East, & Africa	342.6	306.5	220.6	221.7	281.7	300.3	103.5	108.4	163.9	222.7	300.3	377.7	221.2	377.7	80.8
Czech Republic	394.5	357.7	269.3	286.3	372.6	371.5	97.5	116.2	152.9	234.8	371.5	407.8	286.8	407.8	62.8
Egypt	1,320.0	960.0	750.6	973.8	1,086.4	1,215.7	101.9	97.4	234.6	505.3	1,215.7	1,576.2	905.6	1,576.2	89.9
Hungary	1,586.2	1,450.7	1,238.1	1,322.6	1,635.8	1,447.0	507.9	535.5	646.9	1,057.0	1,447.0	1,764.3	1,244.6	1,764.3	77.1
Israel	201.4	176.4	168.7	163.9	184.1	209.3	132.7	90.8	141.4	167.4	209.3	218.3	161.0	236.2	67.6
Jordan	554.4	486.0	474.6	592.8	668.9	650.6	149.5	153.5	238.3	379.2	650.6	760.7	484.5	760.7	103.1
Morocco	315.3	303.6	181.0	191.7	214.2	231.3	180.1	138.5	171.4	189.1	231.3	362.9	190.1	362.9	99.6
Poland	1,980.2	1,953.5	1,486.4	1,529.1	1,865.0	1,867.4	891.9	861.0	1,118.3	1,419.3	1,867.4	2,245.3	1,531.7	2,245.3	99.6
Russia	1,043.6	1,065.0	503.4	526.0	778.9	813.4	237.8	270.7	461.1	479.9	813.4	1,237.8	536.0	1,237.8	30.6
South Africa	561.3	548.3	358.3	378.5	454.7	492.0	309.3	272.7	296.8	352.4	492.0	589.7	380.2	589.7	99.7
Turkey	682,935	558,350	426,533	441,094	550,969	645,739	234,490	169,900	319,808	425,008	645,739	777,492	446,267	777,492	426
Sectors															
Energy	680.6	680.6	376.0	414.8	558.1	548.6	162.1	163.1	287.4	349.0	548.6	803.4	417.8	803.4	81.7
Materials	374.6	382.2	275.3	260.6	313.6	325.4	173.9	182.8	250.1	265.0	325.4	417.8	260.3	417.8	98.5
Industrials	175.0	166.8	129.7	129.2	146.7	156.1	63.8	61.8	98.9	128.0	156.1	197.1	127.2	276.8	52.6
Consumer discretionary	398.4	352.5	283.2	289.0	336.6	381.1	130.6	138.8	233.8	292.3	381.1	426.4	289.8	426.4	74.1
Consumer staple	225.1	211.4	150.0	161.9	186.4	197.0	94.6	88.2	118.6	147.0	197.0	244.3	161.5	244.3	80.4
Health care	405.5	328.0	293.5	301.8	330.9	393.3	146.5	169.8	272.5	290.8	393.3	433.8	293.8	433.8	83.3
Financials	269.1	250.3	187.1	188.2	219.0	240.6	107.7	98.6	138.8	187.9	240.6	302.2	185.5	302.2	74.6
Information technology	212.9	202.6	167.0	173.6	183.7	209.1	134.2	103.9	149.6	161.5	209.1	237.0	167.1	300.0	73.1
Telecommunications	169.7	158.4	127.5	133.9	154.3	158.9	91.9	72.7	100.8	131.6	158.9	188.1	132.8	211.5	62.9
Utilities	229.6	217.8	147.2	164.3	194.9	197.0	91.5	72.4	127.2	149.8	197.0	253.6	160.6	253.6	63.1

Table 10 (continued)

	Period on Period Percent Change										
	2006 End of period		2005 End of period				End of period				
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005
World	6.1	-1.1	45.3	-0.2	6.6	2.7	-17.8	-21.1	30.8	12.8	7.6
Emerging Markets	11.5	-5.1	87.8	3.0	17.0	6.8	-4.9	-8.0	51.6	22.4	30.3
Latin America	14.9	-4.1	129.2	7.1	29.5	2.7	-4.3	-24.8	67.1	34.8	44.9
Argentina	27.6	4.4	179.9	9.4	49.4	-13.7	-22.2	-51.0	98.5	24.6	59.7
Brazil	20.2	-3.4	175.8	5.1	36.2	0.6	-21.8	-33.8	102.9	30.5	50.0
Chile	7.0	-7.5	130.6	5.0	17.0	-6.4	-6.0	-21.7	79.7	24.6	18.4
Colombia	17.1	-31.9	246.4	17.3	26.0	41.7	37.1	18.3	59.0	125.7	102.3
Mexico	6.9	-4.7	83.2	11.2	21.8	10.1	15.9	-15.0	29.8	45.0	45.2
Peru	9.6	12.4	94.8	-1.7	29.2	-2.3	15.3	26.8	88.4	-0.2	28.5
Venezuela	50.0	-6.0	64.2	-4.6	-11.6	-0.2	-10.0	-18.6	33.6	45.4	-28.9
Asia	9.0	-2.6	68.4	2.8	8.5	8.6	4.2	-6.2	47.1	12.2	23.5
China	21.5	0.3	79.0	3.0	12.9	-0.5	-26.0	-16.0	80.3	-0.7	15.6
India	19.9	-6.9	80.0	10.7	16.9	10.5	-18.6	5.3	65.5	11.0	40.2
Indonesia	15.9	-1.2	173.8	6.7	-3.0	7.2	-4.2	18.9	60.0	59.3	19.3
Korea	-0.1	-5.4	49.4	1.8	22.8	11.9	51.6	-3.0	33.2	4.2	50.6
Malaysia	5.1	-2.1	32.1	0.7	4.8	-3.3	2.3	-2.7	23.1	11.8	-2.1
Pakistan	22.2	-17.5	82.6	1.5	8.1	14.0	-32.0	116.7	28.9	12.5	57.5
Philippines	6.6	-3.2	92.8	-2.0	-0.7	9.6	-17.1	-28.1	44.5	25.5	13.3
Taiwan Province of China	1.4	-0.1	30.6	5.4	-1.7	7.6	15.0	-25.8	36.7	-0.6	7.0
Thailand	0.5	-7.6	104.3	-0.2	9.4	0.6	4.9	21.1	115.4	-5.9	10.6
Europe, Middle East, & Africa	14.1	-10.5	103.5	0.5	27.1	6.6	...	4.7	51.2	35.8	34.9
Czech Republic	6.2	-9.3	131.8	6.3	30.1	-0.3	-9.4	19.2	31.6	53.6	58.2
Egypt	8.6	-27.3	670.7	29.7	11.6	11.9	-34.2	-4.4	140.8	115.4	140.6
Hungary	9.6	-8.5	131.2	6.8	23.7	-11.5	-12.9	5.4	20.8	63.4	36.9
Israel	-3.8	-12.4	85.7	-2.8	12.3	13.6	-32.3	-31.6	55.7	18.4	25.0
Jordan	-14.8	-12.3	209.3	24.9	12.8	-2.7	28.8	2.6	55.3	59.1	71.6
Morocco	36.3	-3.7	30.7	5.9	11.7	8.0	-9.5	-23.1	23.8	10.4	22.3
Poland	6.0	-1.4	72.6	2.9	22.0	0.1	-31.8	-3.5	29.9	26.9	31.6
Russia	28.3	2.0	85.9	4.5	48.1	4.4	53.2	13.9	70.3	4.1	69.5
South Africa	14.1	-2.3	31.4	5.6	20.1	8.2	26.3	-11.8	8.8	18.7	39.6
Turkey	5.8	-18.2	151.0	3.4	24.9	17.2	43.8	-27.5	88.2	32.9	51.9
Sectors											
Energy	24.0	0.0	130.5	10.3	34.6	-1.7	9.2	0.6	76.2	21.4	57.2
Materials	15.1	2.0	50.6	-5.3	20.4	3.7	23.5	5.2	36.8	6.0	22.8
Industrials	12.1	-4.7	109.9	-0.3	13.6	6.4	-13.1	-3.2	60.1	29.5	22.0
Consumer discretionary	4.5	-11.5	104.0	2.0	16.4	13.2	3.6	6.3	68.4	25.0	30.4
Consumer staple	14.2	-6.1	70.0	8.0	15.1	5.7	-8.2	-6.7	34.4	24.0	34.0
Health care	3.1	-19.1	72.8	2.8	9.6	18.9	-15.8	15.9	60.5	6.7	35.2
Financials	11.8	-7.0	89.7	0.6	16.4	9.9	-4.3	-8.4	40.7	35.4	28.1
Information technology	1.8	-4.8	60.7	3.9	5.8	13.8	2.6	-22.6	43.9	8.0	29.5
Telecommunications	6.8	-6.6	75.4	5.0	15.2	3.0	-19.2	-20.9	38.7	30.5	20.8
Utilities	16.5	-5.1	103.4	11.6	18.6	1.1	-4.4	-20.9	75.7	17.8	31.5

Table 10 (concluded)

	2006 End of Period		2005 End of Period				End of Period					12-Month High	12-Month Low	All-Time High ²	All-Time Low ²	
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005					
Developed Markets																
Australia	1,036.4	1,025.2	816.1	853.6	933.8	959.6	690.8	604.4	655.5	797.9	959.6	639.6	539.9	712.9	250.2	
Austria	290.3	266.1	196.7	221.2	249.3	262.7	94.6	91.8	118.0	185.3	262.7	105.4	79.7	105.4	96.2	
Belgium	102.0	95.5	83.1	83.2	89.0	94.8	78.6	55.3	60.1	77.9	94.8	65.0	38.1	53.9	51.2	
Canada	1,518.8	1,448.9	1,188.2	1,228.1	1,373.7	1,406.8	965.8	818.3	1,019.7	1,139.3	1,406.8	886.4	705.8	1,511.4	338.3	
Denmark	3,161.1	2,997.2	2,317.1	2,510.2	2,751.8	2,994.0	2,060.1	1,448.8	1,772.7	2,115.9	2,994.0	1,752.8	1,245.8	2,776.6	556.5	
Finland	141.2	129.6	98.2	110.0	117.1	123.4	171.8	100.3	97.4	93.9	123.4	126.0	78.8	383.1	78.8	
France	137.8	131.3	107.1	111.5	121.6	124.9	123.1	81.3	93.2	100.6	124.9	95.3	63.4	178.6	63.4	
Germany	108.8	100.6	80.7	83.5	92.0	98.2	100.1	56.0	74.6	79.2	98.2	78.4	42.9	163.6	41.4	
Greece	121.1	109.1	86.0	92.1	100.5	108.1	76.8	46.8	63.6	83.3	108.1	61.9	38.2	197.2	38.2	
Hong Kong SAR	8,556.6	8,438.1	7,336.6	7,779.1	8,324.5	8,016.2	6,058.0	4,808.4	6,341.3	7,668.5	8,016.2	5,553.6	4,305.4	10,165.3	1,995.5	
Ireland	104.2	97.9	78.2	86.0	87.5	93.5	93.1	56.8	65.9	85.2	93.5	67.1	51.9	107.3	51.9	
Italy	112.3	107.7	97.9	97.5	104.5	106.0	91.2	69.6	78.1	93.2	106.0	78.4	58.7	132.1	58.7	
Japan	1,061.4	980.5	708.3	707.3	858.4	999.3	650.3	524.3	637.3	699.1	999.3	628.7	462.1	1,655.3	462.1	
Netherlands	95.9	88.9	73.8	78.1	80.0	88.3	100.4	66.0	68.4	69.3	88.3	80.9	47.4	134.9	47.4	
New Zealand	135.7	124.5	123.5	129.1	134.2	130.0	94.2	90.0	107.6	127.0	130.0	101.4	86.6	141.0	56.7	
Norway	2,710.5	2,499.8	1,841.8	1,988.6	2,291.0	2,267.7	1,278.4	898.3	1,240.9	1,690.3	2,267.7	1,116.3	762.2	1,599.1	455.9	
Portugal	97.1	90.1	75.9	72.3	76.7	82.2	79.5	57.0	66.1	74.7	82.2	64.6	48.1	123.1	48.1	
Singapore	1,398.8	1,352.4	1,181.3	1,228.6	1,267.4	1,295.4	936.8	764.9	1,005.1	1,148.1	1,295.4	922.1	687.3	1,624.2	508.2	
Spain	133.4	129.4	105.8	111.5	123.4	122.1	99.0	69.9	89.6	104.3	122.1	81.9	61.1	133.7	27.4	
Sweden	8,366.7	7,434.4	5,998.2	6,467.4	7,099.4	7,489.8	6,178.8	3,517.4	4,675.2	5,785.4	7,489.8	4,173.8	2,914.9	12,250.4	787.2	
Switzerland	1,052.8	1,005.2	778.4	820.6	906.9	994.6	813.4	603.2	714.3	747.1	994.6	716.9	481.4	1,032.8	158.1	
United Kingdom	1,785.9	1,742.6	1,478.7	1,539.5	1,641.9	1,685.3	1,586.2	1,179.2	1,348.7	1,453.0	1,685.3	1,336.7	986.4	1,974.2	585.4	
United States	1,224.1	1,199.3	1,109.3	1,122.6	1,158.8	1,180.6	1,084.5	824.6	1,045.4	1,137.4	1,180.6	950.4	726.5	1,493.0	273.7	
	<i>Period on period percent change</i>															
Developed Markets	8.0	-1.1	35.0	4.6	9.4	2.8	7.9	-12.5	8.5	21.7	20.3	...	...	...	...
Australia	10.5	-8.3	114.2	12.5	12.7	5.4	-2.4	-3.0	28.5	57.0	41.7	...	...	...	...
Austria	7.7	-6.4	50.3	0.1	7.0	6.5	-8.3	-29.7	8.7	29.5	21.7	...	...	...	...
Belgium	8.0	-4.6	45.2	3.4	11.9	2.4	-16.5	-15.3	24.6	11.7	23.5	...	...	...	...
Canada	5.6	-5.2	59.9	8.3	9.6	8.8	-11.7	-29.7	22.4	19.4	41.5	...	...	...	...
Denmark	14.4	-8.2	-2.1	12.1	6.4	5.4	-35.8	-41.6	-2.9	-3.6	31.4	...	...	...	...
Finland	10.4	-4.7	31.7	4.1	9.1	2.7	-19.0	-34.0	14.6	7.9	24.2	...	...	...	...
France	10.7	-7.5	44.2	3.5	10.2	6.7	-19.3	-44.0	33.2	6.1	24.1	...	...	...	...
Germany	12.0	-9.9	83.7	7.1	9.2	7.6	-27.6	-39.1	35.8	31.1	29.8	...	...	...	...
Greece	6.7	-1.4	52.6	6.0	7.0	-3.7	-21.2	-20.6	31.9	20.9	4.5	...	...	...	...
Hong Kong SAR	11.4	-6.0	37.6	9.9	1.8	6.8	1.1	-39.0	16.0	29.2	9.8	...	...	...	...
Ireland	6.0	-4.1	40.7	-0.4	7.2	1.4	-24.0	-23.6	12.2	19.3	13.8	...	...	...	...
Italy	6.2	-7.6	35.1	-0.1	21.4	16.4	-19.5	-19.4	21.6	9.7	42.9	...	...	...	...
Japan	8.6	-7.3	11.9	5.7	2.5	10.3	-19.4	-34.3	3.6	1.3	27.5	...	...	...	...
Netherlands	4.4	-8.3	37.3	4.5	4.0	-3.1	12.2	-4.4	19.6	18.0	2.4	...	...	...	...
New Zealand	19.5	-7.8	105.0	8.0	15.2	-1.0	-12.3	-29.7	38.1	36.2	34.2	...	...	...	...
Norway	18.2	-7.3	33.1	-4.8	6.2	7.1	-18.8	-28.3	15.9	13.1	10.0	...	...	...	...
Portugal	8.0	-3.3	54.4	4.0	3.2	2.2	-20.2	-18.4	31.4	14.2	12.8	...	...	...	...
Singapore	9.2	-3.0	51.5	5.4	10.7	-1.1	-8.0	-29.5	28.3	16.4	17.0	...	...	...	...
Spain	11.7	-11.1	70.5	7.8	9.8	5.5	-20.1	-43.1	32.9	23.7	29.5	...	...	...	...
Sweden	5.8	-4.5	29.0	5.4	10.5	9.7	-20.0	-25.8	18.4	4.6	33.1	...	...	...	...
Switzerland	6.0	-2.4	25.4	4.1	6.6	2.6	-13.9	-25.7	14.4	7.7	16.0	...	...	...	...
United Kingdom	3.7	-2.0	34.5	1.2	3.2	1.9	-13.2	-24.0	26.8	8.8	3.8	...	...	...	...
United States	3.7	-2.0	34.5	1.2	3.2	1.9	-13.2	-24.0	26.8	8.8	3.8	...	...	...	...

Source: Data are provided by Morgan Stanley Capital International.

¹Regional and sectoral compositions conform to Morgan Stanley Capital International Definitions.²From 1990 or initiation of the index.

Table 11. Foreign Exchange Rates*(Units per U.S. dollar)*

	2006 End of Period		2005 End of Period				End of Period					12- Month High ¹	12- Month Low ¹	All- Time High ¹	All- Time Low ¹
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005				
Emerging Markets															
Latin America															
Argentina	3.1	3.1	2.9	2.9	2.9	3.0	1.0	3.4	2.9	3.0	3.0	2.9	3.1	1.0	3.9
Brazil	2.2	2.2	2.7	2.3	2.2	2.3	2.3	3.5	2.9	2.7	2.3	2.1	2.5	0.0	4.0
Chile	526.4	538.9	586.1	577.8	529.8	512.0	661.2	720.2	592.8	555.8	512.0	510.6	585.2	295.2	759.8
Colombia	2,290.8	2,573.8	2,374.0	2,327.2	2,287.4	2,286.5	2,277.5	2,867.0	2,780.0	2,354.8	2,286.5	2,246.0	2,644.0	689.2	2,980.0
Mexico	10.9	11.3	11.2	10.7	10.8	10.6	9.2	10.4	11.2	11.1	10.6	10.4	11.5	2.7	11.7
Peru	3.4	3.3	3.3	3.3	3.3	3.4	3.4	3.5	3.5	3.3	3.4	3.2	3.5	1.3	3.6
Venezuela	2,147	2,147	2,147	2,147	2,147	2,147	758	1,389	1,598	1,918	2,147	2,147	2,148	45	2,148
Asia															
China	8.0	8.0	8.3	8.3	8.1	8.1	8.3	8.3	8.3	8.3	8.1	8.0	8.3	4.7	8.7
India	44.6	46.0	43.7	43.5	44.0	45.1	48.2	48.0	45.6	43.5	45.1	43.2	46.4	16.9	49.1
Indonesia	9,070	9,263	9,465	9,760	10,300	9,830	10,400	8,950	8,420	9,270	9,830	8,703	10,775	1,977	16,650
Korea	972	949	1,016	1,035	1,042	1,010	1,314	1,186	1,192	1,035	1,010	928	1,059	684	1,963
Malaysia	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.8	2.4	4.7
Pakistan	60.1	60.2	59.4	59.7	59.7	59.8	59.9	58.2	57.2	59.4	59.8	59.6	60.6	21.2	64.3
Philippines	51.1	53.1	54.8	56.0	56.0	53.1	51.6	53.6	55.5	56.2	53.1	51.0	56.4	23.1	56.5
Taiwan Province of China	32.5	32.4	31.5	31.6	33.2	32.8	35.0	34.6	34.0	31.7	32.8	31.3	33.7	24.5	35.2
Thailand	38.9	38.1	39.1	41.3	41.1	41.0	44.2	43.1	39.6	38.9	41.0	37.5	42.1	23.1	55.5
Europe, Middle East, & Africa															
Czech Republic	23.5	22.3	23.2	24.9	24.6	24.6	35.6	30.1	25.7	22.4	24.6	21.8	25.3	21.8	42.2
Egypt	5.7	5.8	5.8	5.8	5.8	5.7	4.6	4.6	6.2	6.1	5.7	5.7	5.8	3.3	6.3
Hungary	217.9	221.4	190.8	204.0	207.6	213.0	274.8	224.5	208.7	181.0	213.0	194.5	224.2	90.2	317.6
Israel	4.7	4.4	4.4	4.6	4.6	4.6	4.4	4.7	4.4	4.3	4.6	4.4	4.7	2.0	5.0
Jordan	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7
Morocco	11.5	11.3	11.2	10.7	11.0	11.9	9.6	9.8	10.1	11.1	11.9	10.6	12.1	7.8	12.1
Poland	3.2	3.2	3.2	3.3	3.3	3.2	4.0	3.8	3.7	3.0	3.2	3.0	3.4	1.7	4.7
Russia	27.7	26.8	27.9	28.6	28.5	28.7	30.5	32.0	29.2	27.7	28.7	26.7	29.0	1.0	32.0
South Africa	6.2	7.2	6.2	6.6	6.4	6.3	12.0	8.6	6.7	5.7	6.3	6.0	7.4	2.5	12.4
Turkey	1.3	1.6	1.4	1.3	1.3	1.4	1.5	1.7	1.4	1.3	1.4	1.3	1.7	0.0	1.8
Developed Markets															
Australia ²	0.7	0.7	0.8	0.8	0.8	0.7	0.5	0.6	0.8	0.8	0.7	0.7	0.8	0.8	0.5
Canada	1.2	1.1	1.2	1.2	1.2	1.2	1.6	1.6	1.3	1.2	1.2	1.1	1.2	1.1	1.6
Denmark	6.2	5.8	5.7	6.2	6.2	6.3	8.3	7.1	5.9	5.5	6.3	5.8	6.4	5.3	9.0
Euro ²	1.2	1.3	1.3	1.2	1.2	1.2	0.9	1.1	1.3	1.4	1.2	1.2	1.3	1.4	0.8
Hong Kong SAR	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.8
Japan	117.8	114.4	107.2	110.9	113.5	117.8	131.7	118.8	107.2	102.6	117.8	109.2	121.0	80.6	159.9
New Zealand ²	0.6	0.6	0.7	0.7	0.7	0.7	0.4	0.5	0.7	0.7	0.7	0.6	0.7	0.7	0.4
Norway	6.6	6.2	6.3	6.5	6.5	6.7	9.0	6.9	6.7	6.1	6.7	6.0	6.8	5.5	9.6
Singapore	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.6	1.7	1.6	1.7	1.4	1.9
Sweden	7.8	7.2	7.1	7.8	7.7	7.9	10.5	8.7	7.2	6.7	7.9	7.1	8.2	5.1	11.0
Switzerland	1.3	1.2	1.2	1.3	1.3	1.3	1.7	1.4	1.2	1.1	1.3	1.2	1.3	1.1	1.8
United Kingdom ²	1.7	1.8	1.9	1.8	1.8	1.7	1.5	1.6	1.8	1.9	1.7	1.7	1.9	2.0	1.4

Table 11 (concluded)

	Period on Period Percent Change										
	2006 End of period		2005 End of period				End of period				
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005
Emerging Markets											
Latin America											
Argentina	-1.7	-0.1	15.2	1.1	-0.8	-4.0	-0.2	-70.2	14.7	-1.4	-1.9
Brazil	7.9	-0.1	32.1	14.9	4.7	-4.6	-15.6	-34.7	22.4	8.9	13.7
Chile	-2.7	-2.3	22.9	1.4	9.1	3.5	-13.2	-8.2	21.5	6.7	8.5
Colombia	-0.2	-11.0	20.8	2.0	1.7	0.0	-1.8	-20.6	3.1	18.1	3.0
Mexico	-2.2	-4.1	-7.2	3.9	-0.1	1.2	5.1	-11.7	-7.6	0.7	4.8
Peru	1.5	3.3	7.8	0.2	-2.6	-2.4	2.4	-2.0	1.5	5.6	-4.1
Venezuela	0.0	0.0	-35.3	0.0	0.0	-0.0	-7.7	-45.5	-13.1	-16.7	-10.7
Asia											
China	0.7	0.3	0.0	0.0	2.3	0.3	0.0	-0.0	0.0	0.0	2.6
India	1.0	-3.1	9.7	0.6	-1.2	-2.3	-3.3	0.6	5.2	5.0	-3.5
Indonesia	8.4	-2.1	-5.4	-3.0	-5.2	4.8	-7.0	16.2	6.3	-9.2	-5.7
Korea	3.9	2.4	16.8	-1.8	-0.8	3.2	-3.7	10.8	-0.5	15.2	2.5
Malaysia	2.6	0.2	-0.0	0.0	0.8	-0.3	-0.0	0.0	-0.0	0.0	0.5
Pakistan	-0.5	-0.1	-1.9	-0.5	0.0	-0.2	-3.8	2.8	1.7	-3.7	-0.6
Philippines	4.0	-3.9	-2.2	-2.1	-0.1	5.5	-3.1	-3.7	-3.5	-1.2	5.9
Taiwan Province of China	1.1	0.2	9.8	-0.3	-4.7	1.1	-5.3	0.9	2.0	7.0	-3.3
Thailand	5.5	2.0	10.2	-5.3	0.7	0.1	-1.9	2.6	8.8	1.8	-5.1
Europe, Middle East, & Africa											
Czech Republic	4.5	5.5	29.7	-6.7	1.0	0.2	4.7	18.4	16.9	14.7	-8.7
Egypt	-0.2	-0.1	-20.3	0.1	0.6	0.4	-15.1	-0.9	-25.1	1.3	6.1
Hungary	-2.3	-1.6	17.6	-6.5	-1.7	-2.5	2.7	22.4	7.6	15.3	-15.0
Israel	-1.2	5.3	8.7	-4.7	-0.4	-0.2	-8.1	-7.3	8.0	1.6	-6.1
Jordan	0.0	0.0	0.1	0.1	-0.1	0.1	0.2	-0.1	0.1	0.0	0.1
Morocco	4.0	1.3	-12.4	4.6	-2.9	-7.8	-1.7	-1.9	-2.7	-9.2	-7.1
Poland	0.3	1.8	21.2	-5.4	2.3	0.6	4.2	3.5	2.6	24.0	-7.2
Russia	3.7	3.2	14.7	-2.7	0.5	-0.8	-7.7	-4.5	9.3	5.5	-3.6
South Africa	2.5	-13.9	37.4	-6.2	4.4	0.7	-36.6	39.6	28.2	18.0	-10.5
Turkey	0.2	-15.1	22.5	1.5	-1.2	-0.3	-53.9	-12.4	17.7	4.7	-0.6
Developed Markets											
Australia	-2.2	3.6	37.6	-1.4	-0.1	-3.8	-8.8	10.2	33.9	3.8	-6.1
Canada	-0.6	4.7	29.9	-1.2	5.3	0.1	-5.9	1.3	21.2	7.9	3.4
Denmark	2.3	5.6	23.2	-6.6	-0.8	-1.5	-5.1	17.9	19.8	7.8	-12.9
Euro	2.3	5.5	23.6	-6.6	-0.7	-1.5	-5.6	18.0	20.0	7.6	-12.6
Hong Kong SAR	-0.1	-0.1	-0.0	0.4	0.2	0.0	0.0	-0.0	0.4	-0.1	0.2
Japan	-0.0	2.9	10.9	-3.4	-2.3	-3.6	-13.1	10.8	10.8	4.5	-12.8
New Zealand	-9.9	-1.2	35.7	-2.0	-0.9	-1.1	-6.1	25.9	25.0	9.5	-4.8
Norway	2.9	5.3	9.4	-3.0	-0.2	-2.9	-1.8	29.2	4.1	9.6	-9.8
Singapore	2.9	2.1	5.1	-2.1	-0.4	1.7	-6.0	6.4	2.1	4.2	-1.9
Sweden	1.8	8.3	22.8	-9.4	0.8	-2.4	-10.2	20.6	20.9	8.0	-16.2
Switzerland	0.7	6.6	15.6	-6.6	-1.0	-1.5	-3.0	20.0	11.7	8.7	-13.2
United Kingdom	0.8	6.4	17.4	-5.2	-1.5	-2.3	-2.6	10.7	10.9	7.4	-10.2

Source: Bloomberg L.P.

¹High value indicates value of greatest appreciation against the U.S. dollar; low value indicates value of greatest depreciation against the U.S. dollar. "All-Time" refers to the period since 1990 or initiation of the currency.

²U.S. dollars per unit.

Table 12. Emerging Market Bond Index: EMBI Global Total Returns Index

	2006 End of Period		2005 End of Period				End of Period					12- Month High	12- Month Low	All- Time High ¹	All- Time Low ¹
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005				
EMBI Global	355	348	312	332	344	350	199	225	283	316	350	362	330	362	64
Latin America															
Argentina	98	92	77	76	86	83	61	57	68	81	83	102	76	194	47
Brazil	522	516	431	467	485	505	239	230	390	446	505	538	459	538	68
Chile	176	175	170	177	176	178	129	150	162	172	178	178	174	178	98
Colombia	264	252	221	240	253	256	149	169	201	228	256	271	237	271	70
Dominican Republic	164	162	134	148	161	156	102	117	99	126	156	169	147	169	83
Ecuador	702	687	581	562	635	636	241	230	464	562	636	722	556	722	61
El Salvador	138	134	125	131	134	134	...	98	110	123	134	140	129	140	95
Mexico	327	322	305	323	327	333	219	254	284	308	333	338	318	338	58
Panama	583	558	502	550	567	567	353	395	452	511	567	594	542	594	56
Peru	519	528	477	507	532	515	307	341	431	486	515	546	504	546	52
Uruguay	156	146	126	136	147	151	105	62	97	130	151	159	137	159	38
Venezuela	595	571	471	501	554	562	236	281	393	484	562	599	497	599	59
Asia															
China	256	256	251	261	258	260	203	230	241	253	260	261	254	261	98
Indonesia	136	136	122	125	126	133	...	...	...	121	133	139	121	139	98
Malaysia	211	209	204	214	212	215	150	176	194	207	215	215	208	215	64
Philippines	349	342	288	301	315	337	201	230	261	280	337	352	294	352	81
Vietnam	102	100	...	...	...	101	...	...	...	...	101	103	98	103	98
Europe, Middle East, & Africa															
Bulgaria	635	622	626	648	644	643	468	525	579	630	643	652	622	652	80
Côte d'Ivoire	95	95	65	69	67	79	54	43	58	66	79	97	62	101	29
Egypt	152	151	149	155	155	155	103	122	140	150	155	158	151	158	87
Hungary	144	142	142	151	149	148	122	137	142	144	148	151	142	151	97
Iraq	100	101	...	...	...	...	...	...	...	...	...	106	99	106	99
Lebanon	217	218	191	197	205	212	130	148	177	195	212	219	197	219	99
Morocco	288	292	272	276	282	285	222	237	262	268	285	292	276	292	73
Nigeria	731	739	653	712	721	727	364	377	586	656	727	739	701	739	66
Pakistan	113	110	106	109	112	112	122	160	160	107	112	114	108	160	91
Poland	321	319	312	328	327	327	245	280	290	312	327	331	317	331	71
Russia	531	523	479	523	542	538	256	348	426	475	538	543	517	543	26
Serbia	110	102	...	102	107	108	...	...	...	...	108	113	102	113	99
South Africa	334	328	317	336	336	337	220	271	297	323	337	341	324	341	99
Tunisia	141	139	136	145	144	143	...	112	127	138	143	145	138	145	98
Turkey	339	314	300	318	327	336	176	213	279	307	336	346	307	346	91
Ukraine	331	325	317	328	334	334	199	241	289	310	334	336	319	336	100
Latin America	324	318	279	298	310	316	177	189	252	285	316	333	295	333	62
Non-Latin America	414	404	373	397	406	413	240	291	342	374	413	419	393	419	72

Table 12 (concluded)

	Period on Period Percent Change										
	2006 End of period		2005 End of period				End of period				
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005
EMBI Global	1.5	-2.1	38.6	6.5	3.4	1.9	1.4	13.1	25.7	11.7	10.7
Latin America											
Argentina	17.9	-6.0	35.1	-0.7	13.3	-3.6	-66.9	-6.4	19.1	19.8	2.7
Brazil	3.4	-1.2	87.5	8.2	3.9	4.2	7.3	-3.6	69.8	14.3	13.2
Chile	-0.9	-0.4	13.6	4.0	-0.4	0.7	11.7	15.8	8.3	6.0	3.2
Colombia	3.1	-4.3	30.9	8.7	5.3	1.3	29.5	13.3	19.4	13.2	12.4
Dominican Republic	5.3	-1.3	14.6	10.4	9.0	-3.1	...	13.9	-15.3	27.2	24.1
Ecuador	10.4	-2.2	152.3	-3.1	12.9	0.2	36.1	-4.7	101.5	21.1	13.2
El Salvador	2.9	-2.8	26.5	5.1	2.7	-0.5	...	...	11.9	11.5	8.8
Mexico	-1.7	-1.4	19.9	6.1	1.0	1.9	14.3	16.1	11.6	8.6	8.1
Panama	2.8	-4.3	27.1	9.5	3.0	0.1	17.6	11.9	14.4	13.0	11.1
Peru	0.9	1.8	40.0	6.3	5.0	-3.3	26.2	10.8	26.6	12.6	6.0
Uruguay	3.8	-6.7	103.3	8.0	7.6	2.6	...	-40.6	55.6	34.0	16.3
Venezuela	5.9	-3.9	67.8	6.3	10.6	1.4	5.6	18.9	39.9	23.2	16.1
Asia											
China	-1.5	-0.1	8.9	4.0	-1.1	1.0	13.3	13.6	4.5	5.1	3.0
Indonesia	2.0	0.1	...	2.5	0.9	5.7	...	...	...	...	9.7
Malaysia	-1.8	-0.8	16.2	4.8	-0.8	1.3	12.9	16.9	10.7	6.6	3.7
Philippines	3.4	-1.9	25.1	4.6	4.6	7.1	27.6	14.6	13.4	7.1	20.6
Vietnam	0.8	-2.2	...	...	...	...	...	...	...	...	...
Europe, Middle East, & Africa											
Bulgaria	-1.3	-1.9	19.3	3.5	-0.6	-0.2	25.7	12.2	10.2	8.9	2.1
Côte d'Ivoire	21.4	0.0	50.0	7.2	-2.7	16.7	30.5	-20.7	34.8	12.9	20.0
Egypt	-1.9	-0.7	21.9	3.6	0.6	-0.1	...	18.5	14.4	6.8	3.8
Hungary	-2.7	-1.2	3.7	6.1	-1.5	-0.5	10.4	12.3	3.7	1.2	2.8
Iraq	...	1.0	...	...	...	...	...	...	...	...	...
Lebanon	2.6	0.4	28.8	3.2	3.9	3.5	6.2	14.1	19.5	9.9	8.7
Morocco	1.1	1.3	14.4	1.6	2.3	1.0	11.1	7.2	10.2	2.4	6.3
Nigeria	0.5	1.2	73.4	9.1	1.2	0.8	36.3	3.3	55.8	11.9	10.7
Pakistan	1.7	-2.7	-33.7	2.0	2.9	-0.1	...	31.3	-0.2	-33.3	4.5
Poland	-1.9	-0.7	11.5	5.3	-0.5	0.2	10.6	14.2	3.7	7.5	5.0
Russia	-1.3	-1.5	37.6	9.2	3.5	-0.7	55.8	35.9	22.4	11.5	13.3
Serbia	2.2	-7.0	...	...	4.5	1.1	...	...	...	...	...
South Africa	-1.0	-1.8	17.1	5.9	-0.0	0.3	16.2	22.9	9.6	8.8	4.3
Tunisia	-1.7	-1.1	21.4	6.2	-0.8	-0.1	...	...	13.3	8.7	3.7
Turkey	1.1	-7.4	40.7	6.0	2.9	2.7	22.5	21.1	30.8	10.0	9.5
Ukraine	-0.9	-1.8	31.3	3.5	1.9	-0.1	57.1	21.0	19.8	7.2	7.7
Latin America	2.5	-2.0	47.6	6.6	4.2	2.0	-12.4	6.8	33.0	13.4	10.9
Non-Latin America	0.1	-2.3	28.4	6.3	2.4	1.7	28.8	21.0	17.7	9.2	10.6

Source: JPMorgan Chase & Co.
¹From 1990 or initiation of the index.

Table 13. Emerging Market Bond Index: EMBI Global Yield Spreads*(In basis points)*

	2006 End of Period		2005 End of Period				End of Period					12- Month High	12- Month Low	All- Time High ¹	All- Time Low ¹
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005				
EMBI Global	191	218	373	297	235	237	728	725	403	347	237	297	174	1,631	174
Latin America															
Argentina	344	385	5,105	462	349	504	5,363	6,342	5,485	4,527	504	514	310	7,222	310
Brazil	232	252	455	409	341	308	864	1,460	459	376	308	417	212	2,451	212
Chile	73	83	71	60	55	80	175	176	90	64	80	85	52	260	52
Colombia	174	239	393	331	240	244	508	633	427	332	244	330	146	1,076	146
Dominican Republic	278	299	704	441	305	378	446	499	1,141	824	378	434	219	1,750	219
Ecuador	503	506	660	808	634	661	1,233	1,801	799	690	661	815	436	4,764	436
El Salvador	171	217	244	261	213	239	...	411	284	245	239	254	166	434	166
Mexico	140	154	188	181	149	143	306	329	201	174	143	180	113	1,149	113
Panama	176	212	300	258	208	239	404	446	324	274	239	259	157	769	157
Peru	226	202	277	252	183	257	521	609	325	239	257	263	170	1,061	170
Uruguay	223	307	427	406	310	298	284	1,228	636	388	298	400	214	1,982	214
Venezuela	190	226	455	460	303	313	1,130	1,131	586	403	313	453	161	2,658	161
Asia															
China	68	65	54	54	60	68	99	84	58	57	68	72	53	364	39
Indonesia	213	220	230	298	276	269	...	...	...	244	269	333	180	433	173
Malaysia	86	97	93	86	82	82	207	212	100	78	82	99	74	1,141	74
Philippines	233	259	431	450	375	302	466	522	415	457	302	478	204	993	204
Vietnam	149	175	...	...	...	190	...	...	...	...	190	197	114	197	114
Europe, Middle East, & Africa															
Bulgaria	83	105	86	84	71	90	433	291	177	77	90	105	62	1,679	62
Côte d'Ivoire	2,568	2,713	3,167	3,218	3,293	3,070	2,418	3,195	3,013	3,121	3,070	3,609	2,496	3,609	582
Egypt	80	103	86	79	41	58	360	325	131	101	58	103	20	646	20
Hungary	75	90	66	60	52	74	93	52	28	32	74	90	46	196	-22
Iraq	465	444	...	...	...	...	...	...	...	...	...	465	376	465	376
Lebanon	172	189	350	379	304	246	645	776	421	334	246	373	158	1,082	111
Morocco	87	54	187	144	99	75	518	390	160	170	75	149	54	1,606	54
Nigeria	259	253	496	389	306	329	1,103	1,946	499	457	329	430	186	2,937	186
Pakistan	144	251	221	229	142	198	1,115	271	0	233	198	273	122	2,225	0
Poland	64	69	53	58	42	62	195	185	76	69	62	70	35	410	17
Russia	105	123	207	162	92	118	669	478	257	213	118	158	92	7,063	92
Serbia	181	266	...	308	235	238	...	...	...	...	238	301	165	322	165
South Africa	85	123	125	93	74	87	319	250	152	102	87	138	65	757	65
Tunisia	92	121	102	67	61	81	...	273	146	91	81	124	49	394	48
Turkey	182	294	309	295	237	223	702	696	309	264	223	328	168	1,196	168
Ukraine	198	257	209	204	157	184	940	671	258	255	184	282	157	2,314	157
Latin America	208	231	459	337	267	272	888	981	518	415	272	334	189	1,532	189
Non-Latin America	164	198	247	234	181	179	523	444	248	239	179	237	150	1,812	150

Table 13 (concluded)

	Period on Period Spread Change										
	2006 End of period		2005 End of period				End of period				
	Q1	Q2	Q1	Q2	Q3	Q4	2001	2002	2003	2004	2005
EMBI Global	-46	27	-352	-76	-62	2	-7	-3	-322	-56	-110
Latin America											
Argentina	-160	41	-1,237	-4,643	-113	155	4,593	979	-857	-958	-4,023
Brazil	-76	20	-1,005	-46	-68	-33	116	596	-1,001	-83	-68
Chile	-7	10	-105	-11	-5	25	-45	1	-86	-26	16
Colombia	-70	65	-240	-62	-91	4	-247	125	-206	-95	-88
Dominican Republic	-100	21	205	-263	-136	73	...	53	642	-317	-446
Ecuador	-158	3	-1,141	148	-174	27	-182	568	-1,002	-109	-29
El Salvador	-68	46	-167	17	-48	26	...	...	-127	-39	-6
Mexico	-3	14	-141	-7	-32	-6	-85	23	-128	-27	-31
Panama	-63	36	-146	-42	-50	31	-97	42	-122	-50	-35
Peru	-31	-24	-332	-25	-69	74	-166	88	-284	-86	18
Uruguay	-75	84	-801	-21	-96	-12	...	944	-592	-248	-90
Venezuela	-123	36	-676	5	-157	10	172	1	-545	-183	-90
Asia											
China	0	-3	-30	0	6	8	-61	-15	-26	-1	11
Indonesia	-56	7	...	68	-22	-7	25	...	...	...	...
Malaysia	4	11	-119	-7	-4	0	-30	5	-112	-22	4
Philippines	-69	26	-91	19	-75	-73	-178	56	-107	42	-155
Vietnam	-41	26	...	...	...	...	...	...	...	...	...
Europe, Middle East, & Africa											
Bulgaria	-7	22	-205	-2	-13	19	-339	-142	-114	-100	13
Côte d'Ivoire	-502	145	-28	51	75	-223	-25	777	-182	108	-51
Egypt	22	23	-239	-7	-38	17	...	-35	-194	-30	-43
Hungary	1	15	14	-6	-8	22	-43	-41	-24	4	42
Iraq	...	-21	...	...	...	...	...	...	...	...	...
Lebanon	-74	17	-426	29	-75	-58	307	131	-355	-87	-88
Morocco	12	-33	-203	-43	-45	-24	-66	-128	-230	10	-95
Nigeria	-70	-6	-1,450	-107	-83	23	-704	843	-1,447	-42	-128
Pakistan	-54	107	-50	8	-87	56	...	-844	-271	233	-35
Poland	2	5	-132	5	-16	20	-46	-10	-109	-7	-7
Russia	-13	18	-271	-45	-70	26	-503	-191	-221	-44	-95
Serbia	-57	85	...	...	-73	3	...	...	...	...	...
South Africa	-2	38	-125	-32	-19	13	-99	-69	-98	-50	-15
Tunisia	11	29	-171	-35	-6	20	...	...	-127	-55	-10
Turkey	-41	112	-387	-14	-58	-14	-101	-6	-387	-45	-41
Ukraine	14	59	-462	-5	-47	27	-1,013	-269	-413	-3	-71
Latin America	-64	23	-522	-122	-70	5	186	93	-463	-103	-143
Non-Latin America	-15	34	-197	-13	-53	-2	-268	-79	-196	-9	-60

Source: JPMorgan Chase & Co.
¹From 1990 or initiation of the index.

Table 14. Emerging Market External Financing: Total Bonds, Equities, and Loans

(In millions of U.S. dollars)

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Total	236,645.4	170,066.5	150,182.4	208,662.3	297,479.1	428,766.3	99,789.2	94,597.9	112,693.8	121,685.4	104,142.2	104,014.4
Africa	9,420.2	7,057.5	7,019.0	10,862.0	11,709.1	11,257.5	1,260.4	2,115.9	3,484.8	4,396.3	4,673.9	823.2
Algeria	...	50.0	150.0	40.0	271.7	412.7	...	...	412.7	...	...	...
Angola	...	455.0	350.0	1,522.0	2,900.0	3,122.7	8.7	36.0	65.1	3,012.9	38.8	...
Botswana	...	22.5	...	...	...	...	...	...	...	...	...	...
Burkina Faso	...	...	...	...	...	11.0	11.0	...	...	...	...	...
Cameroon	...	80.1	...	100.0	...	...	...	...	...	...	...	...
Chad	...	300.0	...	...	...	...	...	...	...	...	...	...
Côte d'Ivoire	...	15.0	...	...	100.0	...	...	...	...	...	...	...
Djibouti	...	...	...	...	40.0	...	...	...	...	...	...	...
Ethiopia	...	...	...	...	40.0	...	...	...	...	...	...	...
Gabon	...	...	...	...	22.0	...	...	...	...	...	14.4	...
Ghana	320.0	291.0	420.0	650.0	870.0	619.5	...	57.5	562.0	...	50.0	...
Guinea	...	...	...	...	70.0	...	...	...	...	...	...	...
Kenya	7.5	80.2	...	134.0	126.8	23.5	...	23.5	...	...	161.3	...
Malawi	...	...	...	...	4.8	...	...	...	...	...	...	...
Mali	...	...	150.4	287.6	288.9	...	...	...	...	...	...	...
Mauritius	...	...	...	...	...	99.3	...	...	...	99.3	100.0	...
Morocco	56.4	136.1	...	474.7	...	...	...	...	...	...	3.4	8.1
Mozambique	...	160.0	...	35.5	222.4	...	...	...	...	...	...	...
Namibia	...	...	...	35.0	...	50.0	...	50.0	...	...	...	...
Niger	...	...	...	27.0	...	...	...	...	...	...	...	...
Nigeria	...	95.0	960.0	488.0	225.0	696.0	331.0	...	...	365.0	...	...
Senegal	...	...	40.0	...	...	...	...	...	...	...	...	...
Seychelles	40.5	...	150.0	...	80.0	...	...	...	...	...	...	...
South Africa	8,698.8	4,839.7	4,058.1	6,553.1	5,492.2	5,640.7	818.5	1,458.1	2,445.0	919.1	4,306.0	740.0
Sudan	...	...	...	...	31.0	...	...	...	...	...	...	...
Tanzania	135.0	...	...	...	...	...	...	...	...	...	...	...
Tunisia	94.3	533.0	740.5	485.2	924.4	582.1	91.2	490.9	...	...	...	...
Zambia	20.8	...	...	...	...	...	...	...	...	...	...	...
Zimbabwe	46.9	...	...	30.0	...	...	...	...	...	...	...	75.1
Asia	107,274.7	74,614.3	69,148.6	99,246.5	135,817.3	170,143.8	32,127.3	37,553.6	46,027.7	54,435.1	43,013.4	46,701.4
Bangladesh	...	...	...	...	176.8	...	...	...	...	...	...	32.6
Brunei Darussalam	...	...	129.0	...	...	...	...	...	...	...	...	...
China	11,963.1	4,405.6	8,557.8	16,087.2	24,221.3	39,110.9	3,850.3	9,884.4	9,143.3	16,251.1	3,554.3	17,086.5
Hong Kong SAR	38,632.7	23,159.9	12,596.8	12,587.9	18,667.9	20,717.9	5,531.1	2,846.2	5,074.4	7,247.9	6,566.1	6,900.6
India	2,838.7	2,126.0	1,380.8	3,974.5	13,100.8	20,181.1	5,458.8	4,527.7	5,882.2	4,312.4	7,153.1	5,471.5
Indonesia	1,185.1	959.9	874.0	5,486.8	3,636.1	5,289.0	372.5	1,582.9	1,280.3	2,053.3	2,060.0	501.5
Korea	15,884.8	18,001.4	17,059.5	18,270.5	26,633.7	39,990.1	7,727.7	9,441.3	10,295.5	12,525.6	11,294.2	6,902.5
Lao P.D.R.	...	...	71.4	...	210.0	1,000.0	...	1,000.0	...	...	...	...
Macao SAR	29.5	...	...	...	357.0	...	...	...	...	...	...	965.7
Malaysia	5,012.5	4,551.3	4,994.5	5,677.7	6,634.2	5,692.0	1,770.8	1,258.6	530.0	2,132.5	2,275.2	853.4
Marshall Islands	...	...	34.7	...	...	24.0	...	...	24.0	...	170.0	...
Mongolia	...	...	...	...	...	30.0	30.0	...	...	...	...	...
Pakistan	...	182.5	289.1	185.5	800.0	739.1	286.2	434.6	18.3	...	900.0	...
Papua New Guinea	...	...	...	153.7	...	...	...	...	...	...	...	...
Philippines	4,685.8	3,300.7	5,458.1	5,772.2	6,323.8	5,786.9	2,385.8	750.0	1,565.9	1,085.2	2,549.7	58.3
Singapore	7,152.7	11,879.4	4,112.2	7,668.4	9,971.1	10,084.2	1,327.4	1,669.1	2,836.7	4,251.0	3,012.9	3,566.1
Sri Lanka	100.0	105.0	...	186.0	135.0	367.0	...	...	205.0	162.0	9.7	...
Taiwan Province of China	17,076.1	4,894.1	11,280.2	20,521.2	20,952.9	14,798.3	2,654.4	2,320.2	7,843.2	1,980.5	2,401.7	2,599.1
Thailand	2,696.8	1,048.5	1,927.0	2,623.9	3,882.7	5,319.1	732.3	1,680.7	1,308.9	1,597.3	861.6	1,651.2
Vietnam	17.0	...	383.5	51.0	114.0	1,014.0	...	157.9	20.0	836.2	204.8	112.5
Europe	37,140.0	23,463.9	29,974.7	46,626.7	73,706.5	103,674.1	24,617.5	27,377.9	23,171.7	28,507.0	26,821.1	25,507.0
Azerbaijan	...	16.0	...	...	1,005.0	383.7	...	180.0	203.7	...	750.0	35.0
Belarus	...	...	...	24.0	...	32.0	...	...	...	32.0	45.3	47.7
Bulgaria	8.9	230.4	1,260.8	322.5	818.1	573.7	260.0	29.0	125.5	159.2	...	50.5
Croatia	1,456.6	1,724.2	1,425.4	2,022.4	2,239.6	703.7	197.7	200.1	119.6	186.2	...	160.0
Cyprus	384.6	633.0	547.9	648.2	1,174.0	1,109.5	150.0	626.4	141.5	191.6	318.1	822.0
Czech Republic	456.1	529.2	453.4	1,608.1	3,669.6	2,465.0	1,560.4	611.5	293.1	...	105.0	4.5
Estonia	396.7	202.1	333.9	457.3	1,187.7	693.5	65.2	66.4	...	561.9	...	338.4
Faroe Islands	...	...	...	...	...	85.3	...	...	85.3	...	...	...

Table 14 (concluded)

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Europe (continued)												
Georgia	...	...	...	6.0	...	...	...	...	...	...	...	...
Gibraltar	80.0	...	...	...	...	2,168.9	...	1,897.1	271.8	...	1,934.2	437.5
Hungary	1,296.3	2,076.6	1,040.2	3,870.4	8,306.5	8,687.5	3,015.7	3,582.5	1,026.3	1,063.1	3,490.5	438.6
Kazakhstan	429.6	573.5	1,043.5	2,200.0	5,093.2	7,123.3	1,022.9	1,173.0	1,292.0	3,635.4	1,943.8	3,065.6
Kyrgyz Republic	...	...	95.0	...	...	...	...	...	...	...	...	...
Latvia	23.0	212.1	74.6	70.7	889.3	391.3	90.9	241.3	...	59.1	237.5	293.5
Lithuania	679.4	247.3	374.3	431.7	888.2	1,222.0	1,156.7	...	51.2	14.1	485.4	...
Macedonia, FYR	...	...	...	...	17.4	...	...	...	...	...	...	...
Malta	...	85.0	...	114.7	392.7	...	...	...	...	...	...	60.0
Moldova	...	...	...	...	...	1.0	...	...	1.0	...	...	...
Poland	5,365.3	5,138.6	5,941.2	8,550.3	4,909.3	14,949.6	6,621.8	4,031.1	2,432.1	1,864.7	3,628.0	289.1
Romania	589.4	1,347.2	1,442.2	1,738.8	847.0	2,282.9	577.6	613.6	363.2	728.5	86.1	120.9
Russia	3,727.5	3,110.3	8,534.5	12,238.8	22,547.1	36,936.9	5,243.9	8,797.8	9,801.6	13,093.6	8,698.1	12,268.5
Serbia and Montenegro	...	...	19.4	...	...	...	...	...	...	...	...	...
Slovak Republic	1,462.7	219.9	143.1	940.6	1,315.7	579.3	...	86.0	493.2	...	1,217.1	...
Slovenia	672.7	827.2	309.3	394.8	1,430.8	1,881.5	153.9	812.0	495.4	420.2	215.5	1,124.9
Turkey	20,071.2	6,271.3	6,376.0	9,549.5	14,540.3	18,521.6	4,279.2	3,930.3	5,432.1	4,880.0	3,141.8	5,855.2
Ukraine	...	15.0	514.0	1,400.0	2,434.9	2,881.8	221.6	499.9	543.0	1,617.4	524.5	95.0
Uzbekistan	40.0	5.0	46.0	37.8	...	...	...	...	...	...	...	...
Middle East	15,207.4	11,590.9	10,943.0	8,858.3	22,553.4	56,411.4	7,569.5	13,426.4	17,043.3	18,372.2	14,002.7	21,433.7
Bahrain	1,377.0	202.0	922.6	2,326.6	1,767.0	3,070.9	220.0	1,539.7	520.0	791.2	795.0	671.8
Egypt	909.5	2,500.0	670.0	155.0	1,138.7	3,395.1	150.0	217.3	1,788.5	1,239.3	583.8	345.0
Iran, I.R. of	757.7	887.0	2,666.4	700.0	1,942.7	1,928.8	278.4	125.4	1,115.0	410.0	73.8	1.8
Iraq	...	...	...	...	...	107.8	107.8	...	...	...	2,877.0	...
Israel	3,225.0	1,532.6	344.4	750.0	3,514.0	3,893.3	1,578.4	81.8	1,578.5	654.6	1,729.7	128.0
Jordan	60.0	42.1	80.9	...	199.4	265.7	...	...	...	265.7	...	...
Kuwait	250.0	770.0	750.0	365.0	1,282.5	4,783.0	220.0	3,400.0	175.0	988.0	945.4	1,090.3
Lebanon	1,752.3	3,300.0	990.0	160.0	4,383.0	1,780.0	...	500.0	230.0	1,050.0	248.4	2,613.1
Libya	50.0	...	...	...	...	...	...	...	...	...	...	...
Oman	600.0	...	2,332.0	818.3	1,328.6	4,747.1	1,069.0	1,937.7	148.4	1,592.0	250.0	...
Qatar	1,980.0	895.0	1,536.7	880.8	2,042.7	10,418.5	115.2	793.8	7,458.5	2,051.0	1,133.2	2,283.2
Saudi Arabia	2,200.9	941.6	280.0	569.5	2,214.0	5,461.0	950.0	2,484.0	380.0	1,647.0	1,975.3	5,650.2
United Arab Emirates	2,045.0	520.7	370.0	2,133.2	2,741.0	16,560.2	2,880.7	2,346.7	3,649.3	7,683.4	3,391.0	8,650.3
Latin America	67,603.1	53,339.9	33,097.1	43,068.8	53,692.8	87,279.6	34,214.5	14,124.0	22,966.3	15,974.8	15,631.2	9,549.1
Argentina	16,643.5	3,423.9	824.2	130.0	1,882.4	22,298.2	18,464.7	362.9	2,895.0	575.6	969.4	550.0
Bolivia	...	10.0	90.0	...	116.0	173.0	100.0	23.0	...	50.0	...	...
Brazil	22,238.7	19,286.3	10,959.7	12,447.9	15,834.0	25,036.3	4,936.4	4,021.8	11,324.1	4,754.1	6,617.1	3,706.8
Chile	5,747.5	3,935.3	2,959.6	4,631.0	6,439.9	6,381.4	396.1	2,999.2	1,202.4	1,783.7	1,028.1	887.2
Colombia	3,028.2	4,895.0	2,096.0	1,911.2	1,626.8	2,780.9	517.1	363.8	1,250.0	650.0	238.1	346.0
Costa Rica	250.0	365.0	250.0	490.0	310.0	117.2	...	28.5	8.0	80.7	...	...
Cuba	...	...	...	...	69.8	1.9	1.9	...	...	...	...	...
Dominican Republic	74.0	531.1	258.0	650.4	140.5	244.4	9.1	...	44.8	190.5	304.9	...
Ecuador	...	910.0	10.0	...	...	712.5	25.0	...	37.5	650.0	...	...
El Salvador	160.0	421.5	1,391.5	381.0	467.0	454.5	...	379.5	...	75.0	...	400.0
Grenada	...	...	100.0	...	...	...	...	...	...	...	...	...
Guadeloupe	...	...	17.4	...	...	...	...	...	...	...	...	...
Guatemala	505.0	325.0	44.0	300.0	439.3	365.0	...	...	200.0	165.0	...	...
Honduras	...	...	...	...	169.0	4.6	...	4.6	...	...	...	...
Jamaica	421.0	696.5	345.0	49.6	903.2	1,504.8	416.6	500.0	300.0	288.1	350.0	388.4
Mexico	14,924.4	13,698.0	10,040.6	16,964.3	18,983.2	17,746.6	7,504.1	3,336.6	4,201.1	2,704.8	4,456.6	3,029.8
Nicaragua	...	...	...	...	22.0	...	...	...	...	...	...	...
Paraguay	...	70.0	...	...	...	...	...	...	...	...	...	...
Peru	465.4	137.5	1,993.0	1,375.0	1,475.7	2,184.2	400.0	...	977.1	807.1	255.0	1.9
St. Lucia	...	...	...	20.0	...	...	...	...	...	...	...	...
Trinidad and Tobago	280.0	70.0	303.0	46.0	415.0	100.0	100.0	...	...	...	400.0	239.0
Uruguay	602.1	1,147.4	400.0	...	...	1,061.3	...	500.0	361.3	200.0	1,000.0	...
Venezuela	2,263.3	3,417.5	1,015.0	3,672.5	4,399.1	6,112.6	1,343.5	1,604.2	165.0	3,000.0	12.1	...

Source: Data provided by the Bond, Equity, and Loan database of the International Monetary Fund sourced from Dealogic.

Table 16. Emerging Market External Financing: Equity Issuance*(In millions of U.S. dollars)*

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Developing Countries	46,239.0	11,469.1	16,571.9	27,720.3	45,117.1	78,120.5	10,467.0	17,367.2	22,945.6	27,340.6	22,419.0	29,309.9
Africa	150.3	150.9	340.5	919.6	1,855.7	924.7	...	580.6	...	344.1	2,107.2	75.1
Côte d'Ivoire	...	...	...	...	100.0	...	...	...	...	...	...	...
Morocco	56.4	6.8	...	...	...	...	...	...	...	...	...	...
South Africa	46.9	144.1	340.5	919.6	1,724.7	924.7	...	580.6	...	344.1	2,107.2	...
Sudan	...	...	...	...	31.0	...	...	...	...	...	...	...
Zimbabwe	46.9	...	...	...	...	...	...	...	...	...	...	75.1
Asia	35,177.8	9,709.5	12,554.6	24,164.2	35,241.7	58,570.3	7,747.0	11,840.3	16,106.1	22,876.8	12,438.0	24,245.8
China	7,559.9	1,570.0	2,475.0	6,415.7	14,434.2	25,906.1	1,942.6	7,739.9	4,099.3	12,142.6	2,714.9	14,029.2
Hong Kong SAR	17,609.3	1,638.0	2,880.6	2,962.2	5,188.3	4,812.4	863.2	60.4	323.2	3,547.3	75.3	3,723.7
India	1,791.0	467.2	264.8	1,299.7	3,937.6	6,708.4	1,761.4	2,063.2	1,114.0	1,769.9	2,026.4	1,884.4
Indonesia	27.8	347.2	281.0	1,008.4	535.2	1,283.5	147.5	74.1	1,061.9	...	...	52.0
Korea	964.7	3,676.4	1,553.7	1,222.6	3,223.3	7,814.9	375.5	...	3,961.7	3,477.7	4,586.2	1,589.4
Macao SAR	29.5	...	...	...	...	...	...	...	...	...	...	...
Malaysia	...	15.4	888.4	618.1	887.2	735.2	215.2	153.6	...	366.4	...	...
Papua New Guinea	...	...	...	153.7	...	...	...	...	...	...	...	...
Philippines	194.6	...	11.3	...	114.9	535.8	535.8	...	...	...	253.6	58.3
Singapore	2,949.9	643.3	929.6	1,168.7	2,472.7	2,635.9	444.7	354.5	509.4	1,327.3	1,747.1	687.0
Sri Lanka	...	...	...	...	...	55.5	...	...	55.5	...	...	...
Taiwan Province of China	4,007.1	1,126.6	3,213.9	8,276.3	3,350.0	7,602.6	1,404.1	1,170.7	4,803.6	224.2	720.3	758.1
Thailand	44.0	225.3	56.3	1,038.7	1,098.4	479.7	56.9	223.9	177.5	21.4	109.4	1,351.2
Vietnam	...	...	...	...	...	...	...	...	...	...	204.8	112.5
Europe	3,784.4	259.4	1,681.7	1,809.0	5,093.0	10,472.6	1,820.5	3,638.9	3,463.0	1,550.2	2,566.9	1,754.0
Croatia	...	22.3	...	...	...	...	...	...	...	...	...	...
Cyprus	298.4	...	...	...	...	320.7	...	...	...	129.1	191.6	233.1
Czech Republic	...	...	...	824.6	174.4	295.1	...	101.5	193.6	...	...	...
Estonia	...	...	41.3	...	...	266.2	...	66.4	...	199.8	...	...
Gibraltar	...	...	...	...	...	2,168.9	...	1,897.1	271.8	...	...	437.5
Hungary	19.1	...	...	13.2	884.7	...	...	...	...	...	...	...
Kazakhstan	...	...	...	...	...	196.5	...	...	...	196.5	...	...
Latvia	...	...	22.7	...	...	...	...	...	...	...	...	...
Lithuania	150.5	...	...	...	...	51.2	...	...	51.2	...	...	...
Poland	403.2	...	245.4	602.6	841.4	944.0	112.4	358.3	361.4	111.9	...	41.9
Russia	476.2	237.1	1,301.0	368.7	2,480.1	6,210.0	1,708.1	1,195.8	2,455.9	850.3	2,229.7	1,000.2
Turkey	2,437.1	...	71.4	...	712.3	...	...	...	...	...	104.2	274.3
Ukraine	...	...	...	...	...	19.9	...	19.9	...	...	...	...
Middle East	1,974.7	86.8	...	...	868.5	2,357.9	404.6	299.1	321.8	1,332.4	2,154.4	780.2
Bahrain	...	...	...	...	...	81.2	...	...	...	81.2	...	581.8
Egypt	319.4	...	...	...	141.0	678.2	...	217.3	...	460.9	257.8	...
Israel	1,655.3	86.8	...	...	624.0	1,064.3	404.6	81.8	173.3	404.6	57.2	125.2
Jordan	...	...	...	...	...	265.7	...	...	...	265.7	...	...
Lebanon	...	...	...	...	...	...	...	...	...	...	248.4	...
Oman	...	...	...	...	23.6	148.4	...	...	148.4	...	...	...
Qatar	...	...	...	...	...	...	...	...	...	...	1,133.2	...
Saudi Arabia	...	...	...	...	80.0	...	...	...	...	...	59.2	...
United Arab Emirates	...	...	...	...	...	120.0	...	...	...	120.0	398.5	73.1
Latin America	5,151.9	1,262.5	1,995.0	827.4	2,058.2	5,795.2	495.0	1,008.3	3,054.7	1,237.1	3,152.5	2,454.8
Argentina	393.1	34.4	...	...	...	...	...	...	...	...	769.4	...
Brazil	3,102.5	1,228.1	1,148.5	287.4	1,651.0	3,433.1	495.0	665.3	1,651.4	621.3	1,491.8	2,340.0
Chile	...	...	...	...	266.4	522.7	...	...	216.3	306.4	...	...
Dominican Republic	74.0	...	...	...	...	...	...	...	...	...	...	...
Mexico	1,582.3	...	846.6	540.0	140.8	1,839.3	...	342.9	1,187.0	309.4	891.4	114.8

Source: Data provided by the Bond, Equity, and Loan database of the International Monetary Fund sourced from Dealogic.

Table 17. Emerging Market External Financing: Loan Syndication*(In millions of U.S. dollars)*

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Total	109,930.9	69,560.5	69,388.9	81,133.9	117,498.7	163,648.5	27,961.1	37,950.7	47,060.9	50,675.8	33,017.4	48,508.1
Africa	7,784.2	4,797.0	4,517.4	5,584.6	7,358.0	7,951.2	767.2	166.9	2,964.8	4,052.2	617.9	748.1
Algeria	...	50.0	150.0	40.0	271.7	412.7	...	...	412.7	...	...	...
Angola	...	455.0	350.0	1,522.0	2,900.0	3,122.7	8.7	36.0	65.1	3,012.9	38.8	...
Botswana	...	22.5	...	...	...	...	...	...	...	...	...	...
Burkina Faso	...	...	...	...	...	11.0	11.0	...	...	...	...	...
Cameroon	...	80.1	...	100.0	...	...	...	...	...	...	...	...
Chad	...	300.0	...	...	...	...	...	...	...	...	...	...
Congo, Dem. Rep. of	...	...	...	...	...	...	...	...	...	...	...	...
Côte d'Ivoire	...	15.0	...	...	...	...	...	...	...	...	...	...
Djibouti	...	...	...	...	40.0	...	...	...	...	...	...	...
Ethiopia	...	...	...	...	40.0	...	...	...	...	...	...	...
Gabon	...	...	...	...	22.0	...	...	...	...	...	14.4	...
Ghana	320.0	291.0	420.0	650.0	870.0	619.5	...	57.5	562.0	...	50.0	...
Guinea	...	...	...	...	70.0	...	...	...	...	...	...	...
Kenya	7.5	80.2	...	134.0	126.8	23.5	...	23.5	...	...	161.3	...
Malawi	...	...	...	...	4.8	...	...	...	...	...	...	...
Mali	...	...	150.4	287.6	288.9	...	...	...	...	...	...	...
Mauritius	...	...	...	...	...	99.3	...	...	...	99.3	100.0	...
Morocco	...	129.3	...	9.8	...	...	...	...	...	...	3.4	8.1
Mozambique	...	160.0	...	35.5	222.4	...	...	...	...	...	...	...
Namibia	...	...	...	35.0	...	50.0	...	50.0	...	...	...	...
Niger	...	...	...	27.0	...	...	...	...	...	...	...	...
Nigeria	...	95.0	960.0	488.0	225.0	696.0	331.0	...	...	365.0	...	...
Senegal	...	...	40.0	...	...	...	...	...	...	...	...	...
Seychelles	40.5	...	150.0	...	80.0	...	...	...	...	...	...	...
South Africa	7,166.1	3,047.9	2,206.5	2,097.5	1,816.6	2,825.3	325.3	...	1,925.0	575.0	250.0	740.0
Tanzania	135.0	...	...	...	...	...	...	...	...	...	...	...
Tunisia	94.3	71.0	90.5	128.2	379.9	91.2	91.2	...	...	...	...	...
Zambia	20.8	...	...	...	...	...	...	...	...	...	...	...
Zimbabwe	...	...	...	30.0	...	...	...	...	...	...	...	...
Asia	47,595.6	29,035.7	32,257.3	38,005.3	49,104.3	59,052.9	13,065.1	14,750.2	14,661.6	16,576.0	16,461.9	13,726.8
Bangladesh	...	...	...	...	176.8	...	...	...	...	...	...	32.6
Brunei Darussalam	...	...	129.0	...	...	...	...	...	...	...	...	...
China	2,632.5	493.8	5,742.8	7,632.4	4,899.0	9,250.8	1,907.7	936.2	2,766.7	3,640.2	506.1	2,707.8
Hong Kong SAR	13,964.5	11,063.4	7,792.9	7,465.0	9,780.0	9,447.6	1,719.2	2,310.2	3,198.7	2,219.5	5,965.2	2,142.5
India	947.6	1,559.5	963.1	2,224.8	4,532.2	9,305.5	2,739.3	1,829.6	3,087.2	1,649.3	2,636.7	2,253.0
Indonesia	1,157.3	487.6	318.0	3,869.4	1,737.4	787.8	25.0	358.8	71.0	333.0	60.0	449.5
Korea	7,267.1	6,568.7	6,434.3	5,167.7	6,281.1	12,748.3	3,094.7	5,039.7	2,127.8	2,486.1	2,779.3	1,257.6
Lao P.D.R.	...	...	71.4	...	210.0	1,000.0	...	1,000.0	...	...	...	...
Macao SAR	...	...	...	...	357.0	...	...	...	...	...	...	965.7
Malaysia	3,592.8	2,385.8	2,826.1	3,917.1	4,332.5	2,653.8	1,052.6	705.0	330.0	566.2	1,075.2	853.4
Marshall Islands	...	...	34.7	...	...	24.0	...	...	24.0	...	170.0	...
Mongolia	...	...	...	...	...	30.0	30.0	...	...	...	...	...
Pakistan	...	182.5	289.1	185.5	300.0	739.1	286.2	434.6	18.3	...	100.0	...
Philippines	2,024.0	1,458.3	673.0	1,322.5	1,750.9	1,351.1	100.0	...	165.9	1,085.2	81.4	...
Singapore	1,868.9	2,571.4	2,356.3	1,964.8	2,870.8	4,245.1	714.7	869.5	762.9	1,897.9	914.6	1,243.9
Sri Lanka	100.0	105.0	...	186.0	35.0	311.5	...	...	149.5	162.0	9.7	...
Taiwan Province of China	11,371.1	1,615.1	2,420.5	2,733.9	10,343.2	4,297.6	870.3	744.5	1,558.2	1,124.6	1,681.5	1,721.1
Thailand	2,652.8	544.6	1,822.7	1,285.2	1,384.3	2,596.8	525.3	364.3	381.4	1,325.9	482.2	100.0
Vietnam	17.0	...	383.5	51.0	114.0	264.0	...	157.9	20	86.2	...	...
Europe	19,153.1	11,645.9	12,957.5	20,644.6	31,272.2	39,143.8	3,572.3	8,814.0	12,238.8	14,518.8	7,620.8	15,139.3
Armenia	...	...	...	...	...	...	...	...	...	...	...	...
Azerbaijan	...	16.0	...	...	1,005.0	383.7	...	180.0	203.7	...	750.0	35.0
Belarus	...	...	...	24.0	...	32.0	...	...	...	32.0	45.3	47.7
Bulgaria	8.9	7.0	13.0	260.4	808.1	188.2	...	29.0	...	159.2	...	50.5
Croatia	598.6	768.0	577.8	1,038.9	588.6	703.7	197.7	200.1	119.6	186.2	...	160.0
Cyprus	86.3	152.5	68.1	...	...	...	...	...	...	...	85.0	...
Czech Republic	456.1	478.6	25.0	445.9	956.5	845.5	235.9	510.0	99.5	...	105.0	4.5
Estonia	61.0	136.6	...	133.9	222.9	...	...	...	...	...	...	338.4
Faroe Islands	...	...	...	...	...	85.3	...	...	85.3	...	...	...

Table 17 (concluded)

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Europe (continued)												
Georgia	...	...	...	6.0	...	...	...	...	...	...	...	...
Gibraltar	80.0	...	...	...	...	...	...	...	...	...	1,934.2	...
Hungary	736.4	828.8	969.7	1,409.7	1,498.8	1,347.3	...	1,174.8	121.2	51.2	...	375.0
Kazakhstan	79.6	323.5	534.5	1,375.0	1,868.2	4,076.8	322.9	573.0	1,292.0	1,888.9	176.0	465.6
Kyrgyz Republic	...	...	95.0	...	...	...	...	...	...	...	...	...
Latvia	23.0	31.3	51.9	70.7	353.2	265.8	90.9	115.8	...	59.1	237.5	46.7
Lithuania	152.7	24.9	18.8	...	72.5	390.2	376.1	...	...	14.1	...	...
Macedonia, FYR	...	...	...	...	17.4	...	...	...	...	...	...	...
Malta	...	85.0	...	114.7	392.7	...	...	...	...	...	...	60.0
Moldova	...	...	...	...	...	0.1	...	...	1.0	...	...	...
Poland	3,408.6	2,364.9	3,016.0	2,727.4	5,41.4	2,192.8	...	490.6	1,472.3	229.9	...	65.5
Romania	329.9	438.6	380	925.2	847.0	1,083.9	577.6	...	363.2	143.1	86.1	120.9
Russia	3,176.3	1,520.4	3,803.5	7,415.1	12,937.0	15,430.3	1,010.8	3,977.3	2,722.2	7,720.0	3,364.0	6,946.5
Serbia and Montenegro	...	...	19.4	...	...	...	...	...	...	...	...	...
Slovak Republic	484.4	...	...	79.3	117.0	579.3	...	86.0	493.2	...	...	...
Slovenia	288.0	337.2	279.0	394.8	1,364.5	1,724.8	153.9	812.0	338.7	420.2	215.5	1,124.9
Tajikistan	...	...	...	...	...	...	...	...	...	...	...	...
Turkey	9,143.4	4,112.6	3,044.8	4,095.7	7,561.5	8,899.7	484.9	585.3	4,758.8	3,070.8	544.2	5,203.0
Ukraine	...	15.0	15.0	90.0	119.9	913.6	121.6	80.0	168.0	544.0	77.8	95.0
Uzbekistan	40.0	5.0	46.0	37.8	...	...	...	...	...	...	...	...
Middle East	8,562.2	5,583.4	6,978.8	6,421.7	11,530.0	36,296.2	5,489.9	10,077.6	11,086.4	9,642.4	6,101.9	14,204.6
Bahrain	1,188.5	202.0	340.0	1,000.0	1,475.0	1,690.0	220.0	1,140.0	120.0	210.0	75.0	90.0
Egypt	590.1	1,000.0	670.0	155.0	997.7	1,466.8	150.0	...	538.5	778.3	326.0	345.0
Iran, I.R. of	757.7	887.0	1,680.1	700.0	1,942.7	1,928.8	278.4	125.4	1,115.0	410.0	73.8	1.8
Iraq	...	...	...	...	...	107.8	107.8	...	...	...	177.0	...
Israel	240.0	325.0	...	...	370.0	1,923.8	1,173.8	...	500.0	250.0	280.0	2.7
Jordan	60.0	42.1	...	...	54.4	...	...	...	...	...	...	...
Kuwait	250.0	770.0	...	165.0	782.5	4,283.0	220.0	2,900.0	175.0	988.0	926.1	575.0
Libya	50.0	...	...	...	...	...	...	...	...	...	...	...
Oman	600.0	...	2,332.0	818.3	1,055.0	4,598.7	1,069.0	1,937.7	...	1,592.0	250.0	...
Qatar	580.0	895.0	1,536.7	880.8	1,377.7	8,168.5	115.2	793.8	5,208.5	2,051.0	...	1,633.2
Saudi Arabia	2,200.9	941.6	280.0	569.5	2,134.0	4,161.0	350.0	2,484.0	380.0	947.0	1,916.1	4,256.9
United Arab Emirates	2,045.0	520.7	140.0	2,133.2	1,341.0	7,967.8	1,805.7	696.7	3,049.3	2,416.1	2,077.9	7,300.0
Latin America	26,836.0	18,498.7	12,677.9	10,477.7	18,234.2	21,204.4	5,066.6	4,142.0	6,109.4	5,886.4	2,214.9	4,689.3
Argentina	3,225.6	1,889.0	824.2	30.0	767.0	3,205.6	...	125.0	2,895.0	185.6	...	300.0
Bolivia	...	10.0	90.0	...	116.0	173.0	100.0	23.0	...	50.0	...	...
Brazil	7,754.1	5,819.5	3,401.7	902.4	4,609.8	3,922.3	904.8	519.9	761.1	1,736.6	1,086.2	491.8
Chile	5,067.8	2,399.3	1,230.7	1,731.0	3,823.5	4,958.7	396.1	2,599.2	486.1	1,477.3	828.1	687.2
Colombia	1,481.0	631.7	1,096.0	146.2	83.0	348.8	70.0	28.8	250.0	...	...	176.0
Costa Rica	...	115.0	...	...	...	117.2	...	28.5	8.0	80.7	...	...
Cuba	...	...	...	...	69.8	1.9	1.9	...	...	...	...	...
Dominican Republic	...	31.1	258.0	50.4	140.5	47.8	9.1	...	8.2	30.5	4.9	...
Ecuador	...	910.0	10.0	...	...	62.5	25.0	...	37.5	...	...	...
El Salvador	110.0	68.0	...	32.5	180.5	79.5	...	4.5	...	75.0	...	...
Guadeloupe	...	...	17.4	...	...	...	...	...	...	...	...	...
Guatemala	505.0	...	44.0	...	59.3	165.0	...	...	...	165.0	...	...
Honduras	...	...	...	...	169.0	4.6	...	4.6	...	...	...	...
Jamaica	...	5.8	45.0	49.6	96.3	454.8	416.6	...	...	38.1	...	388.4
Mexico	6,263.7	4,466.3	4,280.0	7,342.2	7,473.4	7,451.5	3,124.1	808.5	1,498.5	2,020.4	128.7	2,405.0
Nicaragua	...	...	...	...	22.0	...	...	...	...	...	...	...
Paraguay	...	70.0	...	...	...	...	...	...	...	...	...	...
Peru	465.4	137.5	63.0	125.0	170.0	27.1	...	...	...	27.1	155.0	1.9
St. Lucia	...	...	...	20.0	...	...	...	...	...	...	...	...
Trinidad and Tobago	30.0	70.0	303.0	46.0	315.0	...	...	...	...	...	...	239.0
Uruguay	159.5	41.3	...	...	...	...	...	...	...	...	...	...
Venezuela	1,773.9	1,834.2	1,015.0	2.5	139.1	184.0	19.0	...	165.0	...	12.1	...

Source: Data provided by the Bond, Equity, and Loan database of the International Monetary Fund sourced from Dealogic.

Table 18. Equity Valuation Measures: Dividend-Yield Ratios¹

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Argentina	4.6	5.2	3.4	1.1	1.0	1.7	0.9	1.4	1.0	1.7	1.4	1.1
Brazil	3.2	4.9	5.5	3.5	4.4	3.9	3.7	4.1	3.3	3.9	3.5	3.2
Chile	2.3	2.3	2.8	1.8	3.0	3.0	3.1	2.9	2.7	3.0	2.9	2.7
China	1.0	1.9	2.4	2.2	2.3	2.7	2.3	2.8	2.8	2.7	2.3	2.3
Colombia	11.1	5.6	4.8	3.9	2.5	1.7	2.6	2.8	2.3	1.7	1.7	2.4
Czech Republic	0.9	2.3	2.4	6.9	4.3	1.3	3.6	1.8	1.5	1.3	1.2	2.3
Egypt	5.7	6.5	7.5	4.7	2.0	1.4	1.4	1.4	1.6	1.4	1.2	2.9
Hong Kong SAR	2.6	3.2	3.9	2.8	2.7	3.2	3.1	3.1	3.0	3.2	3.1	3.0
Hungary	1.5	1.3	1.4	0.9	2.0	2.2	1.7	2.4	1.9	2.2	2.0	2.8
India	1.6	2.0	1.8	1.5	1.5	1.3	1.6	1.5	1.4	1.3	1.1	1.3
Indonesia	3.1	3.6	4.2	3.8	3.2	3.3	3.1	3.2	3.5	3.3	2.8	2.9
Israel	2.3	2.2	1.5	1.1	1.4	2.0	1.9	2.0	1.9	2.0	2.0	2.3
Jordan	4.5	3.5	3.8	2.4	1.6	1.1	1.2	1.1	1.0	1.1	1.3	3.1
Korea	2.1	1.5	1.4	1.8	2.4	1.7	2.6	2.6	1.9	1.7	1.7	1.8
Malaysia	1.7	1.9	2.0	2.4	2.2	2.9	2.4	2.8	2.6	2.9	2.8	2.8
Mexico	1.6	2.0	2.3	1.8	1.9	1.6	2.0	2.0	1.7	1.6	1.5	1.5
Morocco	3.6	4.0	4.8	4.2	3.6	3.8	3.8	4.6	4.1	3.8	2.8	3.9
Pakistan	5.1	16.0	11.0	8.6	7.0	5.0	6.1	5.8	5.5	5.0	4.2	4.7
Peru	3.4	3.2	2.4	1.7	3.3	5.1	3.4	6.1	4.5	5.1	5.6	5.9
Philippines	1.4	1.4	2.0	1.4	1.6	2.2	1.8	2.1	2.2	2.2	2.3	2.5
Poland	0.7	1.9	1.8	1.3	1.3	2.7	1.2	3.0	2.7	2.7	2.7	4.1
Russia	0.9	1.1	1.9	2.4	3.1	1.6	2.2	2.3	1.6	1.6	1.2	1.4
Singapore	1.4	1.8	2.3	2.0	2.2	2.6	2.3	2.6	2.7	2.6	2.4	2.8
South Africa	2.7	3.5	3.8	3.2	2.6	2.5	3.0	3.1	2.6	2.5	2.3	2.4
Sri Lanka	5.6	4.8	3.3	2.5	2.6	1.7	2.0	2.1	1.6	1.7	1.4	1.9
Taiwan Province of China	1.7	1.4	1.6	1.9	2.9	3.9	3.1	3.5	4.2	3.9	3.9	3.8
Thailand	2.1	2.0	2.5	1.7	3.0	3.7	3.9	3.8	3.7	3.7	3.8	4.1
Turkey	1.9	1.1	1.4	0.9	1.9	2.0	2.1	3.1	2.6	2.0	2.1	3.1
Venezuela	5.1	3.9	2.4	3.7	5.8	7.3	5.6	6.3	7.3	7.3	5.0	6.7
Emerging Markets	2.1	2.3	2.4	2.3	2.6	2.5	2.6	2.9	2.6	2.5	2.4	2.5
EM Asia	1.7	1.7	1.8	2.0	2.5	2.6	2.6	2.9	2.8	2.6	2.4	2.5
EM Latin America	2.7	3.4	3.6	2.6	3.3	3.0	3.0	3.3	2.7	3.0	2.8	2.7
EM Europe & Middle East	1.8	1.7	1.7	1.8	2.2	1.9	2.0	2.4	1.9	1.9	1.7	2.1
ACWI Free	1.5	1.7	2.2	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.2

Source: Data are from Morgan Stanley Capital International.

¹The countries above include the 27 constituents of the Emerging Markets index as well as Hong Kong SAR and Singapore. Regional breakdowns conform to Morgan Stanley Capital International conventions. All indices reflect investable opportunities for global investors by taking into account restrictions on foreign ownership. The indices attempt to achieve an 85 percent representation of freely floating stocks.

Table 19. Equity Valuation Measures: Price-to-Book Ratios¹

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Argentina	1.0	0.9	1.2	1.8	2.2	3.1	2.5	2.4	3.5	3.1	3.3	3.1
Brazil	1.2	1.1	1.2	1.8	1.8	2.4	1.8	1.8	2.2	2.4	2.4	2.4
Chile	1.5	1.4	1.1	1.6	1.8	1.9	1.9	2.0	2.1	1.9	2.0	1.9
China	2.8	1.9	1.3	2.2	2.0	2.1	2.0	2.0	2.1	2.1	2.5	2.3
Colombia	0.5	0.5	1.2	1.3	1.9	3.4	1.9	1.9	2.3	3.4	3.4	2.6
Czech Republic	1.0	0.8	0.8	1.1	1.6	2.5	1.9	1.9	2.4	2.5	2.6	2.4
Egypt	2.3	1.4	1.1	2.2	3.9	8.0	5.4	6.4	7.2	8.0	5.5	3.2
Hong Kong SAR	1.7	1.4	1.1	1.5	1.7	1.6	1.5	1.6	1.7	1.6	1.7	1.7
Hungary	2.3	2.0	1.9	2.0	2.6	3.0	3.0	2.8	3.4	3.0	3.1	2.8
India	2.7	2.1	2.1	3.8	3.6	4.4	3.5	3.6	4.2	4.4	4.8	4.1
Indonesia	1.0	2.7	2.2	2.3	3.1	3.1	3.3	3.0	2.9	3.1	3.5	3.2
Israel	3.0	2.2	1.7	2.5	2.6	3.1	2.5	2.4	2.7	3.1	2.8	2.4
Jordan	1.0	1.4	1.3	2.0	3.0	4.7	3.9	4.9	5.4	4.7	3.3	2.9
Korea	0.8	1.3	1.2	1.5	1.4	1.9	1.4	1.4	1.7	1.9	1.8	1.7
Malaysia	1.6	1.8	1.5	1.8	1.9	1.8	1.8	1.9	1.9	1.8	1.9	1.9
Mexico	1.9	2.0	1.8	2.2	2.6	3.3	2.4	2.5	3.0	3.3	3.2	3.1
Morocco	2.6	1.8	1.4	1.5	2.4	2.7	2.3	2.5	2.5	2.7	3.6	3.6
Pakistan	1.4	0.9	2.0	2.3	2.4	3.6	2.7	3.0	3.2	3.6	4.0	3.1
Peru	1.1	1.3	1.8	2.8	2.3	2.9	2.4	2.2	2.9	2.9	2.9	3.4
Philippines	1.3	1.1	0.9	1.4	1.6	2.0	1.8	1.9	1.8	2.0	2.1	2.0
Poland	2.1	1.3	1.4	1.7	2.1	2.6	2.2	2.2	2.6	2.6	2.5	2.5
Russia	0.9	1.3	1.2	1.3	1.1	2.4	1.4	1.7	2.2	2.4	2.6	2.6
Singapore	2.1	1.6	1.3	1.6	1.7	1.8	1.7	1.8	1.8	1.8	1.9	1.8
South Africa	2.7	1.8	1.7	2.0	2.4	3.2	2.5	2.5	3.0	3.2	3.6	3.5
Sri Lanka	0.6	0.8	1.2	1.5	1.4	1.9	1.6	1.8	2.2	1.9	2.2	2.0
Taiwan Province of China	1.9	2.0	1.5	2.1	1.9	2.0	1.8	1.8	1.9	2.0	2.0	1.8
Thailand	1.5	1.7	1.8	2.9	2.4	2.4	2.3	2.2	2.4	2.4	2.3	2.0
Turkey	2.7	3.8	1.8	2.0	1.9	2.2	1.8	1.9	1.8	2.2	2.3	1.9
Venezuela	0.7	0.5	0.9	1.4	1.6	1.0	1.6	1.2	1.0	1.0	1.4	1.4
Emerging Markets	1.6	1.6	1.4	1.9	1.9	2.4	1.9	2.0	2.2	2.4	2.4	2.3
EM Asia	1.5	1.7	1.4	2.0	1.8	2.1	1.8	1.8	2.0	2.1	2.2	2.0
EM Latin America	1.4	1.3	1.4	1.9	2.1	2.6	2.0	2.0	2.5	2.6	2.6	2.5
EM Europe & Middle East	2.2	1.7	1.4	1.7	1.8	2.6	2.0	2.1	2.4	2.6	2.6	2.5
ACWI Free	3.5	2.7	2.1	2.5	2.5	2.6	2.4	2.5	2.6	2.6	2.6	2.5

Source: Data are from Morgan Stanley Capital International.

¹The countries above include the 27 constituents of the Emerging Markets index as well as Hong Kong SAR and Singapore. Regional breakdowns conform to Morgan Stanley Capital International conventions. All indices reflect investable opportunities for global investors by taking into account restrictions on foreign ownership. The indices attempt to achieve an 85 percent representation of freely floating stocks.

Table 20. Equity Valuation Measures: Price/Earnings Ratios¹

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Argentina	20.7	19.1	-12.9	13.7	47.2	19.5	244.5	15.2	22.2	19.5	12.5	14.6
Brazil	12.8	8.5	11.2	10.3	10.8	12.4	9.9	9.5	11.6	12.4	11.0	10.9
Chile	32.0	18.0	17.2	30.8	23.1	21.7	25.0	22.6	24.3	21.7	23.1	21.0
China	40.6	14.1	12.1	17.1	13.8	12.2	13.2	12.7	12.8	12.2	14.6	15.0
Colombia	-103.4	64.9	9.5	8.9	17.7	29.7	10.6	17.5	21.8	29.7	24.9	20.8
Czech Republic	16.5	9.2	10.4	12.5	26.6	23.7	18.2	20.4	22.0	23.7	24.4	22.2
Egypt	9.4	6.3	7.3	10.9	14.2	31.5	13.9	26.9	28.1	31.5	25.1	14.3
Hong Kong SAR	7.6	20.5	14.9	20.0	19.9	16.4	19.5	18.4	19.7	16.4	14.3	12.6
Hungary	14.8	19.3	10.1	13.1	11.3	12.8	11.9	12.2	14.5	12.8	12.8	11.7
India	15.6	13.8	13.6	19.0	17.6	20.2	15.6	17.1	19.2	20.2	22.7	20.2
Indonesia	18.7	8.4	7.1	10.4	12.9	12.1	11.1	12.2	11.3	12.1	14.5	13.5
Israel	23.9	228.8	-46.6	34.1	20.1	21.1	17.4	19.0	19.7	21.1	18.0	15.3
Jordan	-107.1	15.1	12.4	21.4	32.5	41.5	25.0	41.3	42.8	41.5	31.4	27.2
Korea	8.1	15.2	11.4	13.9	8.2	12.3	9.1	8.4	11.0	12.3	11.6	11.4
Malaysia	20.6	22.6	13.2	16.3	16.1	14.5	15.5	15.0	15.0	14.5	15.2	14.8
Mexico	13.8	14.2	14.1	15.7	15.0	17.1	15.7	12.8	15.6	17.1	16.0	14.7
Morocco	9.3	10.8	9.9	22.5	15.5	19.5	26.7	15.6	18.1	19.5	25.2	24.4
Pakistan	8.4	4.5	8.1	8.7	9.5	12.9	8.8	11.1	11.8	12.9	14.3	10.8
Peru	15.4	14.1	20.4	26.4	11.9	12.1	17.7	9.4	12.3	12.1	10.4	11.4
Philippines	-35.1	43.7	18.2	20.2	14.9	15.7	14.4	14.8	14.2	15.7	17.5	14.0
Poland	14.3	18.3	-261.1	19.5	13.3	15.7	12.6	13.5	15.7	15.7	15.1	14.8
Russia	5.7	5.0	7.3	11.1	8.2	15.8	9.6	12.8	14.5	15.8	14.9	17.3
Singapore	18.9	16.5	21.1	21.4	14.3	15.9	14.0	14.6	15.9	15.9	16.8	16.1
South Africa	14.9	11.3	10.5	12.7	15.0	17.0	14.4	14.1	15.7	17.0	16.5	15.7
Sri Lanka	4.2	8.5	14.4	12.7	11.0	15.5	10.5	13.9	17.9	15.5	25.8	20.7
Taiwan Province of China	14.1	21.1	73.1	25.7	12.4	18.6	12.8	15.1	17.1	18.6	18.7	16.5
Thailand	-14.6	16.7	15.5	15.2	11.5	10.2	11.3	9.9	10.8	10.2	10.4	9.3
Turkey	11.8	25.5	101.3	11.0	13.6	16.5	11.9	13.5	14.8	16.5	17.1	11.8
Venezuela	21.8	18.4	13.4	24.4	12.4	7.8	14.9	8.9	7.8	7.8	14.1	8.5
Emerging Markets	14.9	14.0	14.0	15.0	12.1	15.0	12.2	12.3	14.1	15.0	14.7	14.1
EM Asia	15.5	16.7	14.8	16.7	11.2	14.2	11.5	11.8	13.4	14.2	14.7	13.9
EM Latin America	14.9	11.7	13.8	13.2	13.1	14.5	12.8	11.2	13.6	14.5	12.9	12.6
EM Europe & Middle East	14.1	13.1	16.3	14.6	12.6	17.1	12.3	14.6	16.1	17.1	16.0	15.8
ACWI Free	25.4	26.8	23.2	21.9	17.9	17.6	17.4	17.2	17.2	17.6	17.3	16.5

Source: Data are from Morgan Stanley Capital International.

¹The countries above include the 27 constituents of the Emerging Markets index as well as Hong Kong SAR and Singapore. Regional breakdowns conform to Morgan Stanley Capital International conventions. All indices reflect investable opportunities for global investors by taking into account restrictions on foreign ownership. The indices attempt to achieve an 85 percent representation of freely floating stocks.

Table 21. United States: Mutual Fund Flows¹*(In millions of U.S. dollars)*

	2000	2001	2002	2003	2004	2005	2005				2006	
							Q1	Q2	Q3	Q4	Q1	Q2
Asia Pacific (ex-Japan)	-1,207.9	-496.2	-43.0	1,510.8	1,574.3	2,804.3	600.2	78.9	709.3	1,415.8	3,170.7	1,053.0
Corporate high yield	-6,162.3	5,938.2	8,082.4	20,261.9	-3,259.3	-11,597.9	-4,839.1	-2,345.7	-2,639.5	-1,773.5	-1,310.4	-2,328.2
Corporate investment grade	4,253.7	21,692.0	32,688.3	16,660.2	3,339.1	9,217.5	2,593.2	1,107.5	4,440.8	1,076.0	4,583.0	1,777.4
Emerging market debt	-499.9	-447.7	449.7	889.0	211.4	580.9	34.9	121.5	257.3	167.2	314.1	-158.7
Emerging market equity	-349.9	-1,662.7	-330.7	4,672.7	5,815.8	15,917.1	2,853.2	1,759.6	5,114.6	6,189.6	10,706.6	-355.5
European equity	620.9	-1,790.8	-1,044.8	-947.4	873.2	1,037.8	564.9	-160.2	401.0	232.1	2,105.8	741.8
Global equity	12,626.7	-3,005.5	-5,152.1	-1,995.4	8,373.4	7,254.9	4,410.0	910.5	1,049.8	884.6	3,158.7	1,428.9
Growth-Aggressive	46,610.3	17,882.8	5,611.6	11,464.9	9,915.4	8,644.1	-86.4	1,831.3	1,588.9	5,310.3	4,800.1	2,546.6
International and global debt	-3,272.2	-1,602.2	-823.0	3,225.0	5,143.4	5,768.4	2,750.8	1,191.3	1,476.5	349.9	2,714.3	2,244.4
International equity	13,322.4	-4,488.2	4,240.0	14,650.8	35,441.1	49,285.4	14,882.5	6,962.6	12,547.7	14,892.5	27,197.5	8,105.7
Japanese equity	-830.6	-269.8	-82.0	1,863.3	3,313.7	5,118.3	307.2	-293.7	1,510.8	3,594.0	1,190.8	439.6
Latin American equity	-94.6	-146.7	32.7	185.7	65.3	2,025.8	221.1	149.3	608.6	1,046.8	1,155.1	-361.3

Source: Data are provided by AMG Data Services and cover net flows of U.S.-based mutual funds.

¹Fund categories are distinguished by a primary investment objective that signifies an investment of 65 percent or more of a fund's assets. Primary sector data are mutually exclusive, but emerging and regional sectors are all subsets of international equity.

Table 22. Bank Regulatory Capital to Risk-Weighted Assets*(In percent)*

	2001	2002	2003	2004	2005	2006	Latest
Latin America							
Argentina	...	...	...	...	...	...	...
Bolivia	14.3	16.1	15.3	14.9	14.6	14.5	March
Brazil	14.8	16.6	18.9	17.3	17.4	...	December
Chile	12.7	14.0	14.1	13.6	13.0	13.2	April
Colombia	13.0	12.6	13.1	13.8	13.5	14.2	March
Costa Rica	15.1	15.8	16.5	18.1	15.9	...	December
Dominican Republic	11.8	12.0	8.9	12.9	12.5	13.6	March
Ecuador	13.5	14.4	14.9	14.5	14.4	...	December
El Salvador	11.8	12.2	12.8	13.4	13.5	13.5	March
Jamaica	25.6	23.6	15.2	16.7	18.8	19.9	March
Honduras	12.7	12.9	13.0	14.5	14.6	...	December
Mexico	13.9	15.5	14.2	14.1	14.3	16.0	March
Nicaragua	16.4	18.0	14.2	14.3	14.6	...	September
Panama	14.0	17.1	17.6	17.8	16.3	17.2	March
Paraguay	16.2	17.9	20.1	20.2	20.0	...	December
Peru	12.8	12.5	13.3	14.0	12.0	13.4	March
Uruguay ¹	...	...	...	28.9	30.7	...	December
Venezuela	17.7	20.5	25.1	19.2	15.5	15.4	May
Emerging Europe							
Belarus	20.7	24.2	26.0	25.2	26.7	27.1	March
Bosnia and Herzegovina	22.4	19.7	20.3	18.7	17.6	...	September
Bulgaria	31.3	25.2	22.2	16.1	15.2	16.0	March
Croatia	18.5	17.2	15.7	14.1	13.9	15.0	March
Czech Republic	15.0	14.2	14.5	12.6	11.9	11.7	March
Estonia	14.4	15.3	14.5	13.4	11.7	12.4	March
Hungary	13.9	13.0	11.8	12.4	12.0	...	December
Israel	9.4	9.9	10.3	10.8	10.9	...	June
Latvia	14.2	13.1	11.7	11.7	10.1	10.9	March
Lithuania	16.3	15.2	12.6	11.4	10.0	...	September
Moldova	43.1	36.4	31.6	31.4	27.2	...	December
Poland	13.5	14.2	13.8	15.4	14.5	14.7	March
Romania	28.8	25.0	20.0	18.8	20.2	20.0	March
Russia	20.3	19.1	19.1	17.0	16.0	15.7	March
Serbia and Montenegro	...	25.6	31.1	27.9	25.2	...	June
Slovak Republic	19.6	21.3	22.4	18.6	15.9	...	September
Slovenia	11.9	11.9	11.5	11.8	10.5	...	December
Turkey	15.3	25.3	30.9	28.8	24.2	23.5	March
Ukraine	20.7	18.0	15.2	16.8	15.0	14.9	March
Western Europe							
Austria	13.7	13.3	14.5	14.7	14.5	...	December
Belgium	12.9	13.2	12.9	12.9	11.5	...	December
Denmark	12.9	13.5	13.9	13.4	13.2	...	December
Finland	10.5	11.7	18.9	19.6	17.3	...	December
France	12.1	11.5	11.9	11.5	11.4	...	December
Germany ²	12.0	12.7	13.4	13.2	13.4	...	December
Greece	12.4	10.5	12.0	12.8	13.2	12.8	March
Iceland	11.4	12.2	12.3	12.8	12.8	...	December
Ireland	10.6	12.3	13.9	12.6	12.0	...	December
Italy	10.4	11.2	11.4	11.6	11.6	...	March
Luxembourg	13.7	15.0	17.1	17.5	17.5	...	December
Netherlands	11.4	11.9	12.0	12.1	12.4	...	December
Norway	12.6	12.1	12.4	12.2	11.9	...	December
Portugal	9.5	9.8	10.0	10.4	11.3	...	December
Spain	12.9	12.5	12.6	12.3	12.2	...	December
Sweden	10.0	10.1	10.1	10.0	9.9	...	December
Switzerland	12.2	12.3	12.6	12.5	12.2	...	December
United Kingdom	13.2	13.1	13.0	12.7	12.8	...	December

Table 22 (concluded)

	2001	2002	2003	2004	2005	2006	Latest
Asia							
Bangladesh	6.7	7.5	8.4	8.8	7.1	...	June
China	...	...	...	...	...	...	...
Hong Kong SAR	16.5	15.7	15.3	15.4	14.9	15.0	March
India	11.4	11.9	12.7	12.9	12.8	...	March
Indonesia ³	18.2	20.1	22.3	20.9	19.6	...	December
Korea	11.7	11.3	11.2	12.1	12.8	13.1	March
Malaysia	13.0	13.2	13.8	13.8	13.1	12.7	April
Philippines	15.6	16.9	17.4	18.4	18.1	...	March
Singapore	18.2	16.9	16.0	16.2	15.8	15.4	March
Sri Lanka	5.1	8.1	7.6	8.5	9.8	...	December
Thailand	13.3	13.0	13.4	12.4	13.3	13.3	March
Middle East and Central Asia							
Armenia	13.6	30.5	33.8	32.3	33.7	...	December
Azerbaijan	...	...	10.9	19.9	19.6	...	December
Egypt	9.9	11.0	11.1	13.8	14.5	...	December
Jordan ⁴	17.4	16.7	15.9	17.8	...	...	December
Georgia	33.1	21.9	20.3	18.8	17.5	...	December
Kazakhstan	18.6	17.2	16.9	15.9	15.0	15.1	March
Kuwait	22.0	19.7	18.4	17.3	17.3	...	December
Lebanon	18.0	19.4	22.3	21.2	23.1	...	December
Morocco	12.6	12.2	9.3	10.2	11.5	...	December
Pakistan	8.8	8.8	8.5	10.5	10.9	...	June
Saudi Arabia	20.3	18.7	19.4	18.0	17.1	...	March
Tunisia	11.1	10.2	9.9	10.5	10.7	...	December
United Arab Emirates	19.8	19.0	18.6	16.9	17.4	...	December
Sub-Saharan Africa							
Botswana	27.6	20.2	21.5	20.6	...	...	December
Gabon	17.2	17.6	19.9	17.8	...	...	December
Ghana	14.7	13.4	9.3	13.7	16.2	...	November
Kenya	13.2	13.9	11.7	11.8	13.4	...	December
Madagascar	15.7	15.3	14.4	12.0	...	...	December
Mozambique	5.5	14.0	17.0	18.7	16.8	...	December
Namibia	15.5	14.1	14.8	15.4	14.6	...	June
Nigeria	16.2	18.1	17.8	14.6	14.3	...	June
Rwanda	...	...	12.8	15.0	15.0	...	March
Senegal	16.8	15.5	11.7	13.0	...	...	June
Sierra Leone	29.4	48.4	39.8	36.8	...	...	December
South Africa	11.4	12.6	12.2	13.3	12.3	12.6	March
Uganda	23.1	20.7	16.7	20.5	...	...	December
Zambia	22.0	28.0	23.7	22.2	22.1	...	June
Zimbabwe ⁵	22.4	16.2	15.0	34.4	...	...	December
Other							
Australia	10.4	9.6	10.0	10.4	10.3	...	December
Canada	12.3	12.4	13.4	13.3	12.9	13.0	March
Japan ⁶	10.8	9.4	11.1	11.6	...	...	...
United States	12.9	13.0	13.0	13.2	13.0	13.1	March

Sources: National authorities; and IMF staff estimates.

¹Banking sector excludes the state mortgage bank.²Preliminary data for 2005.³For the 16 largest commercial banks.⁴From 2003 onward, the ratio includes market risk.⁵Figures distorted by high inflation.⁶Major banks; data are on an unconsolidated basis and refer to the end of the fiscal year.

Table 23. Bank Capital to Assets*(In percent)*

	2001	2002	2003	2004	2005	2006	Latest
Latin America							
Argentina	...	...	11.9	11.8	13.0	13.4	March
Bolivia	10.5	11.9	12.1	11.5	11.3	10.7	March
Brazil	8.9	8.6	9.2	9.7	9.2	9.3	March
Chile	7.2	7.2	7.3	7.0	6.8	...	November
Colombia	11.2	11.0	11.5	12.1	12.3	12.2	March
Costa Rica	12.9	12.6	13.6	11.9	12.2	...	December
Dominican Republic	10.1	10.7	7.7	8.9	9.4	9.3	March
Ecuador	10.1	9.6	10.2	9.9	9.6	8.7	March
El Salvador	6.9	7.5	7.5	8.0	7.6	...	November
Jamaica	9.2	9.3	8.2	9.1	8.7	...	November
Honduras	9.2	8.1	7.6	8.4	8.4	...	November
Mexico	9.4	11.1	11.4	11.2	12.0	...	September
Nicaragua	6.3	7.3	7.8	9.1	8.8	...	June
Panama	9.6	10.2	12.2	13.2	12.8	...	December
Paraguay	12.1	10.9	9.5	10.5	11.0	11.1	May
Peru	9.8	10.1	9.3	9.8	7.7	...	December
Uruguay ¹	7.2	-10.0	7.2	8.3	8.6	8.7	May
Venezuela	14.1	15.9	14.3	12.5	11.1	10.6	May
Emerging Europe							
Belarus	15.1	18.7	20.4	20.1	19.8	20.5	March
Bosnia and Herzegovina	20.1	19.1	17.0	15.7	15.0	...	November
Bulgaria	13.5	13.3	13.1	11.0	10.5	...	December
Croatia	9.2	9.5	8.9	8.7	8.7	9.5	March
Czech Republic	5.2	5.2	5.7	5.6	5.8	...	September
Estonia	13.3	12.1	11.3	9.8	8.6	8.1	May
Hungary	9.3	8.8	8.5	8.6	9.1	...	November
Israel	7.7	6.5	7.2	7.1	6.7	...	October
Latvia	8.4	8.7	8.4	8.0	7.6	7.7	March
Lithuania	9.9	10.4	9.1	7.9	7.3	...	September
Moldova	26.5	21.1	18.8	17.4	17.0	...	June
Poland	8.0	8.7	8.3	8.0	7.8	7.9	March
Romania	12.1	11.6	10.9	8.5	8.8	9.2	March
Russia	14.4	14.0	14.6	14.0	13.5	12.5	March
Serbia and Montenegro	...	18.3	22.5	18.8	17.2	...	June
Slovak Republic	11.1	10.2	10.7	8.7	7.6	...	September
Slovenia	8.8	8.3	8.3	8.1	7.4	...	November
Turkey	7.9	11.9	14.2	15.0	13.5	13.5	March
Ukraine	15.6	14.7	12.3	13.1	11.5	11.5	March
Western Europe							
Austria	5.1	5.6	5.8	6.0	7.4	...	December
Belgium	2.7	3.0	3.1	3.1	2.7	...	December
Denmark	6.2	5.7	5.9	5.7	5.7	...	December
Finland	5.9	5.6	9.7	8.7	8.8	...	December
France	4.9	5.2	5.4	5.1	4.4	...	December
Germany	4.3	4.5	4.5	4.3	4.4	...	December
Greece	8.5	6.9	6.9	6.8	5.0	...	June
Iceland	6.5	7.2	7.1	7.1	...	...	December
Ireland	5.9	5.5	5.2	4.9	4.7	...	December
Italy	7.1	7.1	7.0	6.9	7.3	...	November
Luxembourg	4.0	4.6	4.8	4.8	4.5	...	December
Netherlands	4.0	4.0	4.0	4.0	4.0	...	December
Norway	6.5	6.2	5.9	5.9	5.1	...	December
Portugal	5.5	5.6	5.8	6.1	5.2	...	December
Spain	5.9	5.8	5.8	5.1	4.9	...	December
Sweden	6.5	6.2	6.2	6.3	5.8	...	December
Switzerland	5.6	5.5	5.7	5.3	5.1	...	December
United Kingdom	8.5	8.8	8.9	8.5	...	...	December

Table 23 (concluded)

	2001	2002	2003	2004	2005	2006	Latest
Asia							
Bangladesh	3.5	4.1	3.2	2.7	3.8	...	November
China ²	4.1	3.8	4.3	3.9	3.8	...	September
Hong Kong SAR	9.8	10.7	11.0	11.3	12.2	...	December
India	5.3	5.5	5.7	5.9	6.3	...	March
Indonesia	5.2	7.0	9.2	10.3	10.5	...	December
Korea	4.9	4.7	4.4	4.8	5.8	...	October
Malaysia	8.3	8.6	8.6	8.3	7.9	...	November
Philippines	13.6	13.4	13.1	12.6	12.3	...	September
Singapore	...	...	...	10.3	10.5	10.5	March
Sri Lanka	4.4	5.7	6.6	6.7	...	...	December
Thailand	8.9	8.9	9.6	9.0	9.8	...	September
Middle East and Central Asia							
Armenia	8.8	18.4	18.1	17.8	21.5	...	December
Azerbaijan	...	...	11.1	11.9	14.2	...	March
Egypt	...	...	...	...	...	...	...
Jordan	6.6	6.2	6.4	7.2	...	...	December
Georgia	30.5	28.3	26.2	21.9	18.8	...	December
Kazakhstan ³	11.0	9.0	9.0	8.0	8.7	...	June
Kuwait	11.2	10.3	10.7	12.1	12.6	...	December
Lebanon	...	...	...	...	...	...	...
Morocco	8.7	8.5	7.6	7.6	7.7	...	December
Pakistan	4.6	6.1	6.0	7.1	7.7	...	September
Saudi Arabia	9.3	9.3	8.8	8.0	8.8	...	December
Tunisia	7.5	7.7	7.6	7.5	7.7	...	December
United Arab Emirates	11.9	11.8	11.4	11.1	8.3	...	December
Sub-Saharan Africa							
Botswana	10.1	9.8	11.1	9.7	...	...	December
Gabon	...	...	...	...	...	...	...
Ghana	12.5	12.1	12.0	12.5	12.0	...	April
Kenya	...	...	...	...	...	...	...
Madagascar	7.0	6.7	6.8	6.2	...	...	December
Mozambique	8.2	7.8	5.6	6.5	...	...	December
Namibia	8.7	7.5	8.3	8.8	7.8	...	June
Nigeria	7.5	10.4	8.6	9.9	...	...	December
Rwanda	...	...	...	...	...	...	...
Senegal	9.7	10.3	7.8	8.4	...	...	June
Sierra Leone	20.0	18.0	20.3	11.6	...	...	December
South Africa	7.8	8.2	8.0	8.4	8.3	...	December
Uganda ⁴	10.0	9.2	8.5	10.3	...	...	December
Zambia	...	...	...	...	...	...	...
Zimbabwe	10.4	8.0	7.5	12.1	...	...	December
Other							
Australia ⁵	7.1	6.3	5.8	5.9	5.9	...	September
Canada	4.6	4.6	4.7	4.4	4.5	...	October
Japan ⁶	3.9	3.3	3.9	4.2	...	...	...
United States	9.0	9.2	9.2	10.3	10.3	10.4	March

Sources: National authorities; and IMF staff estimates.

¹Banking sector excludes the state mortgage bank.²State-owned commercial banks.³Tier 1 capital to risk-weighted assets.⁴Regulatory capital to total assets.⁵Tier 1 capital to total assets.⁶Figures refer to the end of the fiscal year.

Table 24. Bank Nonperforming Loans to Total Loans*(In percent)*

	2001	2002	2003	2004	2005	2006	Latest
Latin America							
Argentina	13.1	18.1	17.7	10.7	5.2	4.7	March
Bolivia	16.2	17.6	16.7	14.0	11.2	12.1	March
Brazil	5.6	4.8	4.8	3.8	4.4	...	December
Chile	1.6	1.8	1.6	1.2	0.9	0.9	May
Colombia	9.7	8.7	6.8	3.3	2.7	3.0	March
Costa Rica	2.4	3.2	1.7	2.0	1.5	...	December
Dominican Republic	2.6	4.9	8.7	7.3	5.9	6.5	March
Ecuador	13.4	8.4	7.9	6.4	4.9	5.4	March
El Salvador	4.3	15.8	12.3	12.0	12.0	...	December
Jamaica	9.6	6.8	3.6	3.0	2.9	2.6	March
Honduras	11.4	11.3	8.7	6.4	6.6	...	December
Mexico	5.1	4.6	3.2	2.5	1.8	1.7	March
Nicaragua	9.3	12.6	12.7	9.3	8.0	...	September
Panama	2.8	3.5	2.7	1.8	1.8	1.7	March
Paraguay	12.3	14.7	15.0	6.0	3.2	...	December
Peru	9.0	7.6	5.8	3.7	2.1	2.1	March
Uruguay ¹	12.4	37.2	9.4	3.8	2.7	1.7	May
Venezuela	7.0	9.2	7.7	2.8	1.2	1.4	May
Emerging Europe							
Belarus	14.9	9.0	3.7	2.8	1.9	1.8	March
Bosnia and Herzegovina	5.9	5.3	8.4	6.1	5.3	...	September
Bulgaria	3.3	2.4	2.5	1.9	1.7	...	December
Croatia	7.3	5.9	5.1	4.5	4.0	3.9	March
Czech Republic	13.7	10.6	4.9	4.1	4.3	4.1	March
Estonia	1.3	0.8	0.4	0.3	0.2	0.2	March
Hungary	2.7	2.9	2.6	2.7	2.1	...	June
Israel	8.2	9.8	10.5	10.5	10.3	...	June
Latvia	2.8	2.0	1.4	1.1	0.7	0.6	March
Lithuania	6.7	5.3	2.4	2.1	2.5	...	September
Moldova	10.4	7.6	6.4	6.9	4.3	...	December
Poland	...	...	10.4	9.2	7.7	...	December
Romania	3.3	2.3	8.3	8.1	8.3	8.3	March
Russia	6.2	5.6	5.0	3.8	3.2	2.9	March
Serbia and Montenegro	...	21.6	24.1	22.3	19.8	...	September
Slovak Republic	11.1	7.9	3.7	2.6	2.0	...	September
Slovenia	7.0	7.0	6.5	5.5	4.9	...	September
Turkey	29.3	17.6	11.5	6.0	4.8	4.5	March
Ukraine ²	25.1	21.9	28.3	30.0	19.6	18.3	March
Western Europe							
Austria	2.3	2.3	2.2	2.2	...	...	December
Belgium	2.9	3.0	2.6	2.3	2.0	...	December
Denmark	0.7	0.9	0.8	0.7	...	...	December
Finland ³	0.6	0.5	0.5	0.3	0.3	...	December
France	5.0	5.0	4.8	4.2	3.5	...	December
Germany	4.6	5.0	5.3	5.1	4.8	...	December
Greece	5.6	5.5	5.1	5.4	5.5	5.5	March
Iceland	2.0	2.6	2.1	0.9	...	...	December
Ireland	1.0	1.0	0.9	0.8	0.7	...	December
Italy	6.7	6.5	6.6	6.5	6.3	...	March
Luxembourg	0.4	0.4	0.3	0.3	0.2	...	December
Netherlands	2.3	2.4	2.0	1.5	1.2	...	December
Norway	1.3	1.8	1.6	1.0	0.7	...	December
Portugal	2.1	2.3	2.4	2.0	1.6	...	December
Spain	0.9	1.0	0.9	0.7	0.6	...	December
Sweden	1.5	1.2	1.2	0.9	1.1	...	December
Switzerland	2.3	1.9	1.4	0.9	0.5	...	December
United Kingdom	2.6	2.6	2.5	1.9	1.0	...	December

Table 24 (concluded)

	2001	2002	2003	2004	2005	2006	Latest
Asia							
Bangladesh	31.5	28.0	22.1	17.6	15.3	...	September
China ⁴	29.8	25.6	20.1	15.6	10.5	9.8	March
Hong Kong SAR ³	6.5	5.0	3.9	2.3	1.5	1.3	March
India	11.4	10.4	8.8	7.2	5.2	...	March
Indonesia ⁵	31.9	24.0	19.4	14.2	15.6	...	December
Korea	3.4	2.4	2.6	1.9	1.2	1.2	March
Malaysia	17.8	15.8	13.9	11.8	9.9	9.5	April
Philippines ⁶	27.7	26.5	26.1	24.7	20.0	...	December
Singapore ⁷	8.0	7.7	6.7	5.0	3.8	3.8	March
Sri Lanka	15.3	15.3	13.7	9.1	9.6	...	December
Thailand	11.5	16.5	13.5	11.8	11.1	8.9	May
Middle East and Central Asia							
Armenia	24.4	12.5	9.9	6.9	...	...	December
Azerbaijan	28.0	21.5	15.1	9.5	7.2	...	March
Egypt	16.9	20.2	24.2	26.3	25.0	...	December
Jordan	19.3	21.0	19.7	13.6	...	...	December
Georgia	11.6	7.9	7.5	6.2	3.8	...	December
Kazakhstan	...	11.9	13.1	11.9	9.6	10.2	March
Kuwait	10.3	7.8	6.1	5.5	4.5	...	December
Lebanon ³	10.0	12.4	12.8	10.1	15.8	...	December
Morocco	16.8	17.2	18.1	19.4	15.7	...	December
Pakistan	23.4	21.8	17.0	11.6	10.6	...	June
Saudi Arabia	9.1	8.4	5.0	3.0	...	...	December
Tunisia	19.2	20.9	24.0	23.7	20.9	...	December
United Arab Emirates	15.7	15.3	14.3	12.5	8.3	...	December
Sub-Saharan Africa							
Botswana	4.1	3.5	3.7	2.8	...	...	December
Gabon	8.6	11.4	13.8	15.8	...	...	December
Ghana	19.6	22.7	18.3	16.1	13.9	...	November
Kenya	13.1	18.1	17.7	10.7	5.2	...	December
Madagascar	10.3	19.6	16.7	11.4	10.1	...	June
Mozambique	23.4	20.8	26.8	6.4	4.6	...	June
Namibia	3.4	3.5	3.9	2.4	2.0	...	June
Nigeria	19.7	21.4	19.8	21.6	21.9	...	June
Rwanda	...	...	61.5	32.7	34.1	...	March
Senegal	17.8	18.5	13.3	14.2	...	...	June
Sierra Leone	29.1	17.1	9.9	14.8	...	...	December
South Africa	3.1	2.8	2.4	1.8	1.5	1.3	March
Uganda	6.5	3.0	7.2	2.2	...	...	December
Zambia	23.6	11.4	5.3	7.6	10.8	...	December
Zimbabwe	13.7	7.9	4.2	23.2	...	...	December
Other							
Australia ⁸	0.6	0.4	0.3	0.2	0.2	...	December
Canada	1.5	1.6	1.2	0.7	0.5	...	September
Japan ⁹	8.4	7.2	5.2	2.9	1.8	...	...
United States	1.3	1.4	1.1	0.8	0.7	0.7	March

Sources: National authorities; and IMF staff estimates.

¹Banking sector excludes the state mortgage bank.

²The increase in NPLs in 2003 reflects a revision in the official definition.

³Net of provisions.

⁴State-owned commercial banks.

⁵Compromised assets ratio; includes reported NPLs, restructured loans, and foreclosed assets for the 16 largest banks.

⁶Nonperforming assets ratio; includes NPL plus real and other properties owned or acquired.

⁷Figures refer to NPLs to total gross nonbank loans.

⁸The NPLs exclude loans in arrears that are covered by collateral.

⁹Major banks; figures refer to the end of the fiscal year.

Table 25. Bank Provisions to Nonperforming Loans*(In percent)*

	2001	2002	2003	2004	2005	2006	Latest
Latin America							
Argentina	66.4	73.8	79.2	102.9	124.6	128.5	March
Bolivia	63.7	63.7	74.0	84.3	81.1	76.9	March
Brazil	126.6	143.6	144.6	162.1	145.4	...	December
Chile	146.5	128.1	130.8	165.5	177.6	180.8	May
Colombia	77.5	86.5	98.5	149.2	167.3	150.6	March
Costa Rica	113.2	102.6	145.9	122.6	153.0	...	December
Dominican Republic	143.6	70.7	66.9	110.8	127.6	112.1	March
Ecuador	115.5	131.4	127.3	119.0	143.7	130.8	March
El Salvador	103.1	115.1	129.8	129.8	130.0	127.2	March
Jamaica	122.1	110.7	104.1	114.4	100.0	111.8	March
Honduras	27.2	38.7	38.2	64.6	...	...	December
Mexico	123.8	138.1	167.1	201.8	232.1	...	September
Nicaragua	37.6	42.9	36.2	44.2	48.7	...	February
Panama	87.9	136.8	135.6	149.3	108.9	...	September
Paraguay	37.0	46.6	54.8	54.6	57.7	...	December
Peru	63.1	69.3	67.2	68.5	68.4	...	December
Uruguay ¹	49.9	55.0	66.1	56.2	50.8	...	December
Venezuela	92.4	97.9	103.7	130.2	196.3	181.8	May
Emerging Europe							
Belarus	37.7	15.8	29.9	32.4	48.4	41.4	March
Bosnia and Herzegovina	60.6	73.8	79.5	96.1	...	...	December
Bulgaria ²	61.6	59.6	50.0	48.5	45.3	45.3	March
Croatia	71.8	68.1	60.8	60.3	58.0	58.2	March
Czech Republic	60.3	77.5	76.7	69.4	62.6	...	September
Estonia	110.5	130.0	216.2	276.9	215.0	227.8	May
Hungary	42.6	50.8	47.3	51.1	...	...	December
Israel	27.4	29.3	32.2	33.6	...	...	December
Latvia	61.7	78.3	89.4	99.1	98.8	105.4	March
Lithuania	...	...	...	...	...	...	...
Moldova	...	...	...	...	...	...	...
Poland	42.6	46.7	47.3	58.0	59.4	...	December
Romania	76.8	52.6	33.5	34.3	31.4	34.1	March
Russia ³	108.1	112.5	118.0	139.5	156.3	162.1	March
Serbia and Montenegro	...	...	54.0	58.9	47.8	...	September
Slovak Republic	75.0	82.5	85.8	86.4	69.3	...	September
Slovenia	44.6	38.0	35.0	34.0	...	...	December
Turkey	47.1	64.2	88.5	88.1	89.8	89.6	March
Ukraine	39.2	37.0	22.3	21.1	25.0	25.9	March
Western Europe							
Austria	...	...	...	...	...	...	...
Belgium	57.0	51.8	52.8	54.2	51.6	...	December
Denmark	76.5	66.5	63.0	66.0	...	...	December
Finland	74.8	68.9	80.6	83.6	...	...	December
France	59.9	58.4	57.7	57.6	59.0	...	June
Germany	...	...	...	...	...	...	...
Greece	43.3	46.9	49.9	51.1	...	...	December
Iceland	42.0	40.0	45.5	58.8	...	...	December
Ireland	114.0	105.0	90.0	70.0	50.0	...	December
Italy	...	...	...	...	...	...	...
Luxembourg	...	...	...	...	...	...	...
Netherlands	67.6	65.2	74.1	75.1	...	...	December
Norway	33.7	29.2	33.1	36.8	...	...	December
Portugal	66.8	62.8	73.0	83.4	65.4	...	December
Spain	204.0	185.2	214.1	253.4	...	...	March
Sweden	70.5	73.4	71.1	76.4	...	...	December
Switzerland	...	89.4	89.9	90.9	...	...	December
United Kingdom	80.0	82.8	78.7	80.7	...	...	December

Table 25 (concluded)

	2001	2002	2003	2004	2005	2006	Latest
Asia							
Bangladesh	...	...	...	...	...	...	...
China	...	...	...	...	...	...	...
Hong Kong SAR	...	...	...	...	...	...	...
India	...	...	...	...	...	...	...
Indonesia ⁴	35.5	35.9	43.4	43.1	39.5	...	September
Korea	...	...	...	...	...	...	...
Malaysia	37.7	38.1	38.9	39.9	41.6	...	May
Philippines	29.6	30.1	30.9	33.2	39.2	...	December
Singapore	60.1	61.2	64.9	76.0	80.9	81.3	March
Sri Lanka	52.7	46.1	51.2	60.7	59.4	...	December
Thailand	47.1	62.9	72.8	71.7	67.7	61.7	March
Middle East and Central Asia							
Armenia	89.3	95.8	103.7	107.4	...	...	December
Azerbaijan	...	...	...	...	...	...	...
Egypt	67.5	62.3	57.0	53.1	54.9	...	December
Jordan	36.4	36.7	38.4	44.3	...	...	December
Georgia	...	...	...	...	...	...	...
Kazakhstan	15.1	20.6	15.8	15.3	...	...	December
Kuwait	53.7	64.3	77.7	82.3	97.2	...	December
Lebanon	...	...	...	...	...	...	...
Morocco	52.9	54.7	54.9	59.3	67.1	...	December
Pakistan	54.7	60.6	63.7	71.6	73.6	...	June
Saudi Arabia	107.0	110.4	136.0	164.0	..	...	December
Tunisia	47.4	43.9	43.1	45.8	46.4	...	December
United Arab Emirates	87.0	87.5	88.5	94.6	95.7	...	December
Sub-Saharan Africa							
Botswana	118.3	131.8	179.6	55.4	...	...	December
Gabon	63.0	66.5	78.8	78.4	...	...	December
Ghana	46.4	63.6	64.4	...	...	...	December
Kenya	66.4	73.8	79.2	102.9	115.6	115.6	September
Madagascar	74.1	56.3	62.2	66.3	...	...	December
Mozambique	...	...	...	...	...	...	...
Namibia	...	...	...	...	...	...	...
Nigeria	...	...	...	...	...	...	...
Rwanda	...	...	58.4	60.2	88.8	...	March
Senegal	70.2	70.5	75.3	73.0	...	...	June
Sierra Leone	108.6	119.6	92.7	43.1	...	...	December
South Africa	46.0	54.2	61.3	64.3	64.6	...	December
Uganda	70.0	81.5	76.5	97.8	...	...	December
Zambia	...	...	...	...	...	...	...
Zimbabwe	50.0	70.5	75.5	48.6	...	...	December
Other							
Australia	107.1	106.2	131.8	182.9	198.4	...	September
Canada	44.0	41.1	43.5	47.7	51.8	...	September
Japan ⁵	31.8	36.1	43.6	48.7	...	...	...
United States	128.8	123.7	140.4	168.1	155.0	159.8	March

Sources: National authorities; and IMF staff estimates.

¹Private banks.²Provisions to nonstandard loans.³Change in the definition in 2004, not comparable with previous years.⁴Loan-loss reserve to compromised assets; 16 largest banks.⁵All banks. Figures refer to the end of the fiscal year.

Table 26. Bank Return on Assets*(In percent)*

	2001	2002	2003	2004	2005	2006	Latest
Latin America							
Argentina	0.0	-8.9	-3.0	-0.5	0.9	1.9	March
Bolivia	-0.4	0.1	0.3	-0.1	0.5	0.9	March
Brazil	-0.1	1.9	1.5	1.8	2.1	2.3	March
Chile	1.3	1.1	1.3	1.2	1.3	1.4	May
Colombia	0.1	1.1	1.9	2.8	2.8	3.0	March
Costa Rica	1.9	1.8	2.1	2.0	2.5	...	December
Dominican Republic	2.1	2.4	0.0	1.8	1.8	1.6	March
Ecuador	-0.6	1.6	1.5	1.6	1.8	2.0	March
El Salvador	0.9	1.1	1.1	1.0	1.2	1.3	March
Jamaica	2.8	2.5	4.3	3.1	3.5	0.9	March
Honduras	0.9	0.8	1.2	1.2	1.6	...	December
Mexico	0.8	-1.1	1.7	1.5	2.4	2.4	March
Nicaragua	1.8	1.8	2.1	2.8	2.6	...	September
Panama	1.0	0.4	2.0	2.2	2.1	2.4	March
Paraguay ¹	2.4	1.5	0.7	1.8	2.3	...	December
Peru	0.4	0.8	1.1	1.2	2.2	2.3	March
Uruguay ²	0.0	-25.3	-1.1	-0.1	0.7	0.9	May
Venezuela	2.8	5.3	6.2	5.9	3.7	2.9	May
Emerging Europe							
Belarus ³	0.8	1.0	1.5	1.5	1.3	0.3	March
Bosnia and Herzegovina	-0.6	0.4	0.4	0.7	0.8	...	September
Bulgaria	2.9	2.1	2.4	2.1	2.1	2.6	March
Croatia	0.7	1.3	1.4	1.4	1.4	1.3	March
Czech Republic	0.7	1.1	1.2	1.3	1.4	1.4	March
Estonia	2.7	1.6	1.7	2.1	2.2	...	September
Hungary	1.3	1.4	1.5	2.0	2.0	...	December
Israel	0.2	0.1	0.4	0.6	0.8	...	June
Latvia	1.5	1.5	1.4	1.7	2.1	2.2	March
Lithuania ¹	-0.2	1.0	1.2	1.2	1.3	...	September
Moldova ⁴	4.3	4.3	4.4	3.7	3.2	...	December
Poland	0.9	0.5	0.5	1.4	1.6	1.5	March
Romania	2.5	2.7	2.7	2.5	1.9	1.9	March
Russia	2.4	2.6	2.6	2.9	3.2	...	December
Serbia and Montenegro	...	-8.4	-0.3	-1.2	0.9	...	June
Slovak Republic	1.0	1.2	1.2	1.2	0.9	...	September
Slovenia	0.5	1.1	1.0	1.1	1.0	...	December
Turkey	-5.5	1.1	2.3	2.3	1.7	0.7	March
Ukraine	1.2	1.2	1.0	1.1	1.3	1.4	March
Western Europe							
Austria	0.5	0.7	0.7	0.8	0.8	...	December
Belgium	0.4	0.4	0.4	0.5	0.5	...	December
Denmark	0.8	0.7	0.9	0.9	1.0	...	December
Finland	0.7	0.6	0.7	0.8	0.9	...	December
France	0.5	0.5	0.4	0.5	0.6	...	December
Germany	0.2	0.1	-0.1	0.1	0.2	...	December
Greece	1.0	0.5	0.6	0.3	0.9	1.2	March
Iceland	0.8	1.1	1.3	1.8	2.3	...	December
Ireland	0.9	1.0	0.9	1.0	1.4	...	December
Italy	0.5	0.4	0.4	0.6	0.7	...	March
Luxembourg	0.5	0.4	0.5	0.5	0.5	...	December
Netherlands	0.4	0.4	0.5	0.5	0.5	...	December
Norway	0.8	0.4	0.6	0.9	0.9	...	December
Portugal	1.0	0.6	0.8	1.2	1.0	...	December
Spain	0.9	0.9	0.9	0.9	0.9	...	December
Sweden	0.6	0.5	0.6	0.7	0.8	0.8	December
Switzerland ⁴	0.5	0.3	0.5	0.7	0.7	...	December
United Kingdom ¹	0.5	0.4	0.6	0.7	0.8	...	December

Table 26 (concluded)

	2001	2002	2003	2004	2005	2006	Latest
Asia							
Bangladesh	0.7	0.5	0.5	0.7	0.8	...	June
China ⁵	...	...	...	0.8	0.8	...	December
Hong Kong SAR ⁶	1.4	1.5	1.9	1.7	1.7	1.7	March
India ¹	0.5	0.8	1.0	1.2	0.9	...	March
Indonesia ⁷	0.6	1.3	1.7	2.6	1.7	...	December
Korea	0.7	0.6	0.2	0.9	1.2	1.3	March
Malaysia	1.0	1.3	1.4	1.4	1.3	...	September
Philippines	0.4	0.8	1.1	0.9	1.1	...	June
Singapore ⁸	1.0	0.8	1.1	1.3	1.2	1.2	March
Sri Lanka	0.7	1.1	1.4	1.4	1.3	...	December
Thailand	1.5	0.2	0.7	1.3	1.5	1.5	March
Middle East and Central Asia							
Armenia	-9.1	3.9	2.7	3.2	3.1	...	December
Azerbaijan	...	...	1.8	1.9	2.4	...	December
Egypt	0.7	0.5	0.5	0.6	0.6	...	December
Jordan	0.7	0.5	0.7	1.0	...	...	December
Georgia	1.6	4.2	4.0	2.4	3.1	...	December
Kazakhstan ¹	0.9	2.0	2.0	1.4	1.8	...	March
Kuwait	2.0	1.8	2.0	2.5	3.2	...	December
Lebanon	0.5	0.6	0.7	0.6	0.8	...	December
Morocco	0.9	0.3	-0.2	0.8	0.5	...	December
Pakistan	-0.5	0.1	1.1	1.2	1.4	...	June
Saudi Arabia	2.2	2.3	2.3	2.5	3.5	...	September
Tunisia	1.1	0.7	0.6	0.4	0.6	...	December
United Arab Emirates	1.9	1.9	1.9	2.1	2.7	...	December
Sub-Saharan Africa							
Botswana	4.6	4.3	4.2	4.0	...	...	December
Gabon	5.6	5.2	4.7	...	...	...	December
Ghana ¹	8.7	6.8	6.4	6.2	...	...	December
Kenya ¹	0.0	-8.9	-2.9	-0.5	1.0	...	December
Madagascar	2.1	0.9	2.4	3.0	...	...	December
Mozambique	0.1	1.6	1.2	1.4	0.7	...	June
Namibia	2.9	3.3	2.8	2.0	2.8	...	June
Nigeria	3.3	2.4	1.7	3.1	0.5	...	June
Rwanda	...	...	1.5	1.8	...	...	December
Senegal	1.6	1.8	1.8	...	...	...	December
Sierra Leone	11.9	10.4	10.7	5.4	...	...	December
South Africa	0.8	0.4	0.8	1.2	1.1	...	June
Uganda	4.4	2.7	3.3	4.0	...	...	December
Zambia	8.5	6.5	5.4	3.1	4.2	...	June
Zimbabwe ⁹	1.4	3.4	6.1	9.7	...	...	December
Other							
Australia ⁴	1.3	1.4	1.6	1.5	1.8	...	September
Canada	0.7	0.4	0.7	0.8	0.7	...	December
Japan ¹⁰	-0.6	-0.7	-0.1	0.3	0.5	...	...
United States	1.1	1.3	1.4	1.3	1.3	1.4	March

Sources: National authorities; and IMF staff estimates.

¹Before tax.

²Banking sector excludes the state mortgage bank.

³Figure for 2006 not annualized.

⁴Gross profits.

⁵Simple average for the reformed state-owned commercial banks (two banks in 2004, three banks in 2005). Aggregate data are not available.

⁶Net interest margin.

⁷For the 16 largest commercial banks.

⁸Simple average. Figures in 2001–03 include goodwill and are not fully consistent with later figures.

⁹Figures distorted by high inflation.

¹⁰Figures refer to the end of the fiscal year.

Table 27. Bank Return on Equity*(In percent)*

	2001	2002	2003	2004	2005	2006	Latest
Latin America							
Argentina	-0.2	-59.2	-22.7	-4.2	7.1	14.0	March
Bolivia	-4.1	0.6	2.7	-1.2	4.2	9.5	March
Brazil	-1.2	21.8	17.0	18.8	22.8	24.5	March
Chile	17.7	14.4	16.7	16.7	17.9	19.2	May
Colombia	1.1	9.6	16.9	23.2	22.5	25.9	March
Costa Rica	18.7	17.1	19.5	20.7	25.0	...	December
Dominican Republic	21.5	23.1	-0.1	21.3	19.6	18.3	March
Ecuador	-5.5	16.1	15.0	16.2	18.1	21.7	March
El Salvador	10.7	12.2	11.5	10.9	11.8	13.3	March
Jamaica	26.4	23.1	36.0	24.3	28.4	...	September
Honduras	8.4	8.2	11.8	14.9	...	...	December
Mexico	8.6	-10.4	14.2	13.0	19.5	19.0	March
Nicaragua	28.7	23.9	29.2	34.9	29.5	...	September
Panama	...	...	16.9	16.7	15.7	18.5	March
Paraguay ¹	24.1	14.3	7.7	19.4	24.3	...	December
Peru	4.3	8.3	10.7	11.6	22.2	23.7	March
Uruguay	...	...	...	...	...	...	...
Venezuela	20.3	35.6	44.0	45.2	32.6	27.4	May
Emerging Europe							
Belarus ²	4.9	6.5	8.4	7.8	6.8	1.3	March
Bosnia and Herzegovina	-3.5	2.5	3.4	5.8	7.0	...	September
Bulgaria	21.9	17.9	22.7	20.6	22.1	25.8	March
Croatia	6.5	13.7	15.6	16.6	16.0	14.8	March
Czech Republic	16.6	27.4	23.8	23.3	25.3	...	December
Estonia	20.7	11.9	14.2	20.3	23.2	...	September
Hungary	15.9	16.3	19.3	25.4	25.1	...	December
Israel	5.0	1.2	7.1	11.4	14.7	...	June
Latvia	19.0	16.4	16.7	21.4	27.1	28.6	March
Lithuania ¹	-1.6	9.2	12.0	13.8	16.6	...	September
Moldova ³	14.3	16.7	19.7	17.8	17.3	...	December
Poland	12.4	6.1	5.8	17.1	20.7	19.3	March
Romania	15.8	18.8	20.0	19.3	15.4	15.0	March
Russia	19.4	18.0	17.8	20.3	24.2	...	December
Serbia and Montenegro	...	-60.6	-1.2	-5.3	5.4	...	June
Slovak Republic	8.0	11.5	10.8	11.9	10.0	...	September
Slovenia	4.8	13.3	12.5	13.3	13.8	...	December
Turkey	-69.4	9.3	16.0	16.4	11.8	5.3	March
Ukraine	7.5	8.0	7.6	8.4	10.4	11.8	March
Western Europe							
Austria	9.8	5.4	6.3	9.3	11.4	...	December
Belgium	13.7	11.8	13.6	15.8	18.5	...	December
Denmark	12.8	12.1	15.4	13.7	16.3	...	December
Finland	13.5	10.7	11.3	8.6	10.0	...	December
France	9.6	9.1	8.5	10.6	11.9	...	December
Germany	4.6	2.9	-1.5	1.9	3.5	...	December
Greece	12.4	6.8	8.9	5.6	16.2	21.6	March
Iceland	13.5	18.1	22.1	30.9	41.7	...	December
Ireland	16.0	18.0	17.8	20.7	21.8	...	December
Italy	9.1	6.4	6.7	10.7	13.3	...	March
Luxembourg	40.7	36.4	34.9	39.8	37.8	...	December
Netherlands	10.9	9.1	11.7	13.8	14.6	...	December
Norway	11.6	6.2	9.6	14.6	18.0	...	December
Portugal	17.8	11.8	16.1	20.5	16.9	...	December
Spain	13.5	12.1	13.2	14.1	16.9	...	December
Sweden	13.5	10.7	12.7	14.4	17.2	17.5	December
Switzerland ³	8.3	5.1	9.5	13.0	14.3	...	December
United Kingdom ¹	7.7	6.1	8.6	10.9	11.8	...	December

Table 27 (concluded)

	2001	2002	2003	2004	2005	2006	Latest
Asia							
Bangladesh	15.9	11.6	9.8	13.0	17.6	...	June
China ⁴	...	...	...	13.7	15.1	...	December
Hong Kong SAR ⁵	17.9	17.2	17.8	20.3	...	...	December
India	10.4	15.3	18.8	20.8	...	...	March
Indonesia ⁶	12.0	19.0	19.2	25.4	17.5	...	December
Korea	12.8	10.9	3.4	15.2	22.5	21.0	March
Malaysia	13.3	16.7	17.1	16.6	16.3	...	September
Philippines	3.2	5.8	8.5	7.1	8.7	...	December
Singapore ⁷	9.7	7.6	10.1	11.8	11.1	11.8	March
Sri Lanka	15.1	21.1	21.9	18.4	16.4	...	December
Thailand	32.8	4.2	10.5	19.8	13.2	...	September
Middle East and Central Asia							
Armenia	-78.6	21.6	14.4	18.4	15.5	...	December
Azerbaijan	...	...	13.7	12.9	14.2	...	March
Egypt	12.4	8.9	9.8	10.6	10.7	...	December
Jordan	11.1	8.7	11.3	15.7	...	...	December
Georgia	5.0	14.9	15.0	10.0	14.9	...	December
Kazakhstan ¹	5.4	13.8	14.2	11.2	14.1	...	March
Kuwait	18.2	17.4	18.6	20.4	25.7	...	December
Lebanon	9.1	9.4	10.9	10.6	11.9	...	December
Morocco	10.2	1.9	-2.1	10.9	6.3	...	December
Pakistan	-12.6	3.2	20.5	19.5	22.1	...	June
Saudi Arabia	42.1	43.0	48.7	59.0	75.3	...	June
Tunisia	13.2	7.6	7.3	5.1	6.9	...	December
United Arab Emirates	15.5	16.2	16.8	18.6	22.5	...	December
Sub-Saharan Africa							
Botswana	46.7	43.8	44.3	36.0	...	...	December
Gabon	36.8	35.3	30.9	...	...	...	December
Ghana	49.7	36.9	54.0	...	...	...	December
Kenya	-0.2	-59.2	-22.7	-4.2	3.1	...	September
Madagascar	27.1	11.8	31.9	38.8	...	...	December
Mozambique	3.5	22.1	16.3	18.7	...	...	December
Namibia	29.7	32.6	28.0	21.6	27.8	...	June
Nigeria	43.7	28.1	19.8	27.4	7.2	...	June
Rwanda	...	...	75.1	23.9	...	...	December
Senegal	18.6	21.1	22.1	22.1	...	...	March
Sierra Leone	39.9	33.3	33.0	29.6	...	...	December
South Africa	8.9	5.2	11.6	16.2	14.7	...	December
Uganda	45.8	24.6	33.1	32.9	...	...	December
Zambia	...	...	...	...	...	...	...
Zimbabwe ⁸	18.7	62.7	121.6	125.8	...	...	December
Other							
Australia	20.1	20.2	24.2	22.8	25.5	...	September
Canada	13.9	9.3	14.7	16.7	14.9	...	December
Japan ⁹	-12.7	-17.9	-2.9	4.3	12.6	...	...
United States	13.0	14.1	15.0	13.2	12.7	13.1	March

Sources: National authorities; and IMF staff estimates.

¹Before tax.

²Figure for 2006 not annualized.

³Gross profit.

⁴Simple average for the reformed state-owned commercial banks (two banks in 2004, three banks in 2005). Aggregate data are not available.

⁵Major banks only.

⁶For the 16 largest commercial banks.

⁷Simple average. Figures in 2001-03 include goodwill and are not fully consistent with later figures.

⁸Figures distorted by high inflation.

⁹Figures refer to the end of the fiscal year.

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