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1. Overview: low yields in robust economies

Long-term yields in the major markets remained surprisingly low into the new year. Despite a firming of global growth and further increases in US policy rates, long-term US dollar yields remained below the level prevailing when the US Federal Reserve first began to tighten. Long-term euro yields declined up to mid-February, with 30-year bund yields in particular falling well below their previous lows. Decreasing yields were not accompanied by a drop in consensus forecasts of inflation, suggesting that other factors were behind the rally in bond markets. One factor frequently mentioned by market participants was demand by pension funds and insurance companies for long-dated assets.

Investors' appetite for higher-yielding instruments signalled that they remained confident in the strength of the economic recovery. Towards the end of 2004, spreads on all types of debt – corporate and sovereign, investment grade and high-yield – narrowed to close to or even below their historical lows. Investors turned marginally more risk-averse early in the new year on concerns that US policy rates might increase faster than previously expected. Nevertheless, in February 2005 corporate and emerging market spreads were still close to their end-2004 levels.

Equity markets followed a path similar to that of credit markets, rallying up to the end of 2004 and then losing momentum in the new year. The prospect of corporate releveraging revived equity markets in late January. After several years of strengthening their balance sheets, US companies in particular again appear to have begun to look to equity buybacks as well as mergers and acquisitions to boost returns to shareholders, even at the cost of potentially increasing risks to bondholders.

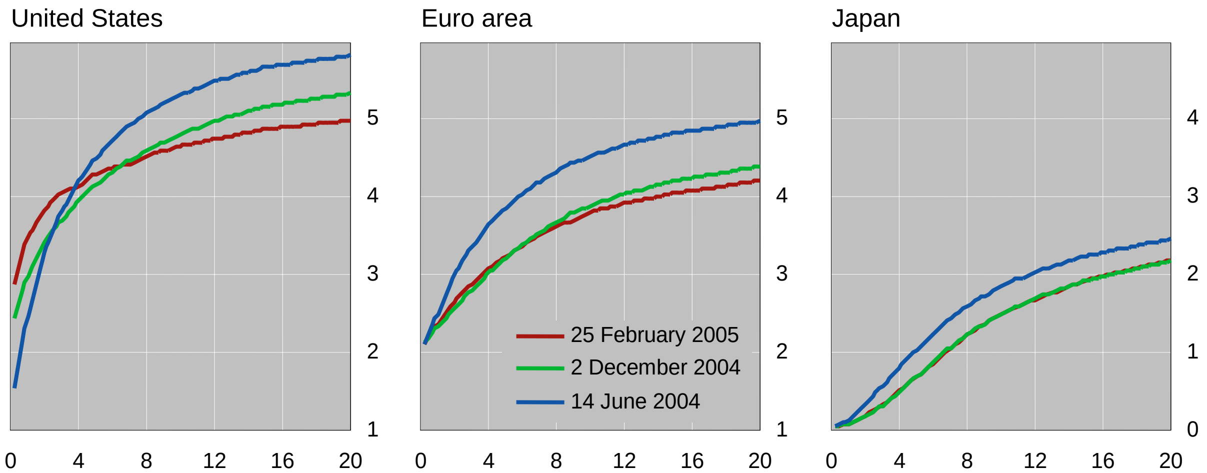
Long-term rates remain range-bound in the face of Fed rate hikes

US yield curve flattens

The flattening of the US yield curve, which began when the Federal Reserve started to raise rates in late June, continued in the period under review (Graph 1.1). At the long end, yields on US government securities, which had risen the previous quarter up to November, resumed a gentle downward drift in early December and into the new year. By 9 February, the yields on 10-year Treasuries were at 3.98%, the lowest level in more than three months (Graph 1.2). This occurred even as short-term rates were driven up by the

Swap yield curves

In per cent



Note: For three-month US dollar and yen maturities, Libor; for three-month euro maturities, euro deposit rates; for all other maturities, annual swap yields at the close of trading in London.

Sources: Bloomberg; ICAP; BIS calculations. Graph 1.1

continuation of Fed tightening over the period, as well as clear signals that increases in policy rates would continue over the next few months at least.

Yields held down by weaker than expected job growth ...

One factor contributing to the unusually controlled behaviour of long-term rates in the face of Fed rate hikes was that macroeconomic data tended to undershoot expectations, despite consensus growth forecasts for 2005 that were edging up over the period (Graph 1.3). In particular, the all-important non-farm payroll figures announced in early December and February were well below expectations, triggering declines in yields on the days of the announcement of 16 and 9 basis points, respectively. On the price front, overall core consumer price inflation remained contained, and there was little evident spillover from rising oil prices to long-term inflation expectations.

... and reduced uncertainty about monetary policy

A second likely reason for lower bond rates was reduced uncertainty over the course and impact of monetary tightening in the near term. The Fed continued to maintain its assessment of balanced risks to prices and growth over the period, as well as its expectation that the pace of tightening to come would be “measured”. The implied volatilities of US government bond futures approached the lows of the mid-1990s, while estimated risk premia on short- to medium-term yields declined markedly (Graph 1.2; see also the box on page 3). Admittedly, the release of the minutes of the December meeting of the FOMC on 4 January, the first time this had been done so soon, shook markets. The fact that certain FOMC members had remarked on excessive risk-taking in markets and possible inflationary pressures while questioning the need to communicate a likely “measured” pace of tightening triggered a brief sell-off in bond markets. Even so, subsequent comments from Fed officials, combined with the virtually unchanged written FOMC statement after the meeting of 2 February, supported the view that the Fed was not leaning towards a more rapid path for rate hikes.

Decomposing long-term yields

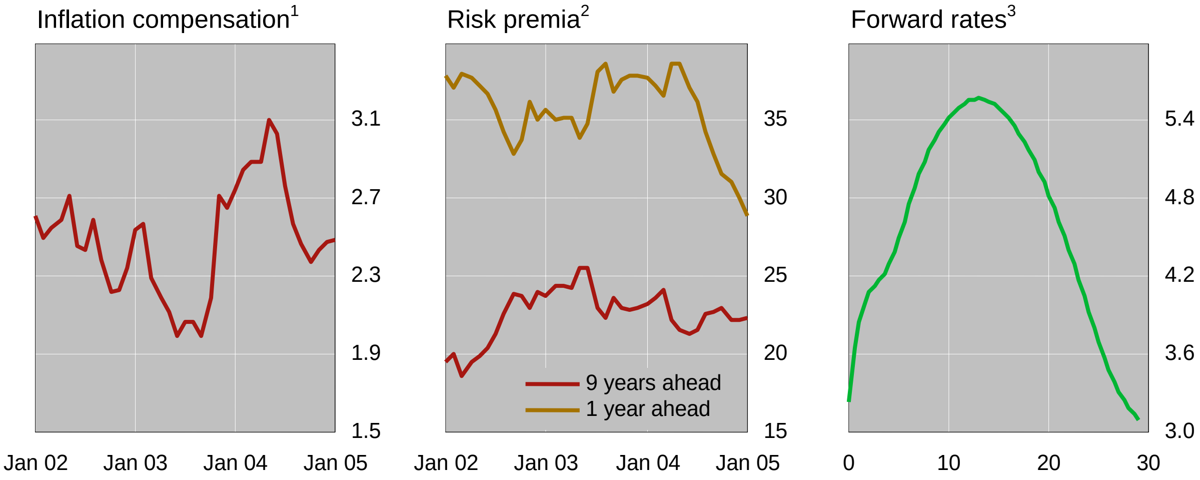
The low level of long-term interest rates in the major markets, in particular the United States, has surprised many market participants and observers. Since June 2004, the US economy has grown steadily, there has been a sharp rise in oil prices, and the Federal Reserve has increased policy rates by 150 basis points – and signalled more increases to come. Nevertheless, during the first two months of 2005, 10-year US Treasury yields remained at least 30 basis points below where they had been when the Federal Reserve first began to raise rates.

One way to assess whether the current level of long-term yields is consistent with underlying economic conditions is to decompose yields into their various components. Long-term interest rates can be considered a function of the expected future path of short-term interest rates and a time-varying risk premium. For example, the one-year forward Treasury rate at the nine-year horizon was around 5.3% on 25 February. This could have implied an expected short-term rate of 5.1%, with a risk premium of 20 basis points. Expected short-term rates can be decomposed into expected inflation and a real rate of interest, while the risk premium may fluctuate with changes in liquidity, investors' aversion to risk, or the degree of perceived inflation risk.

Some of the decline in long-term rates since mid-2004 may be due to an easing of long-term inflation expectations. Inflation compensation, as implied by the difference between nominal Treasury yields and inflation-indexed yields, has fallen over long horizons. For example, inflation compensation for the five to 10-year horizon has declined by more than 50 basis points since June 2004, to below 2.5% (see the left-hand panel of the graph). This suggests that longer-term inflation expectations may have fallen, although movements in inflation compensation can also be influenced by changes in market liquidity or in the premium for inflation risk. Economists' long-term forecasts of inflation have increased slightly since mid-2004, to 2.5%.

As for the real rate of interest, economic theory suggests that it will tend towards some "natural" rate, which is typically defined as the real short-term interest rate consistent with stable inflation. The natural rate fluctuates over time with, among other factors, the growth rate of productivity. The natural rate is not directly observable and thus is commonly estimated using a macroeconomic model. The natural rate in the United States was estimated to be close to

Factors influencing forward interest rates



[1] Difference between nominal and inflation-linked five-year forward rates, five years ahead; nominal Treasury yields are obtained from the fair market curves calculated by Bloomberg; monthly averages. [2] Risk premia on one-year forward rates; derived from a three-factor affine model described in Q Dai and K Singleton, "Expectations puzzles, time-varying risk premia, and affine models of term structure", *Journal of Financial Economics*, 63, 2002, pp 415–41; monthly data; in basis points. [3] Nominal one-year forward interest rate curve on 25 February 2005; derived from a zero coupon Treasury curve calculated by Lehman Brothers.

Sources: Bloomberg; Lehman Brothers; BIS calculations.

3% in mid-2002 but may have declined to 2.6% more recently.[1] In the short run, however, shocks to demand or supply can move the real interest rate above or below its natural rate.

In addition to inflation expectations and the real rate of interest, yield curves at a given point in time incorporate risk premia that drive a wedge between forward rates across maturities and the path of short rates expected by market participants. Risk premia at the short end of the US Treasury curve appear to have declined in recent years. This may reflect more effective communication by the Federal Reserve regarding its policy intentions and is consistent with the current low levels of implied and historical volatilities in fixed income markets. However, risk premia at the long end of the curve appear little changed. As estimated by a three-factor model of the yield curve, the risk premium embedded in the one-year forward rate nine years hence has remained close to 20 basis points since late 2002 (centre panel).

Taking these various components together suggests that the "equilibrium" forward short-term rate in the United States at longer maturities might lie in a range around 5.5%: long-term inflation expectations of 2.5% plus a natural rate of 2.6–3.0%, plus a risk premium of around 20 basis points. In other words, absent changes to these components, forward short-term rates at longer maturities are likely to stabilise over the long run in the vicinity of 5.5%. Estimates of the various components of long-term yields are very imprecise, and so 5.5% is best considered the midpoint of a potentially wide range.

Nonetheless, the current level of one-year forward rates seems on the low side of the range across almost all maturities (right-hand panel). As of 25 February, one-year forward rates were below 4.5% for five years, and did not reach 5% until eight years. At very long maturities, beyond 15 years, forward rates actually fall, eventually dropping well below 5%. The decline in forward rates at very long maturities may reflect decreases in some of the various components discussed above. Yet, it could also represent temporary imbalances in supply and demand for government securities. For example, strong demand from pension funds and insurance companies for long-duration assets, coupled with a declining supply of such assets, may be holding down long-term yields. This has been the case in the UK government bond market for many years.

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[1] See T Laubach and J C Williams, "Measuring the natural rate of interest", *The Review of Economics and Statistics*, vol 85, no 4, November 2003, pp 1063–70; J Amato, "The role of the natural rate of interest in monetary policy", *BIS Working Papers*, no 171, March 2005.

Despite these rationales for subdued changes in yields over the period, a number of observers argued that, given macroeconomic conditions and the historical record, the *level* of long-term yields in the United States might be unusually low (see box). The case appeared to be strengthened by the Congressional testimony of Federal Reserve Chairman Greenspan on 16 February, when he termed the low levels of long-term yields a "conundrum". Long-term yields rose by 6 basis points on that day.

Euro yields fall to record lows

In the euro area, yields also fell markedly over the period under review, with the yield on the 10-year bund declining nearly 40 basis points from early December to an all-time low of 3.31% on 10 February. The spreads between US and euro area yields, which had widened considerably the previous quarter, stayed in a range of 60–70 basis points. Although part of the yield declines probably reflected diminishing expectations for growth in the euro area, the macroeconomic news from Europe was more mixed than negative. In fact, Germany's Ifo business sentiment indicator surprised on the upside in both December and January, suggesting that the mood in the export sector was still robust despite the euro appreciation of the previous quarter (Graph 1.3, left-hand panel).

In part, yield differentials reflected the market's expectation that the ECB would leave interest rates unchanged until late in the year. Although the ECB

... at times expressed concerns about excess liquidity and rapidly rising property prices, comments about the negative economic impact of the appreciating euro by senior ECB officials suggested to market participants an awareness of the fragility of the economic recovery in the euro area. In addition, by the January meetings, the Governing Council members were indicating that they were anticipating a return of euro area inflation to below 2% year on year, well within its target range.

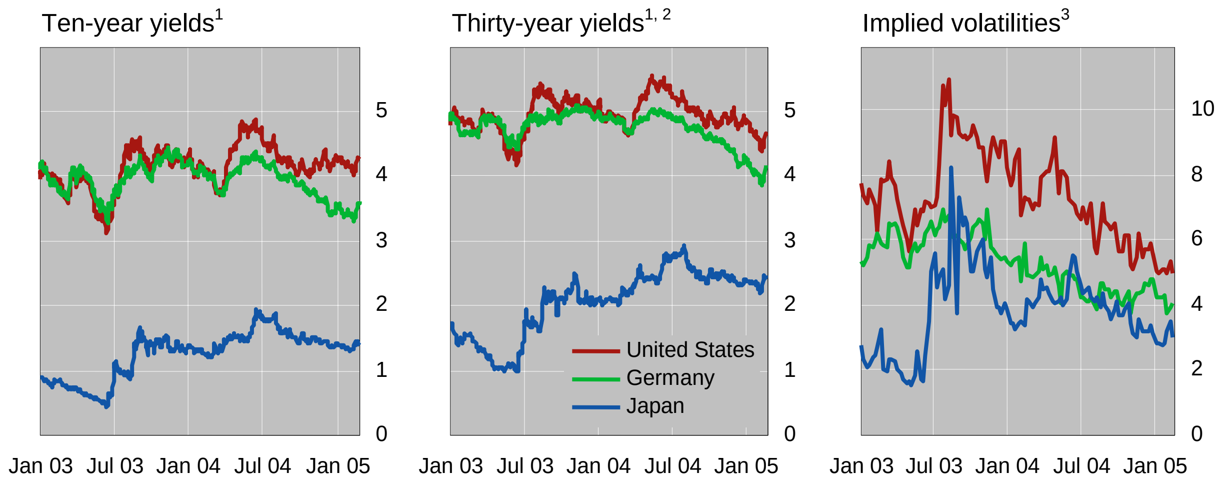
Strong demand for very long-dated bonds ...

In both the euro area and the United States, yield reductions were particularly pronounced at very long maturities. For instance, while swap yields from 10 out to 30 years had moved down more or less in parallel in the second half of last year, in the new year the decline in euro and dollar swap yields has been more marked at very long maturities (Graph 1.1). Yields hit new all-time lows for 30-year bunds, and approached the lows of early 2003 for the last on-the-run 30-year US Treasury (Graph 1.2, centre panel). A prospective increase in the supply of ultra long-dated paper, with the French government announcing in late February a 50-year bond issue and other European governments considering similar issues, did little to dampen investor enthusiasm.

... perhaps owing to pension reforms

Many market participants also cited structural factors underlying declining yields for long-maturity bonds. In the United States, announcements of possible pension reform were viewed as contributing to the rally in longer-term bonds. In particular, proposals to strengthen defined benefit pension plans by pricing assets and liabilities more accurately and minimising funding shortfalls reportedly prompted some pension funds to purchase long-dated assets. Structural factors appeared to have even more importance in the euro area. Some major bond indices in the euro area markets extended duration for technical reasons, pressuring some investors benchmarking themselves against those indices to raise the duration of their investments. Pension reform in the Netherlands increased the demand for long-dated assets, and an end-of-

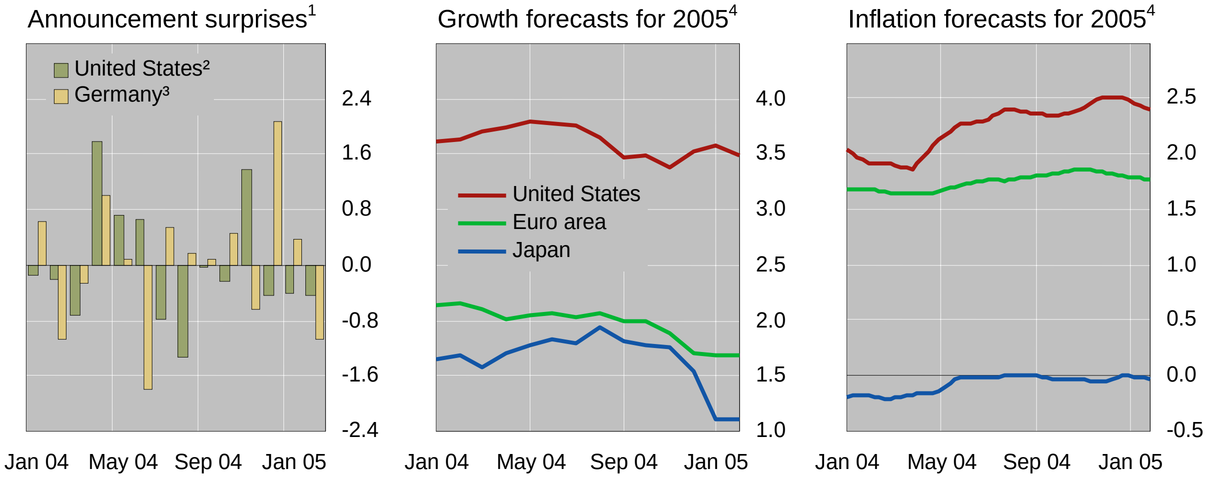
Government bond markets



[1] In per cent. [2] For the United States, yields for the longest-maturity Treasury. [3] Price volatility implied by the price of at-the-money call options on 10-year government bond futures contracts; weekly averages.

Source: Bloomberg. Graph 1.2

Macroeconomic news



[1] Difference between actual data and consensus forecasts normalised by the standard deviation of past surprises; observations are positioned in the month in which the actual data were released. [2] Weighted average of normalised surprises of the ISM survey, non-farm payrolls, retail sales and producer price and consumer price announcements. [3] Survey of the business climate in Germany compiled by the Institut für Wirtschaftsforschung (Ifo). [4] Forecasts as published monthly by Consensus Economics; observations are positioned in the month in which the forecast was made; percentage change over the previous year.

Sources: Bloomberg; © Consensus Economics; BIS calculations. Graph 1.3

year surge of funds into German life insurers (for tax-related reasons) left the sector with excess funds to invest in long-term securities. While such technical "demand factors" usually have a marginal impact on yields in relation to macroeconomic developments, in early 2005 they were widely thought to be exerting significant pressures on the long end of the curve, particularly in the euro area.

Yen yields rebound in February

In Japan, long-term interest rates rose overall, bucking the trend in the other major markets. To be sure, yields fell in January, as expectations receded of an early end to both deflation and the Bank of Japan's policy of quantitative easing. A key event in this regard was the interim review, announced on 19 January, of last autumn's inflation forecasts by the Policy Board. This suggested a marked decline in anticipated price pressures, reflecting expectations of weaker growth (Graph 1.3, centre panel). However, starting in February, on the back of a positive surprise in the report on machinery orders and gains in the equity market, yields retraced ground, hitting 1.45% by 14 February, the highest level since last November.

Spreads approach record lows at year-end

Corporate and emerging market debt rally ...

With long-term yields remaining low, investors in search of higher returns continued to turn to spread products, including emerging market debt. All types of debt – corporate and sovereign, investment grade and high-yield – rallied during the fourth quarter of 2004 (Graph 1.4). Indeed, by the end of December, spreads in all markets were close to or even below their historical lows. For example, in late December, spreads on A-rated corporate bonds denominated in US dollars stood at 64 basis points, 16 basis points above their previous low of October 1997. Spreads on emerging market debt narrowed to only 335 basis points, far below their previous historical low.

... despite strong issuance

Not even high levels of issuance seemed to dampen the appetite of investors for corporate and emerging market debt. Issuance of high-yield corporate bonds in the US market surged in the final quarter of 2004 (Graph 1.5). So too did signings of syndicated loans (see "Refinancing boosts syndicated lending to record levels" on page 29). Borrowing by emerging market entities in international bond and loan markets was also strong in the fourth quarter, bringing total borrowing in 2004 by emerging market issuers above its previous 1997 high (Graph 1.6).

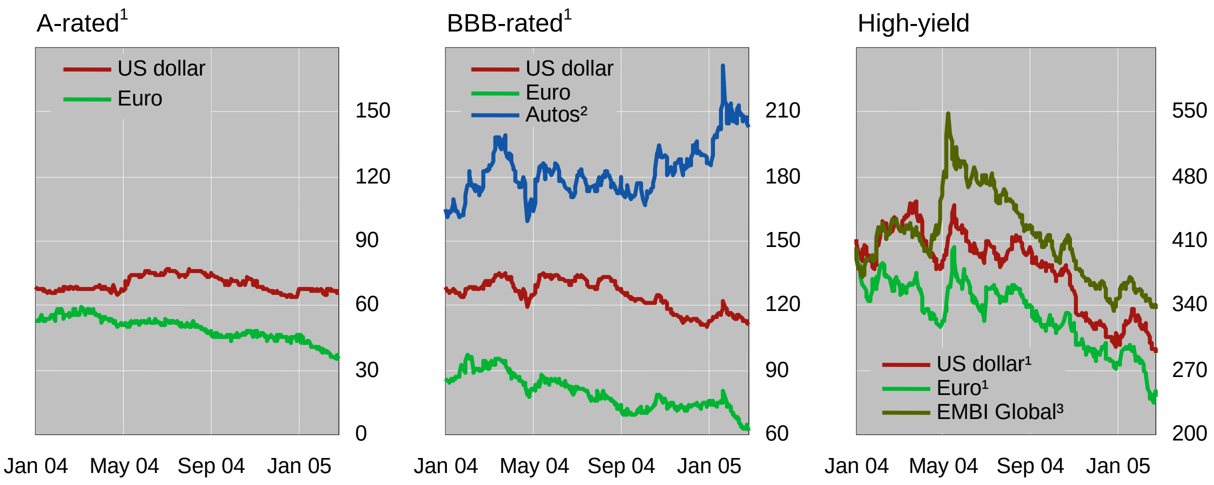
Issuance of collateralised debt obligations (CDOs) helped to push spreads down, as CDO managers sought to purchase high-yield debt to back funded structures or sold protection in the credit default swap market to back synthetic deals. Issuance of funded CDOs, which is usually highest towards the end of the year, rose from approximately $25 billion in each of the first three quarters of 2004 to nearly $50 billion in the fourth (Graph 1.5). Leveraged loans, for example to finance leveraged buyouts, accounted for an unusually high proportion of collateral for funded structures in the fourth quarter: 45%, compared to 30% during the previous three quarters according to JPMorgan Chase. Consistent with past seasonal patterns, CDO issuance slowed sharply early in the new year.

Strong demand for CDOs

The demand for CDOs was in turn underpinned by the search for yield that has characterised financial markets since at least late 2003. Whereas commercial banks have historically dominated the CDO market, institutional investors are now becoming more active players. JPMorgan Chase estimates that almost 40% of a recent synthetic deal was placed with fund managers, and only one third with commercial banks. The relatively high yields offered on

Credit spreads

In basis points



[1] Option-adjusted spreads over government bond yields; Merrill Lynch corporate bond indices. [2] Spreads of the auto sector of the US dollar BBB corporate index. [3] Sovereign stripped spread over government bond yields; JPMorgan Chase emerging market bond indices.

Sources: JPMorgan Chase; Merrill Lynch. Graph 1.4

CDOs are certainly a key factor behind the growing interest of fund managers. Owing to their complexity and illiquidity, AAA-rated CDOs typically yield at least 30 basis points more than comparably rated corporates; leveraged CDOs, such as CDOs backed by other CDOs or CDOs backed by leveraged loans, yield even more.

The search for yield waned temporarily early in the new year, especially among US investors. While investment grade spreads were stable or lower, high-yield corporate bond spreads widened by over 30 basis points in the first half of January, the largest move since May 2004 (Graph 1.4). Emerging market spreads also widened during this period. Nevertheless, the sell-off was mild and short-lived; spreads stayed well below their average 2004 levels and in February again approached their end-2004 levels.

Temporary widening of spreads in early January

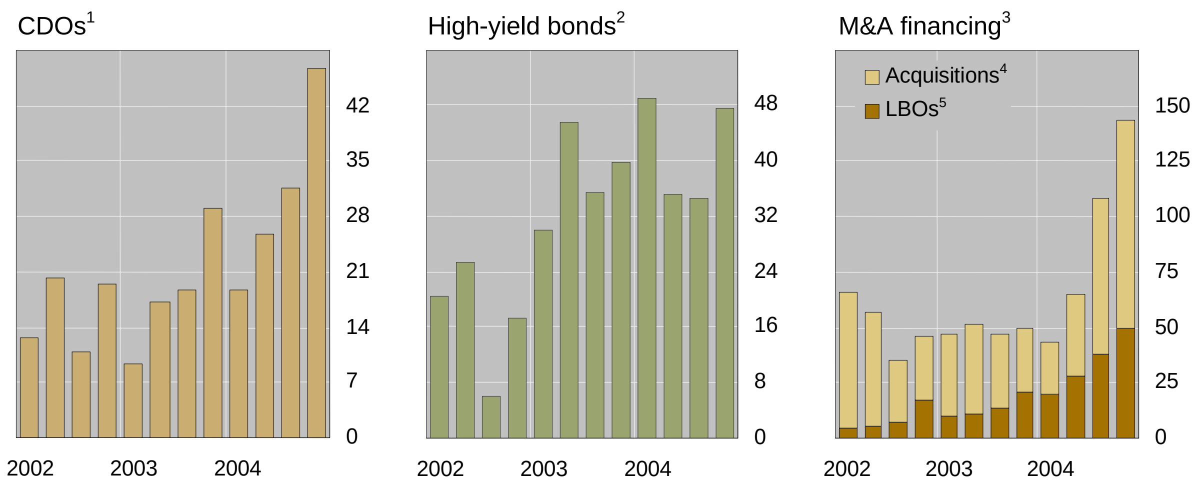
The initial widening of spreads was triggered by the prospect of a faster than expected pace of monetary policy tightening in the United States, highlighted by the release of the Federal Reserve's minutes on 4 January. Emerging market spreads widened by 9 basis points the following day, with Brazil and other South American countries being among those most affected by the sell-off (Graph 1.6). The reaction of corporate spreads was more subdued and was limited mainly to lower-rated issuers. This continues a pattern evident since at least the second quarter of 2004, during the sell-off in global bond markets. At the time, emerging market spreads had widened by much more than high-yield corporate spreads in response to changing expectations regarding the course of US monetary policy.

Concerns about a downgrade of General Motors

The widening of high-yield corporate spreads accelerated in mid-January on concerns about a possible downgrade of General Motors to below investment grade. On 19 January, GM released a disappointing profit forecast for the first quarter of 2005. This led many market participants to shift forward their expectations of a downgrade by Standard & Poor's and raised the

Supply of higher-yielding instruments

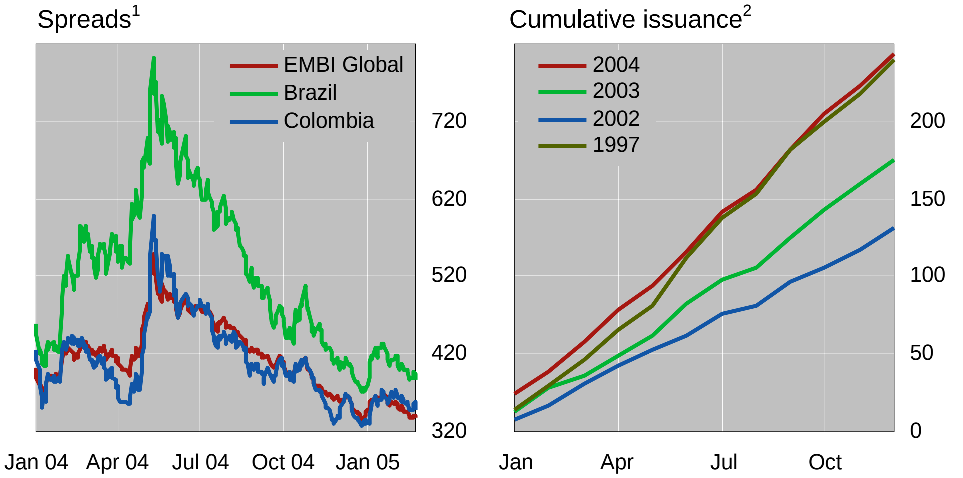
In billions of US dollars



[1] Issuance of arbitrage-funded CDOs. [2] Corporate issuance in the US domestic market. [3] Signings of syndicated loans. [4] Acquisition lines and facilities. [5] Facilities for leveraged and management buyouts.

Sources: Bloomberg; Dealogic Loanware; JPMorgan Chase; BIS calculations. Graph 1.5

Emerging markets



[1] Sovereign stripped spreads over government bond yields, in basis points; JPMorgan Chase emerging market bond indices. [2] Announced issuance of international bonds and notes plus signings of syndicated loans, in billions of US dollars.

Sources: Datastream; Dealogic Bondware; Dealogic Loanware; BIS calculations. Graph 1.6

prospect of GM's removal from investment grade bond indices. Such an action could force investors benchmarked against those indices to sell their holdings. Consequently, the spreads of GM and other auto manufacturers jumped sharply higher after the profit warning. The sell-off also spilled over into high-yield debt markets, as high-yield debt managers shifted out of lower-rated issuers and into GM. The sheer volume of debt owed by GM exacerbated the spillover, with at least $30 billion in bonds – equivalent to approximately 3% of the outstanding stock of high-yield bonds – potentially affected by a downgrade.

The sell-off was brought to a halt by a technical change in the way Lehman Brothers constructs its bond indices.[1] The change implied that a downgrade by S&P would not result in the ejection of GM from Lehman Brothers' investment grade bond indices. High-yield spreads tightened by 9 basis points in the two days following the change and continued to tighten up to the end of February, as investors felt that they had more scope to take on risk.

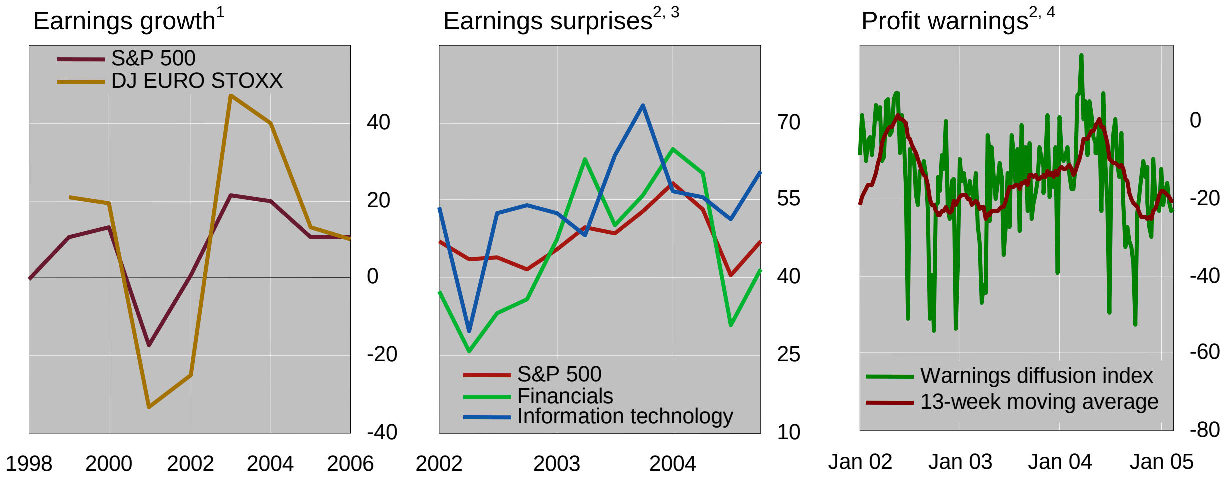
Credit cycle shows signs of peaking

Earnings growth is expected to slow

Surprisingly strong corporate earnings also helped to narrow credit spreads in the first two months of the new year. Whereas third quarter earnings of S&P companies had disappointed, fourth quarter earnings (announced in January and February 2005) exceeded analysts' expectations (Graph 1.7). Furthermore, after increasing between June and November 2004, the number of firms

[1] Lehman Brothers announced on 24 January that, when assessing whether to include a security in its fixed income indices, it would consider credit ratings from all three of the major rating agencies – Fitch, S&P and Moody's – instead of taking the lower of S&P and Moody's. Since Fitch and Moody's rate GM one notch above S&P's rating, this diminished the near-term consequences of a possible S&P downgrade.

Corporate earnings



[1] Annual percentage change of weighted average operating earnings per share; for 2004, estimate; for 2005–06, forecast. [2] Companies included in the S&P 500 Index. [3] Number of companies which announced higher than expected quarterly earnings minus the number which announced lower than expected earnings; as a percentage of companies announcing quarterly earnings. [4] Number of companies which announced positive revisions to their earnings outlook minus companies which announced negative revisions; as a percentage of companies announcing positive, neutral or negative revisions.

Sources: Bloomberg; I/B/E/S; BIS calculations. Graph 1.7

announcing negative revisions to their profit forecasts began to decline in December, and the number announcing positive revisions to increase. Nevertheless, earnings growth among S&P 500 companies is expected to slow from 19.7% in 2004 to 10.5% in 2005, and among EURO STOXX companies from 39.7% to 13.4%.

Stock buybacks and dividend payouts are increasing

With revenues showing no signs of accelerating and costs having been cut for the past several years, signs are emerging of firms looking for alternative strategies to maintain their earnings growth, for example by releveraging their balance sheets. Stock buybacks and dividend payouts were one of the main drivers of issuance in the corporate bond market in 2004, accounting for 17% of funds raised according to Moody's. By contrast, in 2003 only 5% of funds raised had been funnelled to shareholders. Mergers and acquisitions also increased over the period under review, with many of the deals being financed with debt. Syndicated financing for leveraged and management buyouts rose to an all-time high of $49 billion in the fourth quarter of 2004, more than twice as much as during the same period a year earlier, and financing for other types of acquisitions increased to $94 billion (Graph 1.5).

Such signs suggest that credit quality might have peaked in the United States. Indeed, the ratio of upgrades to downgrades by Moody's Investors Service fell to 0.7 among US firms in the fourth quarter of 2004 from 1.1 in the third, ending two years of steady improvement. Corporate defaults are expected to increase in 2005, albeit only marginally and from exceptionally low levels in late 2004. By contrast, credit quality still showed signs of improvement in Europe and Japan, as many firms remained focused on restructuring their operations and balance sheets.

Credit quality in emerging markets continues to improve

Credit quality in emerging markets also showed signs of improvement. While high commodity prices supported some emerging market borrowers, many sovereigns and firms in emerging markets have made concerted efforts to reduce their vulnerability to changes in market conditions. These efforts included both extending the maturity of outstanding debt and tapping a growing market for local currency bonds (see "The international debt securities market" on page 31). Emerging market borrowers were very active in international debt markets in 2004, but most of the funds raised were used to repay maturing debt; net issuance remained well below its previous high.

Mergers revive equity markets

Equity markets rally to their highest level since 2001 ...

The prospect of corporate releveraging helped give a boost to equity markets in the new year. After posting strong gains in the closing months of 2004, global equity markets moved up again in February 2005 following a series of mergers and acquisitions (Graph 1.8). On 15 February, the MSCI World index closed at its highest level since August 2001, having gained 10% in 2004 and a further 2% over the first six weeks of 2005.

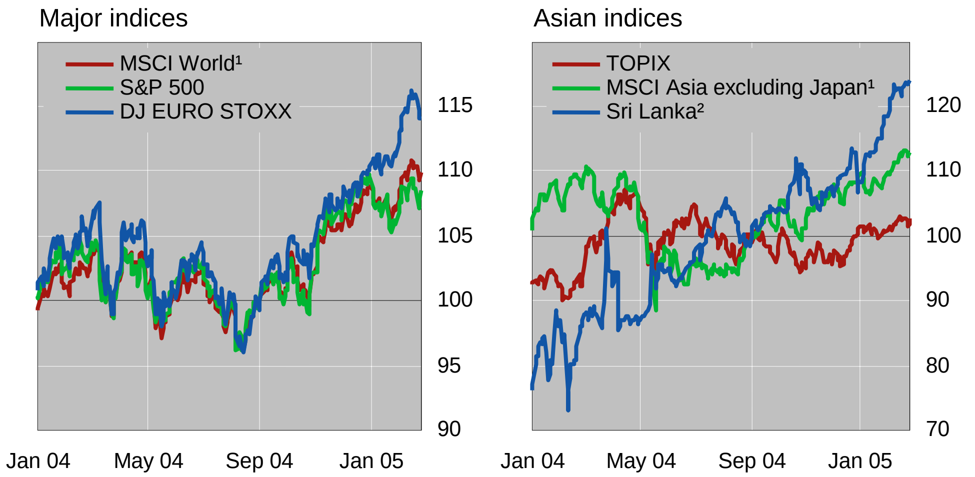
In equity markets as in credit markets, investors turned marginally more risk-averse early in the new year. In the United States and the United Kingdom, measures of effective risk aversion derived from equity index options moved higher after declining in late 2004 (Graph 1.9). The shift in sentiment may have been triggered by the prospect of a faster than expected pace of monetary policy tightening in the United States; the S&P 500 fell by nearly 1% on 5 January, following the release of the Federal Reserve's minutes. Interestingly, no such increase in effective risk aversion was evident in Germany, where the ECB continues to be expected to leave policy rates unchanged until at least late 2005.

... despite higher oil prices

A rapid run-up in oil prices put additional downward pressure on equity prices in the new year. Cold weather in the United States, concerns about

Equity prices

In local currency; 1 September 2004 = 100



[1] Morgan Stanley Capital International equity index. [2] Colombo Stock Exchange All Share Price Index.

Sources: Bloomberg; Datastream. Graph 1.8

unrest in Iraq around elections there and rumours of production cuts by OPEC members all contributed to a 15% increase in the price of Brent crude in January. Prices continued to drift upwards in February, with Brent crude nearing $50 a barrel in late February, not far below its October 2004 high.

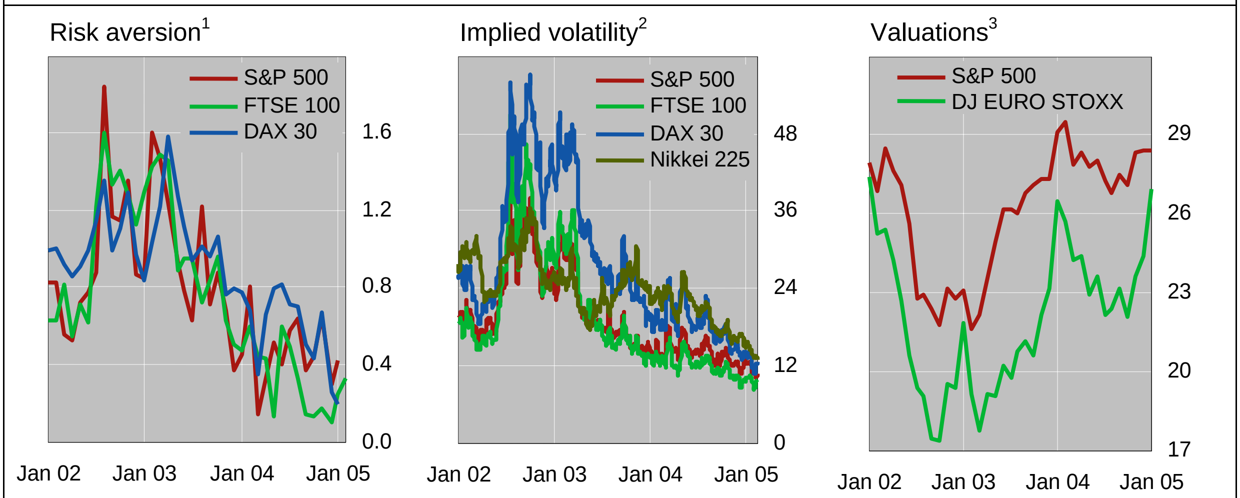
Surprisingly strong corporate earnings helped to turn sentiment around (Graph 1.7). Investors were at first unsettled by disappointing fourth quarter results from companies including aluminium producer Alcoa and biotech firm Genentech as well as profit warnings from chipmakers Advanced Micro Devices and STMicroelectronics. Better than expected results from Intel, Samsung Electronics, IBM, Nokia and other bellwether firms later assuaged investors' concerns.

Pickup in M&A activity

The announcement of several multibillion dollar mergers in late January further bolstered confidence among equity investors. The largest deal was Procter & Gamble's purchase of Gillette for $55 billion, financed through an exchange of shares but accompanied by a share buyback equal to nearly half of the purchase price. Other large deals included the acquisition of Travelers Life & Annuity by MetLife for almost $12 billion in cash and shares and "Ma Bell", AT&T, by one of its "baby Bells", SBC Communications, for $15 billion in shares. Risk aversion declined further following the US payrolls report on 4 February, which relieved concerns that the Federal Reserve might raise policy rates at an accelerated pace.

Notwithstanding the fluctuations described above, in the early part of 2005 historical and implied volatilities in equity markets fell to their lowest levels in nearly 10 years (Graph 1.9). Investors were seemingly unusually confident in equity valuations. Based on forward earnings, the price/earnings ratio for the S&P 500 in mid-February was in line with its 1961–95 average of 17. But forward earnings have in the past tended to be overly optimistic, and based on

Risk aversion, volatility and valuations



[1] Derived from the differences between two distributions of returns, one implied by option prices with varying strike prices and one based on actual returns estimated from historical data. For more details, see the March 2004 issue of the *BIS Quarterly Review*. [2] Based on equity index at-the-money put options; weekly averages. [3] P/E ratios based on a five-year trailing average of reported earnings; monthly averages; for the DJ EURO STOXX, four-year average prior to January 2003.

Sources: Bloomberg; Chicago Mercantile Exchange; Datastream; Eurex; London International Financial Futures and Options Exchange; BIS calculations.
Graph 1.9

a five-year trailing average of earnings the price/earnings ratio was well above its historical average, at 29. The price/earnings ratio for the DJ EURO STOXX was similarly high.

In Japan, expectations regarding the strength of the recovery indeed proved overly optimistic. Even as other major markets rallied during the fourth quarter of 2004, the Tokyo market languished, held back by disappointing reports on the domestic economy. For example, the TOPIX fell by 1% on 9 December following a machinery orders report that was much weaker than expected. Evidence of strong external demand pushed Japanese equities higher towards the end of 2004 and again in February 2005. However, even after a series of strong reports on industrial production, retail sales and housing starts at the end of February, Japanese equity prices remained below their April 2004 highs.

Asian markets unaffected by the tsunami

In contrast to Japan, other Asian markets rallied into the new year. Asian bond and equity prices were unaffected by the tsunami which hit countries around the Indian Ocean on 26 December. While the tsunami had a devastating human impact, with over 250,000 people killed, its impact on financial markets was relatively small. One of the countries most affected by the tsunami was Sri Lanka; in addition to large human losses, its fishery and tourism industries were severely damaged. Yet, after an initial 4% fall, the Sri Lankan stock market quickly rebounded, boosted in part by an outpouring of aid to support relief efforts and reconstruction. By the end of February, the Sri Lankan stock market was nearly 10% above its pre-tsunami close, and the rupee had appreciated by 5% against the US dollar (Graph 1.8).