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1. Overview: uncertainty spoils the optimism

The continuing threat of war in Iraq tended to overshadow news about the course of the global economy in recent months. A mood of investor optimism in October and November 2002 had buoyed equity and corporate bond markets and made yield curves steeper. Starting in December, however, uncertainty about the economic consequences of a possible war began to weigh more heavily on the markets. Once their optimism had dissipated, investors seemed to attach little significance to major economic news. By the second week of February, the war premium had taken back most of the late 2002 gains in equity markets. Yield curves had become somewhat flatter than in late November but continued to price in an economic recovery, albeit a more modest one.

International bond markets offered more favourable borrowing terms but still failed to attract much in the way of net new issuance. This lacklustre demand for funds to some extent reflected a reluctance on the part of firms to increase their leverage in the face of uncertain economic prospects. The need to reduce debt was especially pressing for companies whose credit ratings had been downgraded. Restructuring plans that favoured existing creditors over equity holders allowed the corporate bond market to stand apart from the equity markets in early 2003, with credit spreads remaining stable even as stock prices fell.

The hospitality of capital markets towards the close of the year also extended to borrowers from emerging markets. In the wake of the presidential elections, Brazil enjoyed a dramatic improvement in investor sentiment. Although sovereign debt spreads remained wide, Brazilian borrowers were quick to return to international markets to refinance maturing debt. Venezuela suffered the opposite fate as a nationwide strike against the government dragged on. Coupled with the prospect of war in Iraq, the strike led to a sharp rise in oil prices, further undermining expectations about the strength of the economic recovery.

Risk of war weighs on equities

In October and November 2002, positive earnings and analyst reports for a few bellwether companies had led to a seven-week rally in US and European stock markets. Investor optimism had risen in spite of weak macroeconomic data.

Even news about Iraq had seemed positive. On 14 November, the announcement that Iraq had accepted a UN resolution on disarmament had been greeted by significant increases in US and European equity prices. Between 9 October and 22 November, the wave of optimism had lifted the S&P 500 by 20% and the DJ EURO STOXX by 22% (Graph 1.1). In the event, closely watched economic news in December and early January (Graph 1.2) largely failed to validate the optimism, thus undermining the previous gains.

Blows to confidence in January and February

Starting in December, events related to Iraq seemed to chip away at investor confidence, with the blows becoming especially damaging from mid-January on. There was little ambiguity about the immediate market impact of significant news about Iraq: asset prices often moved sharply in one direction for a short period after an event was first reported. On 16 January, for example, within 30 minutes of the announcement that the UN inspectors had found empty Iraqi warheads, the S&P 500 fell by 0.5% and the DJ EURO STOXX by 1.7%, while the Swiss franc gained about half a cent against the dollar, unusually large movements for such a brief time span. While the general effect of uncertainty may have been more important than the immediate impact of news, it was also more difficult to disentangle from the effects of other events.

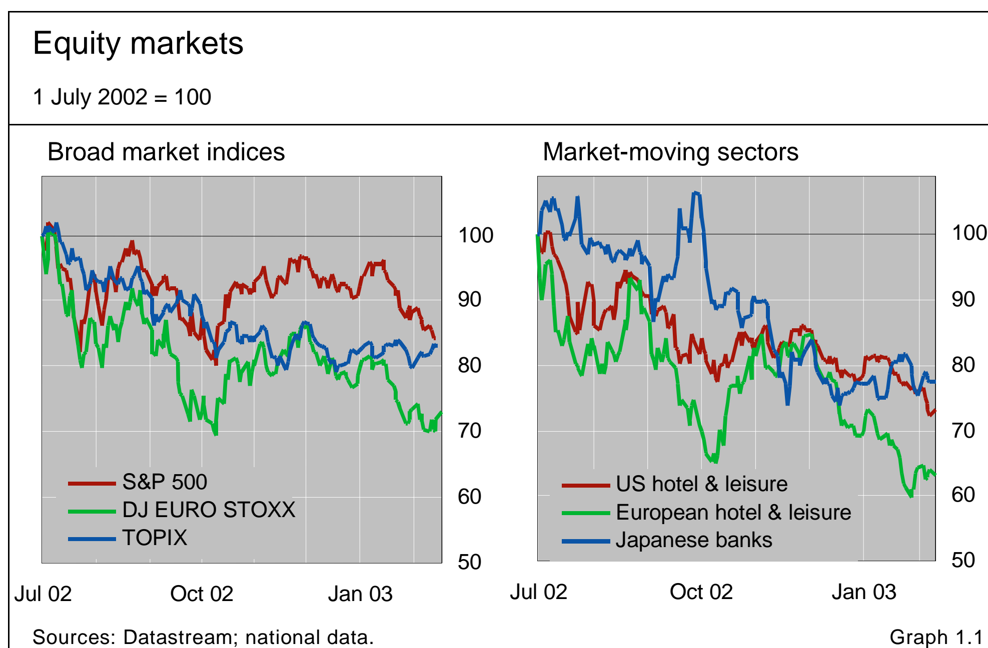
A change in reactions to economic news

Nevertheless, there was an apparent change in the way investors reacted to economic announcements. On 7 February, for example, the release of the US employment report showed a surprising surge in non-farm payroll jobs, which would ordinarily have boosted prices in the stock market. Instead, the S&P 500 declined by 1% that day.

The threat of war apparently led both to downward revisions in expected corporate earnings and to the emergence of a risk premium associated with uncertainty about the war's economic consequences. Differences in market performance between industry sectors indicated revisions in earnings prospects. In particular, the hotel and leisure sectors in both the US and European markets were among the worst hit (Graph 1.1). The emergence of a

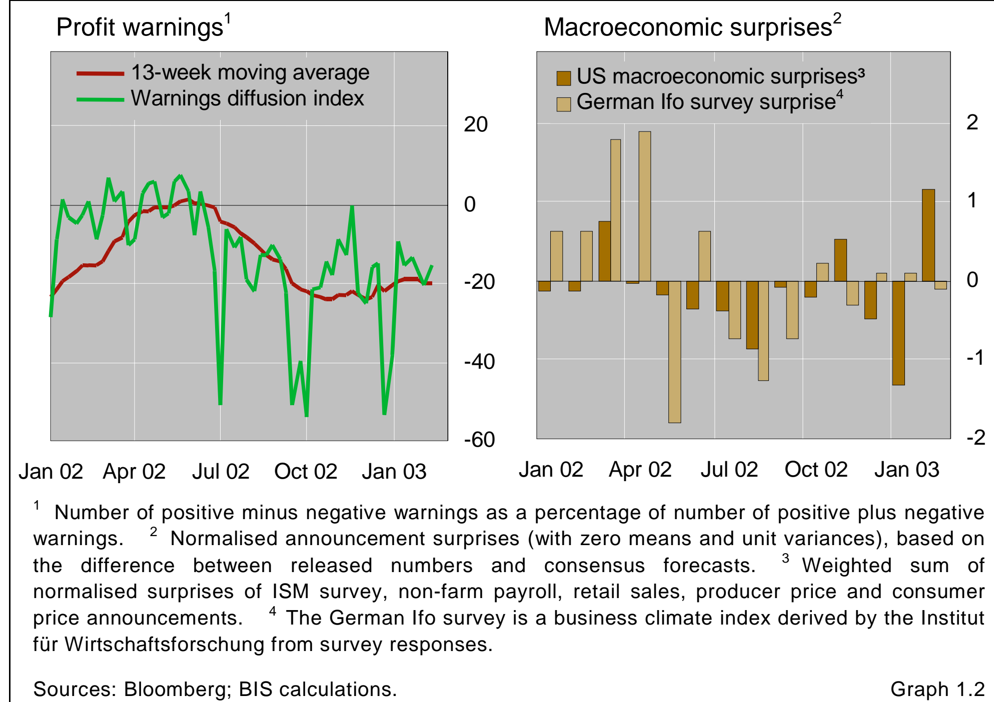
Equity markets

1 July 2002 = 100



Sources: Datastream; national data. Graph 1.1

Closely watched public information



[1] Number of positive minus negative warnings as a percentage of number of positive plus negative warnings. [2] Normalised announcement surprises (with zero means and unit variances), based on the difference between released numbers and consensus forecasts. [3] Weighted sum of normalised surprises of ISM survey, non-farm payroll, retail sales, producer price and consumer price announcements. [4] The German Ifo survey is a business climate index derived by the Institut für Wirtschaftsforschung from survey responses.

Sources: Bloomberg; BIS calculations. Graph 1.2

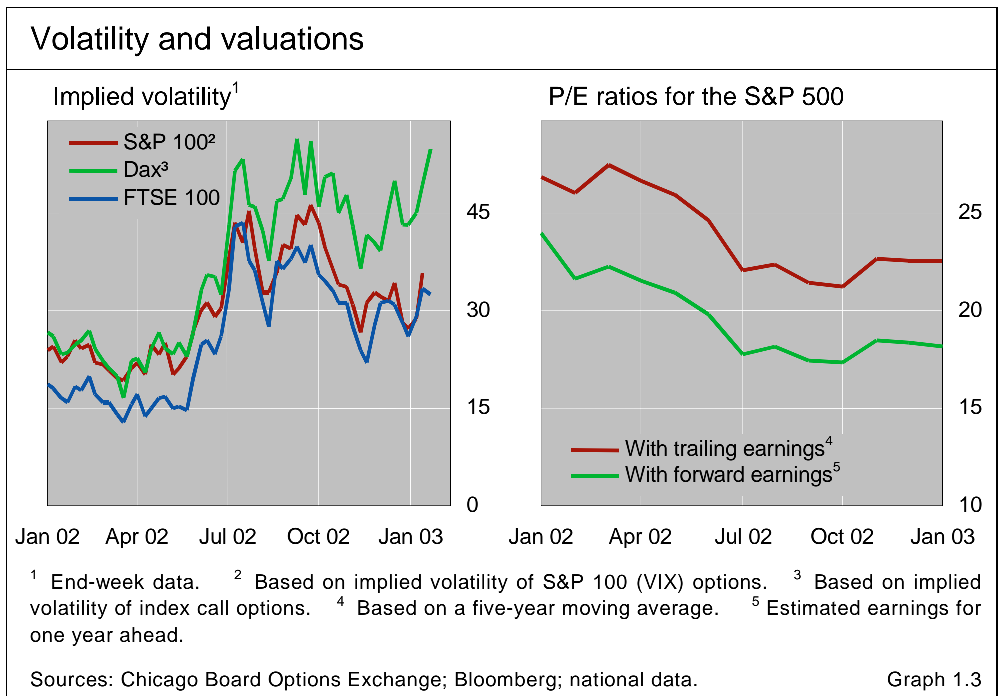
market-wide risk premium was evident in the volatilities implied by the prices of equity index options. These volatilities began to rise again in January, although they stayed below the elevated levels of September 2002 (Graph 1.3). Possibly contributing to the uncertainty was the fact that several bellwether companies refrained from providing their usual outlook for future earnings, citing the difficulty of anticipating the effects of a war. As a consequence of both revisions in earnings expectations and the war premium, the five weeks leading up to 13 February saw the US equity market lose 12% of its value in local currency terms and the European market 14%. A depreciation of the US dollar against the euro during the same period meant that the two markets performed equally poorly in common currency terms.

The war premium depresses equity prices ...

... but valuations still assume a strong recovery

In spite of the war premium, broad market valuations in terms of price/earnings ratios remained above historical norms. It is true that if these ratios were calculated in terms of earnings estimates for the year ahead, the valuations would be lower (Graph 1.3). However, such earnings estimates have systematically exceeded realised earnings, and the current estimates would be overly optimistic if a strong economic recovery failed to materialise. To smooth out the effects of the business cycle, the price/earnings multiple could be calculated in terms of the five-year moving average of trailing earnings. Calculated in this way, unusually high price/earnings ratios in the past have tended to be followed by price declines over the ensuing five-year period. In the case of the S&P 500, the price/earnings multiple based on such a moving average was about 23 in January 2003, still above the 1961–95 average of 17.

The Tokyo market tended to be less subject to war jitters. While the market often moved in tandem with its US and European counterparts in



Volatility and valuations

[1] End-week data. [2] Based on implied volatility of S&P 100 (VIX) options. [3] Based on implied volatility of index call options. [4] Based on a five-year moving average. [5] Estimated earnings for one year ahead.

Sources: Chicago Board Options Exchange; Bloomberg; national data. Graph 1.3

December, it began to follow its own course in January. At a time when the major markets abroad were declining sharply, equity investors in Japan turned their attention to the country's large banks. These banks seemed to be making an effort to shore up capital ahead of inspections by the Japanese Financial Services Authority before the end of the fiscal year in March. On 14 January, Goldman Sachs announced that it would purchase ¥150 billion in convertible preferred shares from Sumitomo Mitsui. The bank's shares rose 8% on the news, while the broad market edged up by 1%. Mizuho followed suit on 21 January by announcing a write-off of ¥2 trillion in bad debt, or 2.5% of its loan book. In spite of the write-off, the bank's shares jumped by 4% and the TOPIX by 2%. Despite these efforts, Fitch downgraded the credit ratings of the four largest banks on 30 January. Nevertheless, the period from mid-January to mid-February saw the Tokyo market eke out a 1.4% gain, thus outperforming the US and European markets.

Japanese banks try to shore up capital

Fixed income markets still price in a recovery

Cuts in policy rates by major central banks seemed to exert a calming influence on participants in fixed income markets. Yield curves in the United States and Europe became flatter to reflect perceptions of a weaker economic recovery. Nevertheless, the curves remained remarkably steep, indicating expectations that were somewhat more optimistic than consensus growth forecasts. The policy rate cuts may have helped by conveying the message that the central banks were again entering an easing phase after a long hiatus during which policy rates had remained unchanged. Indeed, the US Federal Reserve, ECB and Bank of England cut their rates by turns in November, December and January (Graph 1.4). With these cuts at the short end in place, the period from

A message that central banks are willing to act

mid-January to mid-February saw relatively modest declines in US and European long-term interest rates even as equity prices were plunging.

The signal sent by the US central bank was a case in point. On 6 November, the Fed cut its policy rate by 50 basis points after 11 months of no policy rate action. The surprisingly aggressive move was a signal that the central bank was willing to take action when its goals were at risk even with the target rate already at 1.75%. In a speech on 21 November, a member of the Board of Governors suggested that the Fed would not hesitate to use alternative tools at its disposal to stimulate the economy if the policy rate became ineffective. The Fed's aggressive easing contrasted with the actions of other central banks. The Bank of England's rate cut was smaller and came later, apparently because of concern about undue strength in the UK housing sector. Indeed, similar concerns seem to have influenced the decision by the Reserve Bank of Australia to raise its policy rate earlier in 2002 (Graph 1.4). The Bank of Canada was an outlier in this regard: it also increased rates then, but the reason was to moderate an economic recovery that appeared to be too vigorous.

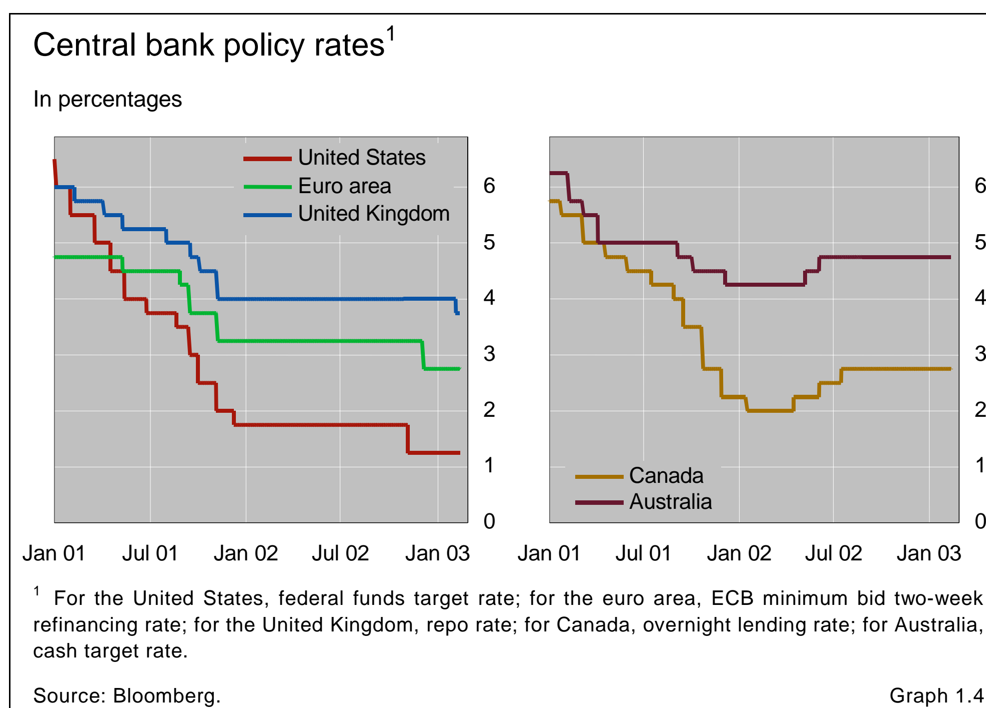
The Fed could use other policy tools

Participants in fixed income markets did appear to hold on to their optimism to a greater extent than their counterparts in equity markets. In recent months, the swap markets have been more informative than government securities markets about growth expectations, because swaps are less subject to safe haven flows and to concerns about fiscal deficits than government bonds are. During the seven-week equity market rally in October and November, the differential between 10-year and three-month yields in the US dollar swap market had widened by about 75 basis points (Graph 1.5), or an average of 3.8 basis points for every percentage point gain in the S&P 500. By contrast, when the equity markets were sinking from mid-January to

Swap curves flatten only modestly

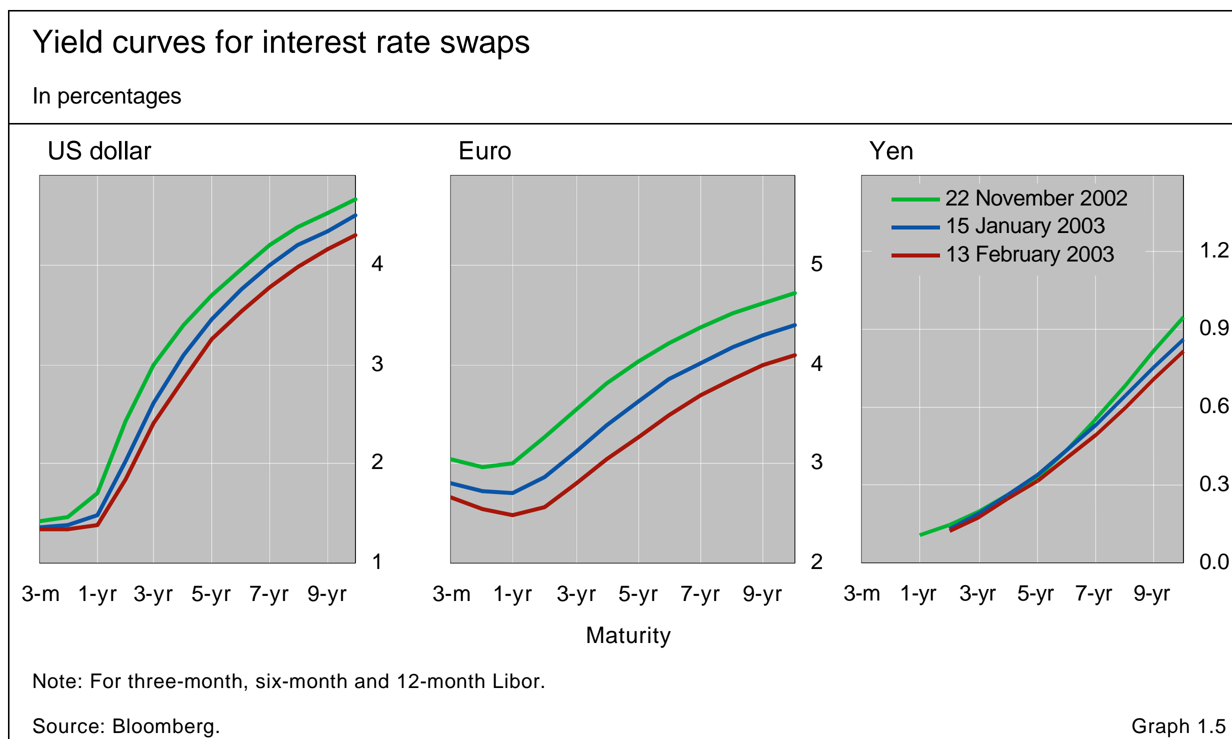
Central bank policy rates[1]

In percentages



[1] For the United States, federal funds target rate; for the euro area, ECB minimum bid two-week refinancing rate; for the United Kingdom, repo rate; for Canada, overnight lending rate; for Australia, cash target rate.

Source: Bloomberg. Graph 1.4



Yield curves for interest rate swaps

In percentages

Note: For three-month, six-month and 12-month Libor.

Source: Bloomberg. Graph 1.5

mid-February, the US swap curve flattened by only 17 basis points, or an average of 1.2 basis points for every percentage point loss in the S&P 500. Hence, while the flatter swap curve at the end of the period suggested expectations of a more modest US recovery, the downward revision did not offset most of the earlier optimism. In the euro market, the corresponding slope differential narrowed by even less during the January–February equity market decline, indicating continued expectations of a recovery in Europe, albeit a weak one.

Corporate borrowers begin to deleverage

Credit and equity markets decoupled in early 2003 ...

The risk aversion apparent in equity markets in the early part of 2003 seemed not to spill over into the corporate bond market. Credit markets had rallied together with equity markets in late 2002, as investors gained new confidence in the global economy's near-term prospects. By the end of the year, the spread of seven- to 10-year triple-B US corporate bonds over corresponding Treasuries had fallen by 110 basis points from its early October peak, to about 240 basis points (Graph 1.6). Then, beginning in mid-January, credit spreads showed signs of decoupling from equity prices. Even as equity markets tumbled in late January, investment grade and high-yield spreads remained more or less unchanged.

Notwithstanding the general improvement in credit conditions, concerns about underfunded pension liabilities spread from the United States to Europe in the early part of 2003 and raised financing costs for some prominent European firms. In October 2002, Standard & Poor's had downgraded the credit ratings of several US companies in part because of the size of the shortfall in their pension plans. Those affected included several of the largest

US issuers of corporate debt securities, most notably Ford, General Motors and their finance company subsidiaries. In February 2003, the same rating agency warned that several European firms faced similar shortfalls and could also be downgraded. Immediately following the announcement, bond spreads over swaps widened by as much as 60 basis points for German steel and engineering concern ThyssenKrupp and by somewhat less for the other affected firms.

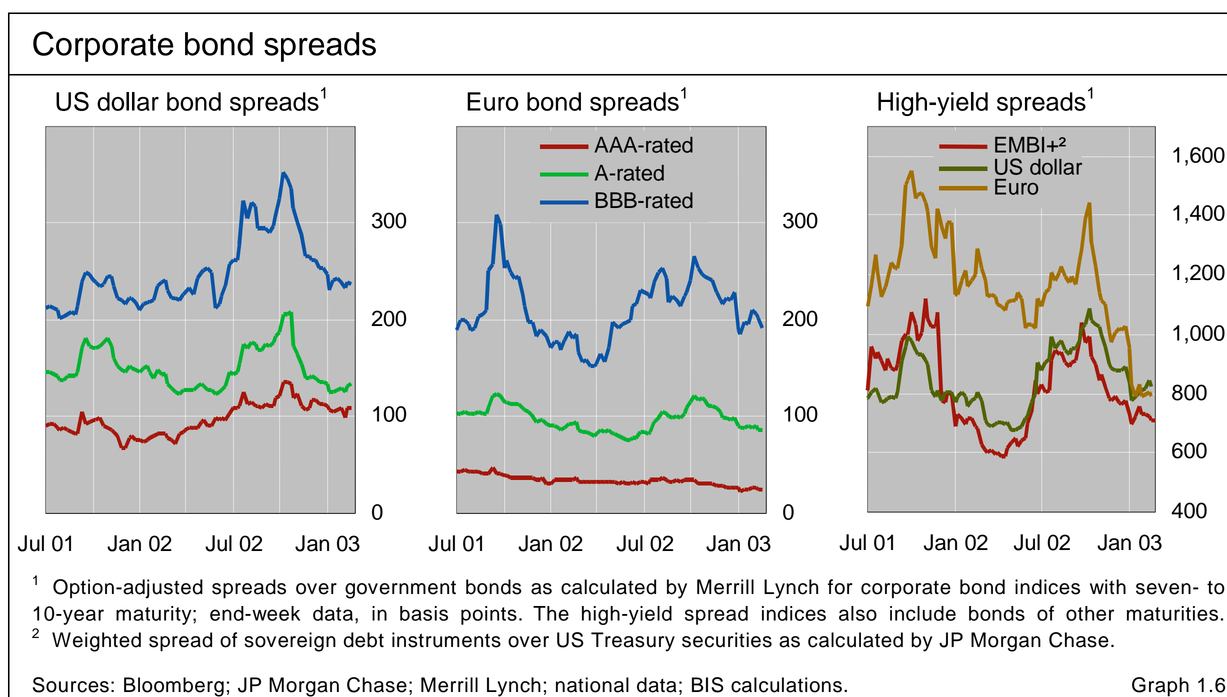
... as investors recognised some firms' efforts to deleverage

The apparent weakening of the relationship between corporate bond spreads and equity prices in the early part of 2003, a relationship evident for much of 2002, was driven in part by investors' recognition of corporations' efforts to deleverage. Measures to reduce debt, such as equity issues and asset sales, tend to favour bondholders over equity holders and so to lead to narrower credit spreads, lower equity prices, or both. Deleveraging is typically a slow process, and in 2001–02 mainly took the form of cutbacks in capital investment. While such cutbacks helped to stabilise corporate debt levels, more radical measures are often required to fundamentally restructure balance sheets.

Fallen angels begin to restructure

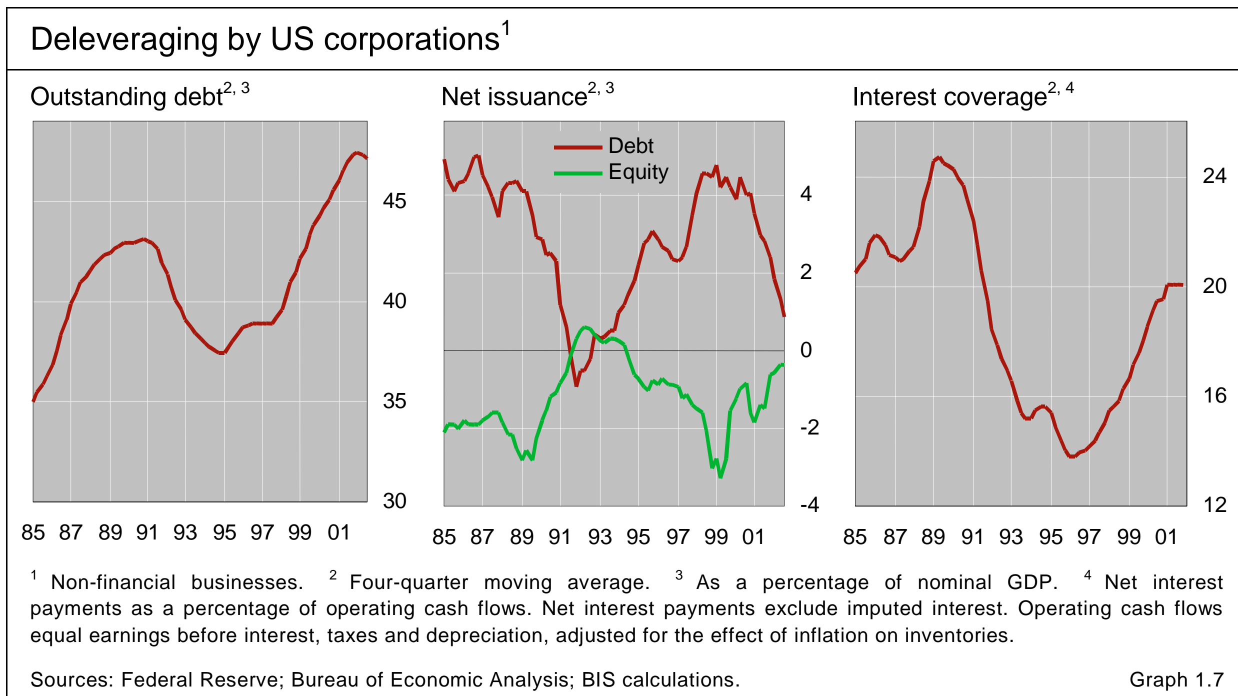
A number of "fallen angels" – firms whose debt was once rated investment grade but has since been downgraded to below triple-B minus – have begun to take more radical measures. Approximately $200 billion of debt previously rated investment grade fell to high-yield status in 2002. The market for high-yield debt is relatively small, and so the larger fallen angels are finding it difficult to refinance their maturing obligations. Some US and European firms resorted to asset sales. These sales frequently took the form of private sales or buyouts by venture capitalists rather than public offerings, owing to the weak state of equity markets. Indeed, signings of syndicated loans related to leveraged buyouts soared to $18 billion in the fourth quarter (see "International syndicated credits in the fourth quarter of 2002" on page 21). Some fallen

Corporate bond spreads



[1] Option-adjusted spreads over government bonds as calculated by Merrill Lynch for corporate bond indices with seven- to 10-year maturity; end-week data, in basis points. The high-yield spread indices also include bonds of other maturities. [2] Weighted spread of sovereign debt instruments over US Treasury securities as calculated by JP Morgan Chase.

Sources: Bloomberg; JP Morgan Chase; Merrill Lynch; national data; BIS calculations. Graph 1.6



[1] Non-financial businesses. [2] Four-quarter moving average. [3] As a percentage of nominal GDP. [4] Net interest payments as a percentage of operating cash flows. Net interest payments exclude imputed interest. Operating cash flows equal earnings before interest, taxes and depreciation, adjusted for the effect of inflation on inventories.

Sources: Federal Reserve; Bureau of Economic Analysis; BIS calculations. Graph 1.7

angels announced equity rights offerings, giving existing shareholders the right to buy new shares. Others sold convertible bonds, and still others negotiated debt-for-equity swaps or debt exchanges.

Japan pursued its own course of financial restructuring. As previously mentioned, the four largest Japanese banks announced plans to boost their capital. Mitsubishi Tokyo Financial Group announced a ¥360 billion offering of common equity, the largest ever by a private firm in Japan and the first by a Japanese bank since the 1980s. Mizuho, Sumitomo Mitsui and UFJ collectively issued approximately ¥1.6 trillion in preferred shares. While preferred shares may improve regulatory capital ratios, their debt-like characteristics make them costly instruments for raising economic capital. For example, some preferred shares offered a dividend yield that was significantly higher than the coupon on bonds recently issued by the same bank. Furthermore, the amounts raised by the four banks equalled less than 5% of the official estimate of non-performing loans and an even smaller percentage of many economists' private estimates.

Low yields keep interest costs manageable despite high debt levels

The process of corporate restructuring which seems to be under way in the United States and other large economies is not yet as pronounced as during the previous period of deleveraging. Between 1991 and 1993, US corporations issued equity to retire outstanding debt (Graph 1.7). Coupled with lower interest rates, this contributed to a sizeable decline in the burden of interest charges on cash flows.[1] Today, debt levels for the US corporate sector as a whole are at an all-time high relative to the size of the economy. However, US corporations are under less pressure to deleverage than in the late 1980s because exceptionally low nominal yields help to keep debt servicing costs

[1] See E M Remolona, R N McCauley, J S Ruud and R Iacono (1992–93): "Corporate refinancing in the 1990s", *Federal Reserve Bank of New York Quarterly Review*, Winter, pp 1–27.

manageable. Despite record levels of corporate indebtedness, interest costs account for a smaller percentage of corporate cash flows today than in the late 1980s.

Net issuance in domestic and international bond markets slows sharply

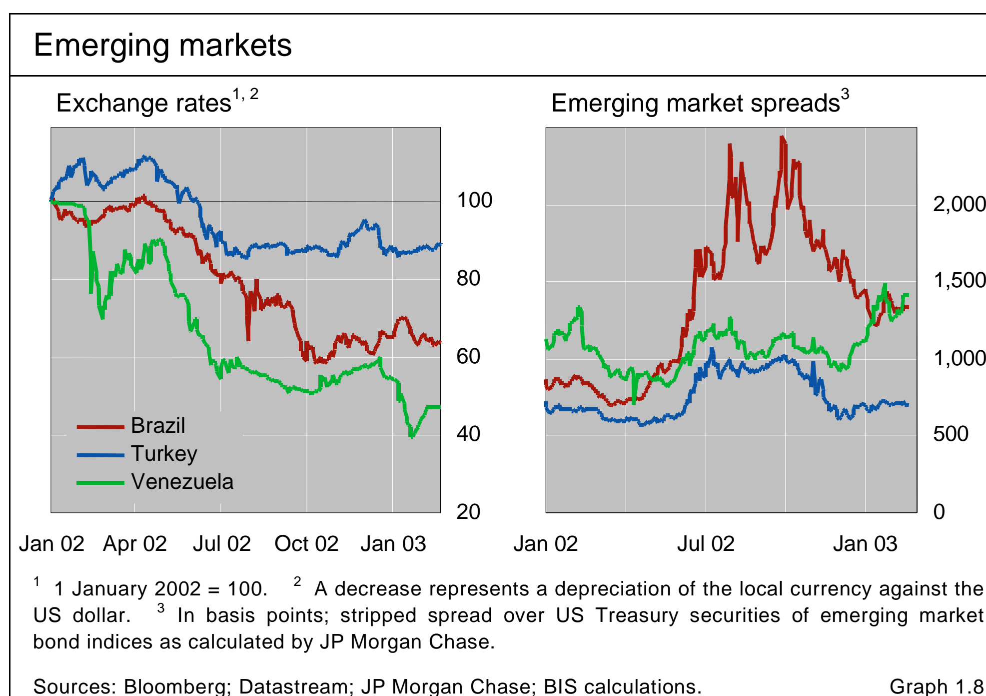
Nevertheless, many firms appear gradually to be following the example of the fallen angels and re-examining their balance sheets. Over the past few years, US corporations have sharply reduced their repurchases of shares, though net issuance of equities has still remained negative. In 2001, firms refinanced short-term debt in longer-term markets, contributing to a sharp drop in outstanding commercial paper and bank lending. In the latter half of 2002, firms curtailed their longer-term borrowing, with net issuance in domestic and international bond markets slowing sharply (see "The international debt securities market" on page 23).

Emerging markets lose momentum

In emerging markets, financing conditions also remained stable going into 2003 despite the volatility in global equity markets. Sentiment towards Brazil and Turkey improved following elections in those two countries, supported by the new governments' commitments to continue fiscal and economic reforms and the global easing of credit conditions. However, the improvement lost momentum in January as the situation in Venezuela deteriorated.

Developments in Venezuela were the focus of investor attention for much of January. The opposition had begun a nationwide strike in early December and vowed to continue until the president scheduled new elections. As the strike dragged on, pressure on the currency and sovereign spreads intensified (Graph 1.8). The bolívar fell by 32% against the US dollar between 2 December and 22 January, when the government halted foreign exchange trading. Trading resumed two weeks later after the authorities adopted a fixed

Emerging markets



[1] 1 January 2002 = 100. [2] A decrease represents a depreciation of the local currency against the US dollar. [3] In basis points; stripped spread over US Treasury securities of emerging market bond indices as calculated by JP Morgan Chase.

Sources: Bloomberg; Datastream; JP Morgan Chase; BIS calculations. Graph 1.8

exchange rate and currency controls. Ironically, the imposition of controls helped to stop the widening of Venezuela's sovereign spreads, as bondholders hoped that controls would preserve foreign exchange reserves to meet Venezuela's external debt obligations. A gradual return to work beginning in late January also helped to stabilise the market.

The strike in Venezuela boosts oil prices and adds to uncertainty

The strike had global repercussions through its impact on the price of oil. Venezuela is the world's ninth largest producer of oil and fourth largest exporter. Many employees of the state-owned oil company PDVSA joined the strike, resulting in a severe decline in oil production and exports. The price of Brent crude rose by more than 20% between early December and late January in response to both the shutdown in Venezuela and the prospect of war in Iraq.

The strike in Venezuela at times added to uncertainty in other Latin American countries. News that might have been expected to boost investor confidence in the early part of 2003, such as Brazil's announcement of a higher target for the primary fiscal surplus and Argentina's conclusion of a new seven-month programme with the IMF, was overwhelmed by negative developments in Venezuela. The economic consequences of a possible war in Iraq also weighed on sentiment. As a result, the narrowing of sovereign debt spreads experienced in the fourth quarter of 2002 did not continue into 2003.

Brazilian borrowers returned to international debt markets in late 2002 and early 2003 to refinance maturing debt. However, they raised little in the way of net new financing (see "The international debt securities market" on page 23). Although down from their early October peak, spreads on the Brazilian government's international bonds were still 500 basis points wider in mid-February than a year earlier, and the currency was down by 33% against the US dollar over the same period.

Asia imports riskier capital ...

Whereas Latin American residents made net repayments of $5 billion in the international bond market in 2002, Asian residents raised $21 billion in net new bond financing. Indeed, issuers from Asia replaced those from Latin America as the most active emerging market borrowers in the international debt securities market last year. Emerging Asia also saw large inflows from banks abroad, with inflows in the third quarter of 2002 exceeding even inflows prior to the Asian crisis of 1997–98 (see "The international banking market" on page 13).

Recent inflows into emerging Asia were driven by both a positive economic outlook and robust demand for credit. Strong or improving fundamentals in much of the region attracted the interest of global investors. While the security situation in the Korean peninsula weighed on Korea's sovereign spreads in the early part of 2003, most economies in emerging Asia continued to enjoy very favourable access to international markets. At the same time, economic growth in the region supported household and corporate demand for credit. Borrowers often had difficulty placing lower-quality debt locally, such as subordinated debt, and so sought financing offshore.

... and exports safe capital

Despite these inflows, emerging Asia remains a net exporter of capital. Economies in East and Southeast Asia continue to post large current account surpluses, totalling approximately $90 billion in 2002. Asia appears to be attracting riskier capital, such as equity and subordinated debt, while paying

down its external debt and accumulating safe liquid assets. Asian central banks in particular have purchased substantial amounts of US agency securities and other lower-risk assets (see the special feature "Choosing instruments in managing dollar foreign exchange reserves" on page 39). This pattern of capital flows has resulted in a significant strengthening of Asia's external balance sheet.