Financial markets

Financial market setting

Financial markets have their sights on high inflation rates and diverging economic prospects

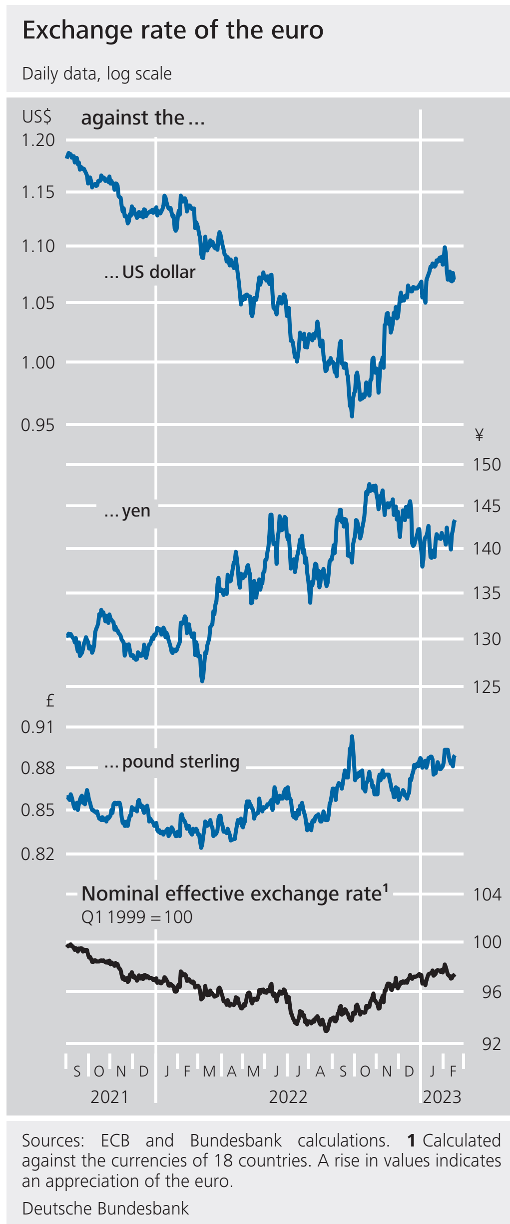
Persistently high inflation rates also shaped developments in the international financial markets. Central banks around the world continued to tighten monetary policy, although they started to raise key interest rates in smaller increments in an environment in which the monetary policy stance has a more restrictive effect. The Federal Reserve, for example, has raised its key interest rate in three additional steps since the end of September 2022, but its most recent hike, in February 2023, was just 25 basis points. The Eurosystem, too, reduced the size of its increments from previously 75 basis points: the interest rate hikes in December and most recently in February 2023 were 50 basis points each. Since the beginning of the year, market participants have increasingly gained the impression that inflation could fall faster over the course of the year than initially assumed. This was based in part on the publication of inflation figures that were down on the levels recorded in previous months and, in some cases, lower than expected. This was the main reason why long-term yields in the government bond markets initially all but ceased the upward trajectory that they had embarked upon at the start of 2021. As the economic outlook clouded over, they even declined in the United Kingdom as compared with the end of September. In the United States, they remained virtually unchanged. By contrast, yields in the euro area were supported by stabilising energy markets, improving economic prospects for the euro area and China abandoning its zero-COVID policy. Equity markets rose sharply, especially in the euro area. The brighter economic outlook and the market's belief in declining upside risks to the inflation outlook increased investors' risk appetite and optimism. In the first quarter of 2023, the euro appreciated in effective terms and against the US dollar and also benefited from the domestic economic outlook brightening noticeably in the market's view.

Exchange rates

Euro up markedly against the US dollar

As of the end of the third quarter of 2022, the euro appreciated significantly, especially against the US dollar. At the beginning of this period, the euro's recovery was still driven largely by receding energy risks and the growing expectation that the Federal Reserve would slow the pace of rate hikes at its December meeting. The publication of minutes from a Federal Open Market Committee (FOMC) meeting and statements by Fed Chair Jerome Powell reinforced this impression until mid-December and gave the euro further impetus. Thereafter, however, the euro moved sideways against the US dollar and closed the year at US$1.07 against the euro.

At the beginning of January, the euro/US dollar exchange rate experienced more movement again. Following a short-lived depreciation of the single currency, sparked by lower than expected German inflation rates and an associated dampening of expectations of rising interest rates in the euro area, sentiment turned back in favour of the euro. This was triggered by the publication of the ISM Purchasing Managers' Index for the US services sector, which suggested a marked decline in economic activity. This caused the value of the euro to rise sharply against the US dollar. The euro continued to appreciate against the US dollar thereafter, too. The main reason for this appreciation was that a series of surprisingly favourable economic data meant that the market took a more positive view of the economic outlook for the euro area than before. Another factor was that market participants' fears about the economic burdens caused by Russia's war of aggression against Ukraine and the energy crisis in the euro area had already eased beforehand. Unlike in the preceding quarters, relative monetary policy in the two currency areas played only a minor role in exchange rate developments. The euro lost some ground



Sources: ECB and Bundesbank calculations. 1 Calculated against the currencies of 18 countries. A rise in values indicates an appreciation of the euro.
Deutsche Bundesbank

against the US dollar towards the end of the reporting period, when surprisingly favourable data were published for the US economy, too. As this report went to press, the euro stood at US$1.07 again. It thus gained 9.8% in value as compared with the end of September 2022. Such strong appreciation is unusual and was last observed for this currency pair over a similar period in September 2017.

Euro gains slightly against pound sterling and …

The euro came under pressure against the pound sterling in November. Reports of gross domestic product (GDP) in the United Kingdom having declined by less than expected in the third quarter and of a surprisingly significant rise in the inflation rate supported existing expectations that the Bank of England would raise its key interest rates again in December. As a result, the euro depreciated against the pound sterling until mid-December. This started to reverse when the Governing Council of the ECB said, following the December interest rate increase, that it expected to raise interest rates significantly further at its first monetary policy meetings in the new year. This triggered a recovery of the euro, which then traded more or less sideways in the new year. As this report went to press, the single currency was trading at £0.89, around 0.7% higher than at the end of September.

… the Japanese yen

Following the Bank of Japan's December meeting, the yen appreciated noticeably against the euro and other currencies. This was the result of the unexpected decision to expand the target range for interest rates on ten-year Japanese government bonds, which the markets viewed as a first step in a process of monetary policy tightening. As a direct consequence of this decision, the yield gap of Japanese bonds versus euro area and US bonds narrowed. However, the yen ceded some of the gains again after the Bank of Japan, at its January meeting, disappointed expectations that it would send further tightening signals. As this report went to press, the euro was trading at ¥143. It was consequently some 1.6% above its value at the end of September.

Euro stronger in effective terms

On a weighted average against the currencies of the broader group of countries, the euro has appreciated by 3.2% on balance since the beginning of the fourth quarter of 2022.[1] In addition to the aforementioned growth against the US dollar, the euro's appreciation was driven, first and foremost, by gains against the renminbi. The main reason for these gains was that the strict enforcement of drastic restrictions to contain COVID-19 infections had

1 With the accession of Croatia to the euro area on 1 January 2023, the group of countries against whose currencies the effective euro is calculated narrowed from 19 to 18.

weighed on the Chinese economy and thus on the renminbi on a broad basis until they were lifted in December. By contrast, the euro lost ground, in particular against some central European currencies. The appreciation of the euro is tending to dampen import prices and is helping to contain the high inflationary pressure in the euro area.

Securities markets and portfolio transactions

Bond market

Yields in the euro area and the United States subject to significant volatility

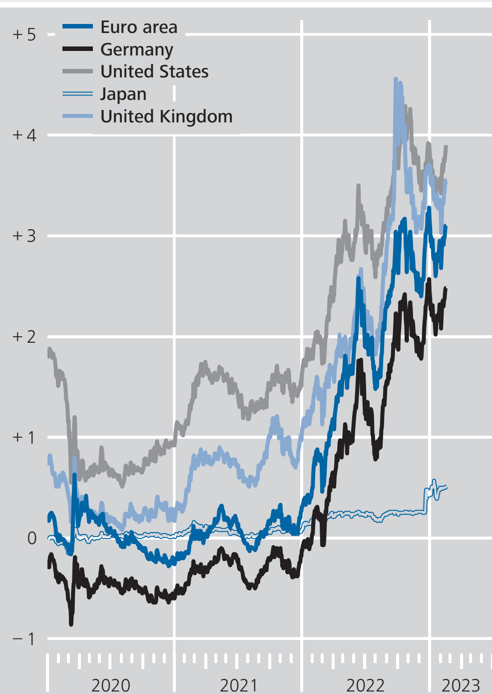
In the major currency areas, nominal government bond yields have been mixed on balance since the end of September, amid significant volatility. In response to still unexpectedly high inflation data and a brightening macroeconomic outlook in the euro area, yields there rose markedly at first. In the United States, by contrast, there were growing signs of an economic slowdown, causing yields there to sink. Furthermore, the dynamics of inflation, which lost some breadth, dampened yield developments in the United States. Against this backdrop, monetary policymakers on both sides of the Atlantic continued to tighten monetary policy. In particular at its December meeting, the Governing Council of the ECB sent strong restrictive monetary policy signals. It made it clear that key interest rates would have to rise further and at a steady pace to reach levels that were sufficiently restrictive to ensure a timely return of inflation to the 2% target.

Ten-year yields with net gains in the euro area, virtually unchanged in the United States …

At the turn of the year, market participants increasingly gained the impression that inflation could have peaked in the euro area, too, and that inflation could fall to close to 2% faster than previously expected. This was based in part on the publication of a lower than expected HICP inflation rate for December 2022. This reassessment by the market put pressure on yields. With the labour market still very robust and a further improvement in economic indicators, however, market participants likewise saw a higher probability that a recession might not materialise. On balance, the GDP-weighted yield on ten-year euro area bonds rose by 20 basis points to 3.1%, while yields on ten-year US Treasuries barely changed in the period under review (+3 basis points to 3.9%). Accordingly, the yield spread between the two currency areas narrowed by 17 basis points to 0.8 percentage point.

Bond yields* in the euro area and selected countries

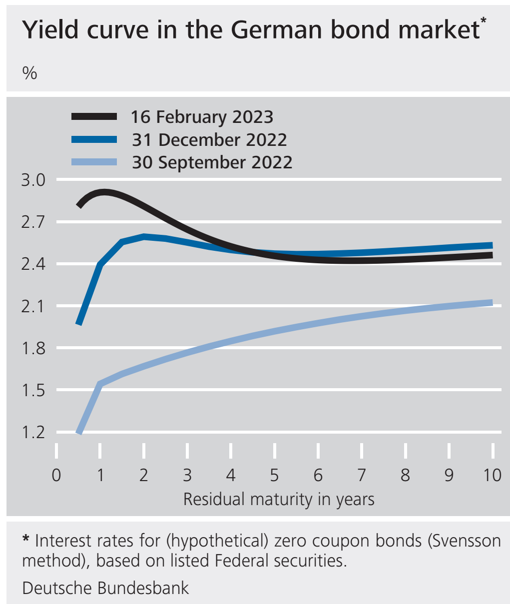
% p.a., daily data



Source: Bloomberg. * Government bonds with a residual maturity of ten years.
Deutsche Bundesbank

… and down in the United Kingdom

In the period under review, yields on ten-year UK gilts fell significantly by 60 basis points to 3.5%. One important reason for this decline in yields was that the Bank of England announced at the end of September that it would intervene in the gilt market. This was a response to the sharp rise in yields, which was triggered by the UK government's unfunded tax cut plans and which the central bank viewed as a threat to the stability of the financial system (see also the box on pp. 43 f.). In addition, the Bank of England published an inflation forecast that had been revised down significantly, something



Yield curve in the German bond market*

***** Interest rates for (hypothetical) zero coupon bonds (Svensson method), based on listed Federal securities.
Deutsche Bundesbank

which market participants interpreted as meaning that the Bank of England might end its ongoing tightening cycle in the course of the year and might potentially lower policy rates again as early as the end of 2023.

Higher yields in Japan

In December, the Bank of Japan surprised market participants with the announcement that it would widen the tolerance range around its yield target by 25 basis points. Thereupon, the yield on ten-year Japanese bonds rose by 26 basis points to 0.5%. Since then, the yield has remained at the upper end of the yield target range of 0 to ±50 basis points. The Bank of Japan cited the aim of combatting the dysfunction in the government bond market as the reason behind this decision. The markets saw this as the beginning of a monetary policy tightening cycle.

Ten-year Bund yield up

In the reporting period, yields on ten-year Bunds rose (by 37 basis points to 2.5%). At the end of December, they stood at more than 2.6%, their highest level in over ten years. The implied volatility of options on futures contracts for Bunds – a metric that reflects uncertainty about future price developments – fell during the reporting period. This reflects a slight decline in economic imponderables and the fact that uncertainty about the inflation outlook eased for market participants.

German yield curve markedly higher at short end and inverted overall

In the reporting period, the Bund yield curve shifted upwards significantly, particularly at the short end. Yields on bonds with a residual maturity of one year stood at 2.9%, a level last seen at the beginning of October 2008. Although yields on ten-year Bunds also rose, they were lower than short-term yields at the end of the reporting period. The yield curve has therefore inverted. A model breakdown of the yield curve suggests that market participants expect a slightly higher trajectory for short-term interest rates than they did at the end of September. The term premia that investors demand as compensation for assuming price risk when purchasing long-term bonds also rose slightly over the period under review.

Scarcity premium for Federal securities down

The rise in the term premium can be explained to a large extent by the sharp decline in the scarcity premium for Federal securities. The scarcity premium corresponds to the yield spread between ten-year Federal securities and maturity-matched overnight index swaps (OISs). This spread narrowed by 40 basis points.[2] An important factor in this was the Finance Agency's decision in October to increase its own holdings of Federal securities by just over €50 billion in order to be able to lend particularly sought-after securities in the repo market – especially over the turn of the year. In addition, the Federal Government announced significantly higher issuance than planned. The supply of Federal securities is thus set to grow, which contributed to a further narrowing of the yield spread. Overall, however, notwithstanding the overall increase in the supply of Federal securities, the scarcity premium remained elevated by historical standards.

Euro area yield spreads narrower

The yield spread between ten-year Bunds and ten-year government bonds issued by other euro area countries (GDP-weighted average) narrowed by 24 basis points to 0.9 percentage point compared with the end of September. This left the spread still moderately above its

2 See Deutsche Bundesbank (2023) and Baltzer et al. (2022).

Spillovers from UK government bond yields to European government bonds in the autumn of 2022

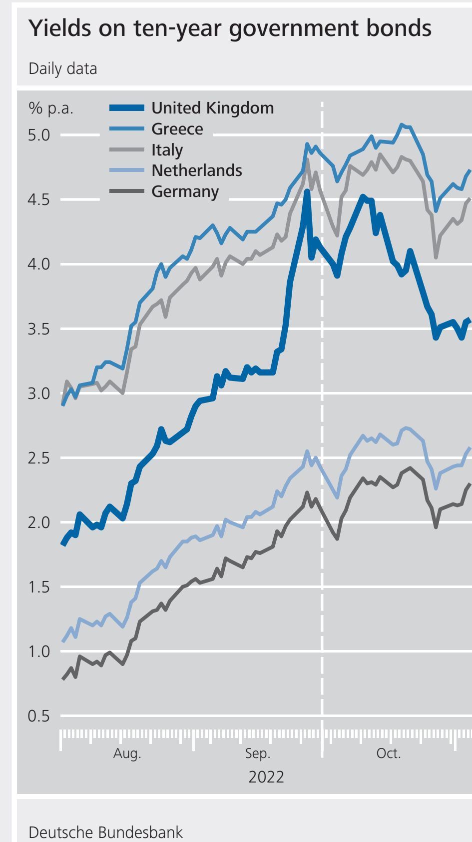
Last autumn, the announcement of unfunded tax cuts by the government of the United Kingdom (UK) caused a surge in yields on UK government bonds (gilts). This sudden rise was deemed by the Bank of England (BoE) to be a threat to financial stability, prompting it to intervene in the gilt market despite its tightening of monetary policy. The BoE's temporary purchases of long-term gilts and other support measures then helped to calm the market turmoil. This experience illustrates how sensitively financial markets react to overly expansionary, unfunded fiscal policy measures in a setting of excessive inflation and monetary policy tightening. For the Eurosystem's monetary policy, it is also relevant to know whether and to what extent the soaring gilt yields spilled over to other European government bond yields via international interest rate linkages.

Empirical relevance of spillovers

In order to measure any possible spillovers from gilt yields to government bonds issued by individual euro area countries, time-varying "directional" spillovers are calculated as in Diebold and Yilmaz (2012).[1] These gauge the intensity of spillovers between government bond yields, capturing both simultaneous and lagged relationships. The model, estimated over a rolling three-month window, uses the ten-year government bond yields (measured in differences) of Germany, France, Greece, Italy, the Netherlands, Spain and the United Kingdom (daily data).

The results indicate that spillovers from the gilt market were relevant for all government bonds included in the model. Up to mid-September 2022, moreover, German and Dutch government bonds experienced distinctly stronger spillovers than Italian or Greek government bonds. This probably reflects the fact that gilts and the government bonds of core European countries have a similar credit quality and liquidity over the longer term, which is part of the reason why they have similar term premiums and thus a close relationship between their yields.

When gilt yields soared in the second half of September, spillovers to Italian and Greek



Yields on ten-year government bonds

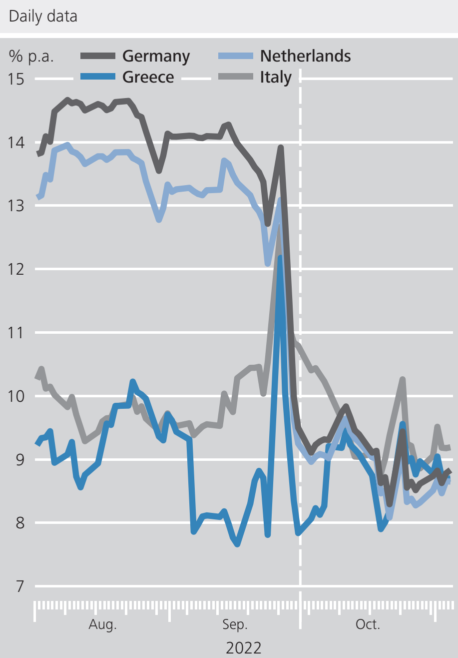
Daily data

Deutsche Bundesbank

1 These spillovers are based on a time-varying VAR model and on the forecast error variance of the variables calculated over a given time horizon: the forecast error variance of the yields is calculated using generalised impulse response functions, and a forecast horizon of ten days is selected. See Deutsche Bundesbank (2020) for a more detailed summary of the estimation approach of Diebold and Yilmaz.

Spillover effects of ten-year gilts on European government bond yields*

Daily data



Sources: Bloomberg and Bundesbank calculations. * Calculated over a rolling three-month window following the approach of Diebold and Yilmaz (2012).

Deutsche Bundesbank

government bonds increased visibly, while they remained almost constant for German Bunds and Dutch government bonds. This suggests that concerns about the UK's public finances also affected Italy and Greece to some extent. Market participants may, at times, have feared that Italy or Greece might also overstep their narrow fiscal bounds. At the same time, relevant liquidity indicators showed liquidity in the European government bond markets to be satisfactory.[2] There was thus no sign of any noteworthy liquidity spillovers from gilts or of impaired market functioning.

On balance, however, any concerns that may have arisen about Italian or Greek public finances remained limited. First, the estimated spillovers to these countries' government bonds remained consistently smaller than the corresponding spillovers to Bunds, which are regarded as safe. Second, the spillovers to Italian and, in particular, Greek government bonds quickly receded again after peaking at the end of September, despite the turmoil on the gilt market taking some time to subside. Viewed as a whole, this suggests that, irrespective of the tightening of monetary policy in both currency areas, the higher gilt yields had a demonstrable impact on Italian and Greek government bond yields, but that this was limited and short-lived. After the UK government reversed the planned tax cuts and changed its fiscal policy course in October, causing gilt yields to fall, the spillovers from the gilt market to European government bond markets then receded significantly. This would indicate that market participants regarded the decline in gilt yields primarily as a country-specific development without any wider relevance for the euro area.

Another interesting finding is that, throughout the period under consideration, spillovers from gilt yields to Dutch government bonds remained somewhat weaker than those to Bund yields. Within the euro area, it is primarily in the Netherlands that pension funds play an important role. However, the risk that, much like in the UK, pension funds in the Netherlands might amplify rising government bond yields by making fire sales of government bonds appears not to have been viewed as a major concern by the markets. There are two likely explanations for this, which are certainly mutually compatible: one, the sound state of Dutch public finances and, two, a comparatively low susceptibility to fire sales of government bonds. Possible reasons for this are that Dutch pension funds – measured against the entire euro area government bond market – hold comparatively few government bonds and are relatively unleveraged.[3]

---

2 This is illustrated, for example, by the stable order book liquidity of futures contracts for European government bonds.
3 See Bank for International Settlements (2022).

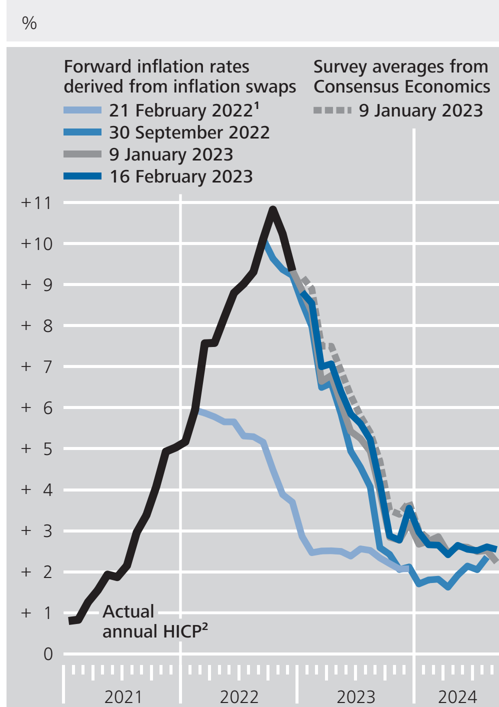
five-year average (0.8 percentage point). The narrowing yield spread mainly reflected lower risk premia in the context of an increase in investors' risk appetite and improved economic prospects in the euro area. The declining scarcity premium for Federal securities contributed to a narrowing of yield spreads in the euro area.

Market participants expected high inflation rates to persist in the short term

At the end of the reporting period, market-based short-term inflation expectations for the euro area were still very significantly above the 2% definition of price stability and close to levels seen at the beginning of the fourth quarter of 2022. Two phases can be distinguished within the reporting period. Initially, against the backdrop of surprisingly high inflation figures in the euro area for October and November, market participants made further upward revisions to their inflation expectations, which peaked in November 2022. After that, the market's inflation expectations began to reverse. For example, the publication of euro area inflation figures for December 2022 contributed to the market pricing in the possibility that inflation could fall to close to 2% faster than previously expected. The surprisingly mild winter and the associated marked decline in energy prices, especially for electricity and gas, supported this downward revision. The market assessment therefore conflicts with the December 2022 Eurosystem staff macroeconomic projections. From a monetary policy perspective, there is a risk that market participants are underestimating the persistence of the inflation process and giving too low a weighting in their assessments to the risks arising from the current phase of high inflation. The longer the period of inflation persists, the greater the likelihood that households and firms will no longer be guided by the 2% definition of price stability when setting their wages and prices. As an annual average, market participants are expecting an inflation rate of 5.7% for 2023 and 2.6% for 2024. Survey-based inflation expectations calculated by Consensus Economics put inflation at 5.5% for 2023 and 2.4% for 2024.

Short-term HICP paths for the euro area

%



Sources: Fenics Market Data, Consensus Economics, Eurostat and Bundesbank calculations. **1** On 21 February 2022, Russia recognised the independence of parts of the Donetsk and Luhansk regions within Ukrainian territory. **2** HICP excluding tobacco.

Deutsche Bundesbank

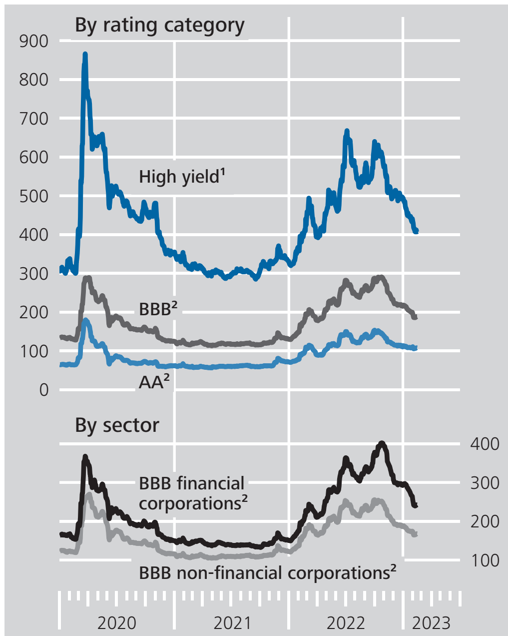
Rise in longer-term inflation expectations

Given that the inflation risk situation remains tense, it is unsurprising that longer-term inflation expectations continued to rise. The five-year forward inflation rate five years ahead, which is derived from inflation swaps, stood at 2.4% at last count, up 29 basis points from the end of September 2022. The quarterly survey-based inflation expectations calculated by Consensus Economics for the euro area six to ten years ahead stood at 2.0% in January, down slightly on the figure for October. Consequently, the difference between market-based and survey-based long-term inflation expectations widened to 0.4 percentage point. This difference is often seen as a risk premium that expresses market participants' concern about higher inflation rates over the longer term. An easing in the inflation process is therefore currently only being priced in by the market in the short term.

Five-year market-based US forward inflation rates in five years rose by a similar magnitude,

Yield spreads of corporate bonds in the euro area*

Basis points, daily data



Sources: Thomson Reuters and Bundesbank calculations. * Compared with Federal securities with a residual maturity of seven to ten years. **1** Merrill Lynch index across all maturities. **2** In each case, iBoxx indices with a residual maturity of seven to ten years.

Deutsche Bundesbank

Increase in longer-term inflation expectations in the United States, as well

climbing 22 basis points to 2.6%, while survey-based inflation expectations calculated by Consensus Economics remained unchanged at 2.2%. The inflation risk premium as the difference between market-based and survey-based inflation expectations is thus also positive in the United States and has risen.

Corporate bond yields down significantly

Yields on BBB-rated European corporate bonds with residual maturities of between seven and ten years declined quite substantially compared with the end of the third quarter of 2022. At 90 basis points, the decrease in yields for bonds issued by financial corporations – which tend to be relatively highly leveraged – was greater than that recorded for non-financial corporate bonds (46 basis points). Since the yields on maturity-matched Bunds rose slightly over the same period, yield spreads in the corporate sector narrowed significantly overall – by 130 basis points for financial corporations and 87 basis points for non-financial corporations. Compared with the end of September, the spreads on high-yield bonds fell even more considerably (-220 basis points). Despite the tightening of monetary policy, financial conditions in the financial markets partly improved here over the reporting period. Together with the implied volatility in the equity and bond markets, which was also down, this points to a marked increase in investors' risk appetite and to diminishing concerns about a severe recession. In line with this, the credit default premia for enterprises without an investment-grade rating also declined (iTraxx Crossover, five years: -247 basis points). Measured by yield spreads, financing costs for European enterprises across all rating categories were nevertheless still significantly above their respective five-year averages.

Low net issuance of German debt securities

At €397 billion, gross issuance in the German bond market in the fourth quarter of 2022 was down somewhat on the previous quarter's figure (€438 billion). Net of redemptions and changes in issuers' holdings of their own debt securities, domestic issuers increased their capital market borrowing by just €½ billion. The outstanding volume of foreign debt securities in the German market fell by €10½ billion in the fourth quarter. On balance, the total outstanding volume of bonds in Germany thus shrank by €10 billion in the quarter under review.

Net public sector issuance

In the final quarter of 2022, the public sector issued bonds to the tune of €24 billion net, following net redemptions totalling €21½ billion in the previous three-month period. The Federal government (including the resolution agency classified as part of central government) issued mainly ten-year, seven-year and 30-year Bunds in the amount of €31 billion overall. This contrasted with net redemptions of five-year Federal notes (Bobls) amounting to €10 billion. State and local governments redeemed debt securities worth €1½ billion on balance.

Fall in credit institutions' capital market debt

Domestic credit institutions reduced their capital market debt in the quarter under review by €19 billion, following net issuance of €28 bil-

lion in the third quarter. The vast majority of redemptions were of debt securities issued by specialised credit institutions (€28½ billion). By contrast, other bank securities that can be structured flexibly and mortgage Pfandbriefe recorded net issuance to the tune of €6 billion and €5 billion, respectively.

Net redemption of corporate bonds

In the final quarter of 2022, domestic enterprises redeemed bonds worth a net €4½ billion, following net issuance amounting to €17 billion in the previous quarter. On balance, the bulk of these redemptions concerned structured products with short maturities (less than one year).

Purchases of debt securities

In the fourth quarter of 2022, domestic non-banks expanded their bond portfolios by €28 billion net, purchasing exclusively domestic paper (€30½ billion). The Bundesbank also acquired debt securities worth €1½ billion net, largely under the Eurosystem's asset purchase programmes; on balance, these debt securities consisted exclusively of domestic paper issued by the public sector. By contrast, foreign investors and domestic credit institutions sold debt securities amounting to €25 billion and €14 billion net, respectively.

Investment activity in the German securities markets

€ billion

Item	2021 Q4	2022 Q3	2022 Q4
Debt securities			
Residents	43.0	10.1	15.3
Credit institutions	− 27.9	8.0	− 14.1
of which:			
Foreign debt securities	− 15.0	− 3.4	− 7.2
Deutsche Bundesbank	58.3	− 17.5	1.6
Other sectors	12.5	19.6	27.8
of which:			
Domestic debt securities	9.5	32.8	30.7
Non-residents	− 42.9	− 3.8	− 25.1
Shares			
Residents	37.7	27.3	4.9
Credit institutions	2.3	− 2.5	− 3.3
of which:			
Domestic shares	− 0.1	− 0.5	− 1.0
Non-banks	35.4	29.8	8.1
of which:			
Domestic shares	26.2	34.2	18.8
Non-residents	− 7.5	6.6	4.0
Mutual fund shares			
Investment in specialised funds	56.7	13.6	11.9
Investment in retail funds	11.6	− 2.5	1.4
of which:			
Equity funds	2.7	− 0.7	2.7

Deutsche Bundesbank

Equity market

International equity markets up significantly

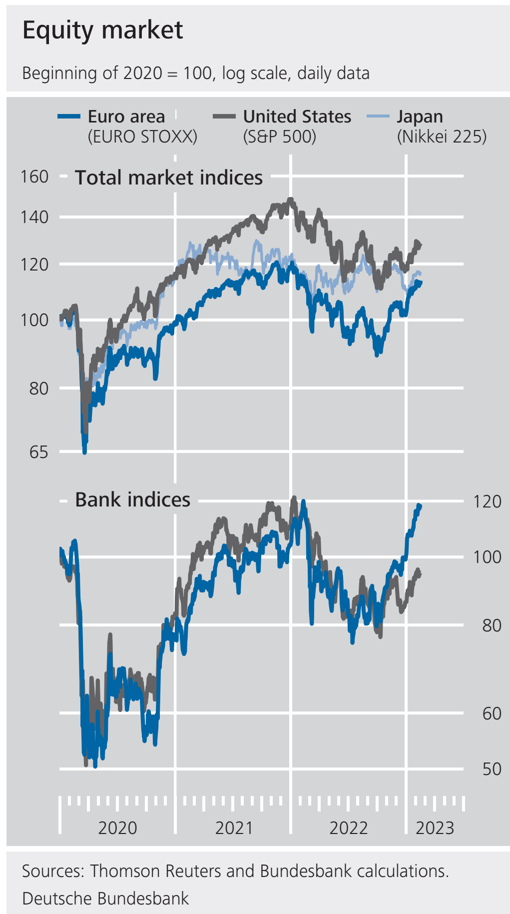
International equity markets recorded significant gains in some cases compared with the end of the third quarter of 2022. This was due, in particular, to better than expected economic developments, improved sentiment in the euro area and the anticipated recovery as a result of the reopening of the Chinese economy following the coronavirus pandemic. In the euro area, reports of sizeable deliveries of liquid gas and high gas storage levels were among the factors to additionally boost investor optimism, causing concerns about an energy crisis to fade into the background. This increased confidence that a recession could be avoided. In addition, the change in the market assessment of the short-term inflation outlook described above contributed to market participants speculating that the restrictive monetary policy stance would not persist as long, which, taken in isolation, had a boosting effect on prices. This more positive sentiment amongst investors led to significantly increased risk appetite, which also resulted in less uncertainty about future price developments, as reflected in the relevant volatility indices. On balance, the CDAX and the EURO STOXX recorded marked gains from the end of September, up 29.4% and 26.6%, respectively. They thus rose significantly more strongly than the prices of US equities (S&P 500), which nevertheless also recorded significant gains of 14.1%. In the United Kingdom, equity prices also rose sharply (FTSE 100: 16.2%); the Japanese Nikkei index increased by 6.8%.

Bank stocks outperform market as a whole

Bank shares on both sides of the Atlantic considerably outperformed their respective overall markets. Stocks of European banks rose by a significant 48.9% on their level at the end of

Equity market

Beginning of 2020 = 100, log scale, daily data



Sources: Thomson Reuters and Bundesbank calculations.
Deutsche Bundesbank

the third quarter of 2022. The prices of bank stocks listed in the US S&P 500 went up by 19.9%. One important reason for the price gains is the recent significant increase in credit institutions' revenue from net interest income resulting from a larger maturity transformation contribution following the interest rate turnaround. The reported profits for the final quarter of 2022 were also significantly better than expected for both US and European banks. On the basis of this very good earnings situation, analysts revised their earnings expectations for the European banking sector upwards to a significant extent in the reporting period.

Valuations up on both sides of the Atlantic

Equity valuation levels saw similar developments on both sides of the Atlantic during the reporting period. According to the Bundesbank's dividend discount model, the strong price increases in both currency areas were reflected, above all, in a lower risk premium. In this environment, market participants were therefore prepared to hold equities for lower risk compensation. Both the implied cost of equity and earnings yields fell compared with their levels at the end of September. However, for the EURO STOXX they are still close to the long-term averages, indicating that the stock market valuation is still comparatively moderate. For the S&P 500, by contrast, the implied cost of equity was close to its all-time low. The earnings yield was somewhat higher, but still significantly below the long-term average. As such, valuation appears to be comparatively high for the S&P 500.

Equity market funding

German stock corporations raised €22 billion in new funds on balance in the reporting quarter (previous quarter: €40½ billion). The outstanding volume of foreign shares in the German market shrank by €13 billion over the same period. On balance, equities were purchased by resident non-banks (€8 billion) and foreign investors (€4 billion). By contrast, domestic credit institutions downsized their equity portfolios by €3½ billion in net terms.

Mutual funds

Sales and purchases of mutual fund shares

In the fourth quarter of 2022, domestic investment companies recorded a net inflow of €13½ billion, compared with €11 billion in the previous quarter. On balance, specialised funds reserved for institutional investors were by far the primary beneficiaries (€12 billion). Of the various asset classes, mixed securities funds, in particular, registered significant net inflows of capital (€15½ billion), but open-end real estate funds also recorded inflows (€5 billion). The outstanding volume of foreign mutual fund shares in Germany rose by €17½ billion in the period under review. Mutual fund shares were bought on balance almost exclusively by domestic non-banks, which added €28½ billion worth of fund shares to their portfolios. Domestic credit institutions expanded their equity portfolios by €2½ billion in net terms. On balance, non-resident investors were only marginally active in the German market.

Direct investment

Direct investment sees net capital exports

Against the backdrop of high inflation and diverging economic prospects in the major currency areas, transactions in cross-border portfolio investment resulted in net capital exports of €14½ billion in the fourth quarter of 2022. Direct investment, too, led to capital outflows (€21½ billion).

German direct investment abroad results in capital exports

Enterprises domiciled in Germany expanded their direct investment abroad by €13½ billion on balance between October and December 2022, compared with €52 billion in the previous three months. They boosted their equity capital in foreign subsidiaries by €28½ billion, with reinvested earnings accounting for just over one-third of this increase. By contrast, firms resident in Germany reduced their lending volume with affiliated group entities abroad by €15 billion. This was done exclusively through financial loans. Considerable volumes of direct investment funds flowed from Germany to France (€13½ billion), the Netherlands (€7 billion) and Ireland (€5½ billion). By contrast, German enterprises scaled back their direct investment in the United Kingdom (€22 billion).

Foreign direct investment in Germany sees capital outflows

Foreign enterprises lowered their direct investment in Germany by €8 billion in the fourth quarter (following an increase of €22½ billion in the previous quarter). They reduced their volume of intra-group loans issued to German enterprises by €11½ billion, mainly relying on financial loans to do so. However, they boosted their equity capital in German subsidiaries by €3½ billion. Particularly high outflows of direct investment were recorded from the United Kingdom (€21 billion) and the Netherlands (€6½ billion). By contrast, enterprises from the United States (€8 billion) and Ireland (€6½ billion) boosted their direct investment funds in Germany.

Major items of the balance of payments

€ billion

Item	2021 Q4	2022 Q3	2022 Q4p
I. Current account	+ 61.0	+ 19.0	+ 47.4
1. Goods	+ 38.4	+ 21.6	+ 31.8
2. Services	− 4.2	− 21.4	− 9.0
3. Primary income	+ 42.0	+ 35.1	+ 43.2
4. Secondary income	− 15.2	− 16.4	− 18.6
II. Capital account	− 0.4	− 4.7	− 4.0
III. Financial account (increase: +)	+ 86.3	+ 5.8	+ 61.3
1. Direct investment	+ 32.9	+ 29.6	+ 21.3
Domestic investment abroad	+ 38.8	+ 52.2	+ 13.5
Foreign investment in the reporting country	+ 5.9	+ 22.6	− 7.8
2. Portfolio investment	+ 95.4	− 26.5	+ 14.3
Domestic investment in foreign securities	+ 42.0	− 25.5	− 8.1
Shares[1]	+ 12.9	− 8.2	− 15.3
Investment fund shares[2]	+ 39.9	− 0.1	+ 17.5
of which: Money market fund shares	+ 14.0	− 0.7	+ 10.7
Short-term debt securities[3]	− 10.4	− 1.5	+ 5.7
Long-term debt securities[4]	− 0.4	− 15.7	− 16.1
of which: Denominated in euro[5]	–	–	
Foreign investment in domestic securities	− 53.3	+ 1.0	− 22.4
Shares[1]	− 7.6	+ 6.4	+ 2.9
Investment fund shares	− 2.8	− 1.6	− 0.2
Short-term debt securities[3]	− 6.1	− 6.8	− 25.0
Long-term debt securities[4]	− 36.8	+ 3.0	− 0.2
of which: Issued by the public sector[6]	− 32.9	− 11.2	+ 5.0
3. Financial derivatives[7]	+ 18.9	+ 15.2	− 2.1
4. Other investment[8]	− 61.1	− 13.2	+ 26.9
Monetary financial institutions[9]	+ 99.4	− 26.1	+ 84.3
Enterprises and households[10]	− 44.5	− 23.3	+ 17.9
General government	+ 1.0	− 11.4	+ 8.3
Bundesbank	− 117.1	+ 47.6	− 83.5
5. Reserve assets	+ 0.3	+ 0.8	+ 0.8
IV. Errors and omissions[11]	+ 25.8	− 8.5	+ 17.9

1 Including participation certificates. **2** Including reinvested earnings. **3** Short-term: original maturity of up to one year. **4** Long-term: original maturity of more than one year or unlimited. **5** Including outstanding foreign Deutsche Mark bonds. **6** Including bonds issued by the former Federal Railways, the former Federal Post Office and the former Treuhand agency. **7** Balance of transactions arising from options and financial futures contracts as well as employee stock options. **8** Includes, in particular, loans and trade credits as well as currency and deposits. **9** Excluding the Bundesbank. **10** Includes the following sectors: financial corporations (excluding monetary financial institutions) as well as non-financial corporations, households and non-profit institutions serving households. **11** Statistical errors and omissions resulting from the difference between the balance on the financial account and the balances on the current account and the capital account.

Deutsche Bundesbank

List of references

Baltzer, M., K. Schlepper and C. Speck (2022), The Eurosystem's asset purchase programmes, securities lending and Bund specialness, Deutsche Bundesbank Discussion Paper No 39/2022.

Bank for International Settlements, BIS Quarterly Review, December 2022, p. 8.

Deutsche Bundesbank (2023), Term structures in economic analysis, Monthly Report, January 2023, pp. 53-74.

Deutsche Bundesbank (2020), Global financial interconnectedness and spillovers between the G20 countries, Monthly Report, September 2020, pp. 59-62.

Diebold, F. X. and K. Yilmaz (2012), Better to give than to receive: Predictive directional measurement of volatility spillovers, International Journal of Forecasting, Vol. 28, pp. 57-66.