Financial markets

Financial market setting

Financial markets shaped by increasing inflationary risks and expectations of monetary policy tightening

Developments in the international financial markets in the final quarter of 2021 and the first weeks of 2022 were marked by increasing inflationary risks. In light of surprisingly high rates of price increase on both sides of the Atlantic, market participants revised their inflation expectations for the major currency areas upwards multiple times for the current and the coming year. Together with the assessment that the burdens imposed by the Omicron variant would be manageable, this led some central banks to take a less accommodative monetary policy stance. The Bank of England, for instance, responded with two Bank Rate increases, while the Federal Reserve (Fed) announced in January that it deemed it appropriate to bring net asset purchases to an end in March and to raise the federal funds rate soon. Looking ahead, market participants are now anticipating a less expansionary monetary policy for the euro area, too. As a result, benchmark returns increased, and real interest rates also rose. On the whole, yields on euro area corporate bonds even rose significantly more strongly than government bond yields. On balance, the yield spreads of corporate bonds, which serve as an indicator of funding conditions for enterprises, were therefore slightly above their five-year average as this report went to press. International equity markets declined amid rising interest rates, but remained predominantly in positive territory compared with the end of September. This was due, first and foremost, to an improvement in overall earnings expectations, particularly on the back of increased profit margins at large enterprises. Foreign exchange market developments were also influenced largely by the persistently high inflation rates worldwide, the measures central banks have announced to combat inflation as well as those already taken, and speculation among market participants regarding further steps towards monetary policy normalisation. Measured as a weighted average against the currencies of 19 major trading partners, the euro has, on balance, depreciated by 2.1% net since the end of September 2021.

Exchange rates

Euro down against the US dollar on balance

The euro lost 3.2% of its value compared with the US dollar in the first three weeks of November 2021 due to stronger rate hike expectations for the United States, but was able to recover somewhat towards the end of the month. The highly contagious Omicron variant of COVID-19 temporarily muted market expectations of an early Federal Reserve interest rate hike. In the euro area, however, the correction of expectations was comparatively small, as Eurosystem policy rate increases had not been expected until later in the first place. The temporary convergence of market views concerning the monetary policy stances of the Eurosystem and the US central bank allowed the euro to rally against the dollar, on balance. Subsequently, this currency pair moved in a narrow range around US$1.13 per euro – without any clearly discernible trend – until into the first week of January.

The euro/US dollar exchange rate did not see more movement until January. After a short-lived strengthening of the euro, sentiment shifted in favour of the US dollar in the second half of January as various members of the Federal Reserve's Open Market Committee signalled a speedy monetary policy response to the previously published high level of consumer price inflation of 7% in the United States and that it might soon begin to tighten its policy rate. Increased geopolitical tensions between Russia and Ukraine additionally propped up the US dollar. As a result, the euro reached its lowest level of the last 20 months, trading at US$1.11. However, more surprisingly high inflation figures emerged from the euro area at the

end of the month, prompting market expectations of a normalisation to be brought forward here, too, which strengthened the euro again. The euro appreciation accelerated further when, at the press conference following the ECB Governing Council's meeting in February, a policy rate adjustment during the current year was no longer explicitly ruled out. As this report went to press, the euro stood at US$1.14. It has thus lost 1.8% of its value since the end of September.

Euro also loses ground against the pound sterling …

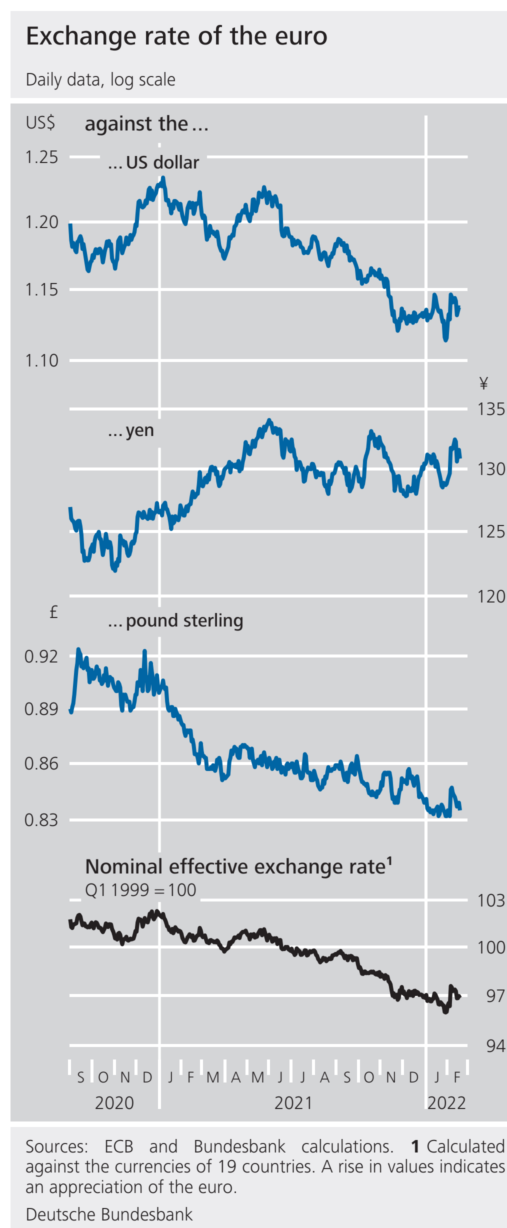
The British pound appreciated on a broad basis after the Bank of England raised its official Bank Rate in mid-December to combat the UK's own high inflation. Given the rapid spread of new COVID-19 infections in the United Kingdom, a majority of observers had not anticipated a decision of this kind at this point in time. At the beginning of February, the Bank of England upped the ante with a second interest rate hike, after the UK inflation rate once again proved higher than expected. While this initially caused the euro to weaken further against the pound sterling, it rallied markedly against the UK currency when, later that day, the markets revised their interest rate outlook for the euro area upwards following the latest monetary policy meeting of the ECB Governing Council. For a few days, this more than made up for the immediately preceding exchange rate losses. When this report went to press, the euro was trading at £0.83, around 3.0% lower than at the end of September.

… but records gains against the yen

Following the Japanese central bank's December meeting, the yen began to depreciate against the euro and other currencies. This was due to monetary policy decisions and Japan's low inflation rates (by international standards) both failing to spark any market fantasies of inflation rate increases. In mid-January, however, sentiment in the foreign exchange markets swung temporarily in the yen's favour when the Bank of Japan raised its inflation forecast for the coming fiscal year and pointed to balanced price risks in its Outlook Report, having previously highlighted deflationary risks for

Exchange rate of the euro

Daily data, log scale



Sources: ECB and Bundesbank calculations. 1 Calculated against the currencies of 19 countries. A rise in values indicates an appreciation of the euro.
Deutsche Bundesbank

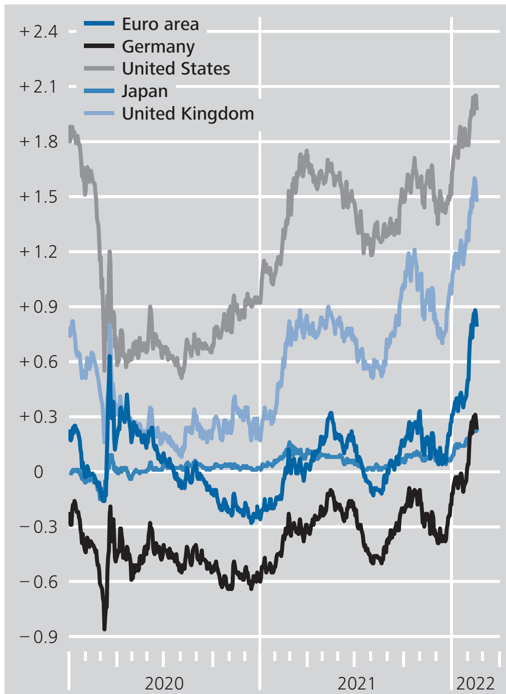
years. Nevertheless, following the ECB Governing Council's monetary policy meeting, the euro once again appreciated against the yen, too. As this report went to press, the euro was trading at ¥131. It was thus some 0.9% above its value at the end of September.

Euro weaker in effective terms

Measured as a weighted average against the currencies of 19 major trading partners, the euro has depreciated by 2.1% net since the end of September. It lost ground especially against the currencies of countries whose central banks have already chosen to raise policy rates in the current cycle. Losses were consequently recorded against the pound sterling, as well as

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

the Norwegian krone (-0.4%), the forint (-1.1%), the Czech koruna (-4.4%) and the zloty (-2.5%). On balance, the price competitiveness of euro area suppliers improved over the period under review, but looking at the long-term average, their competitive position can currently still be considered neutral.

Securities markets and portfolio investment

Bond market

Ten-year government bond yields up globally …

Nominal government bond yields rose considerably in all major currency areas since the end of September. This was chiefly due to reduced concerns about the economic impact of the Omicron wave – despite high infection rates – and an initial tightening of monetary policy in a solidifying inflation environment. Fiscal policy measures, meanwhile, played a subordinate role. The failure of the US government's "Build Back Better" social and infrastructure policy package at the beginning of 2022, for instance, only temporarily dampened the rise in yields. In the United States, nominal yields on ten-year US Treasuries rose sharply by 48 basis points from the end of September to reach 2.0%. As expectations concerning average inflation over the next ten years derived from inflation swaps increased only slightly in the period under review, the real rate of interest increased as well.

Against the backdrop of rising inflation expectations and the Bank of England's tightening of monetary policy, yields on ten-year gilts in the UK rose by 45 basis points. In light of the steps made toward a normalisation of monetary policy, Japanese government bonds also saw somewhat higher yields. However, the increase in yields was significantly weaker here (+16 basis points). At 0.2%, yields on ten-year government bonds therefore continued to move within the range in which market participants assume that the Bank of Japan wishes to keep interest rates.

… as well as in Germany

Yields on ten-year government bonds rose by 43 basis points, a similar level of growth as that seen in US and UK bond yields; as this report went to press, they had risen to 0.2%, the first time they had clearly been in positive territory since spring 2019. In fact, the increase in the interest rate even amounted to 59 basis points in relation to the ECB's Governing Council meeting in mid-December. This clear increase indicates that market participants now see the inflation process in the euro area as involving significantly higher upside risks. They expect that the euro area will also see a reduction in policy easing and are pricing in the corresponding stronger monetary policy responses. This was also evident in market developments during the press conference after the ECB Governing Council's monetary policy meeting at the beginning of February, when short-term bond yields in particular rose sharply.

Model breakdowns of the Bund yield curve also indicate that the increase in ten-year nominal

Rise in ten-year bond yields ultimately driven by expected interest rate path

interest rates since the end of September is ultimately entirely down to a rise in risk-neutral short-term interest rate expectations, while the term premium has decreased. This increase in implied short-term interest rates reveals that market participants expect a steeper interest rate path and thus tighter monetary policy in the longer term given current inflation concerns.

German yield curve steeper

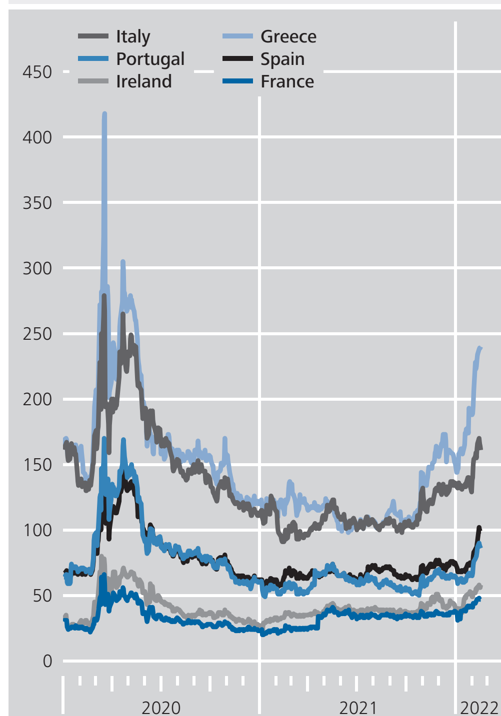
The yield curve derived from the yields on Federal securities has shifted over the reporting period; as this report went to press, it was significantly steeper in the short to medium-term maturity segment. While Federal securities with a residual maturity of up to six years were yielding less than the deposit facility rate of -0.5% at the start of the fourth quarter, yields on two-year and longer-dated securities were above this rate at the time this report went to press. At the same time, the premium that market participants pay for the particularly high liquidity and scarcity of Federal securities increased. As a result, the yield spread between Federal securities and maturity-matched bonds issued by the Kreditanstalt für Wiederaufbau (KfW) widened distinctly.

Widening of yield spreads in euro area

The GDP-weighted yield on ten-year euro area bonds (excluding Germany) has also risen since the end of September 2021 (by 70 basis points to 1.0%). The interest rate spread between this measure and German Bunds with the same maturity increased by 27 basis points to 0.8%. While many euro area Member States saw yields move in fairly close concert with Bunds, yield spreads widened disproportionately for countries with poorer credit ratings such as Greece (+132 basis points) and Italy (+55 basis points). The increase in Greek government bond yields probably also reflects the fact that net asset purchases under the pandemic emergency purchase programme (PEPP) will be discontinued at the end of March 2022 as planned and Greek government bonds are not eligible for purchase under the topped-up public sector purchase programme (PSPP). In Italy, increased uncertainty in connection with the presidential

Spreads of ten-year government bonds over German Federal bonds

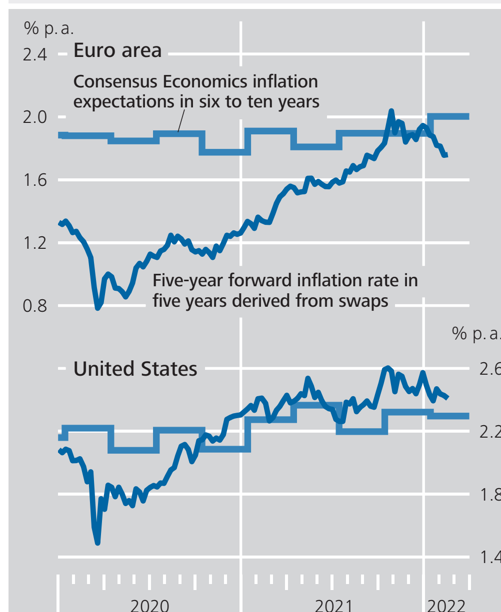
Basis points, daily data



Sources: Bloomberg and Bundesbank calculations.
Deutsche Bundesbank

Forward inflation rates* and expectations in the euro area and the United States

Weekly averages



Sources: Bloomberg, Thomson Reuters, Consensus Economics and Bundesbank calculations. * Derived from the fixed cash flow arising from inflation swaps which is swapped for the actual annual inflation rates (HICP excluding tobacco for the euro area and CPI Urban Consumers for the United States) realised over the next five or ten years.
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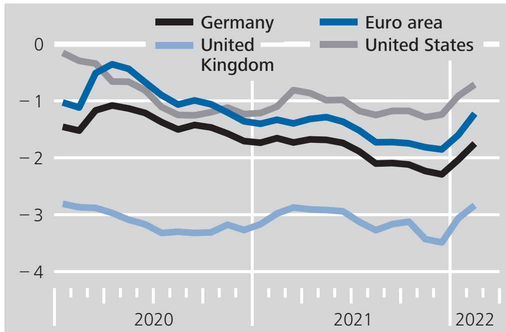
Ten-year real interest rates in various currency areas*

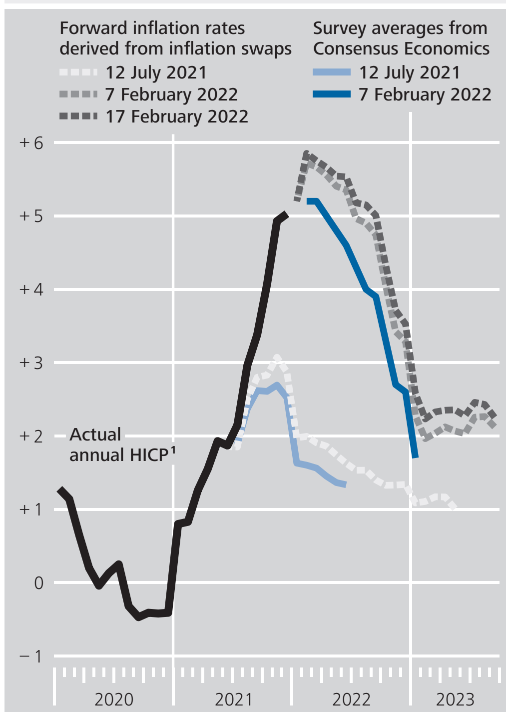
% p.a., monthly data



Sources: Bloomberg and Bundesbank calculations. * Real interest rates based on ten-year nominal interest rates less concurrent inflation expectations based on inflation swaps. For Germany, the inflation swaps of the euro area are used.
Deutsche Bundesbank

Short-term HICP paths for the euro area

%



Sources: Fenics Market Data, Consensus Economics, Eurostat and Bundesbank calculations. **1** Excluding tobacco. Year-on-year change.
Deutsche Bundesbank

elections also temporarily played a role. At the time this report went to press, liquidity indicators showed no particular tensions in the market for euro area government bonds. Relative to the implied volatility of options on futures contracts for Bunds, price uncertainty nevertheless rose noticeably; at the time this report went to press, it was considerably higher than its five-year average. Higher volatility is, however, not unusual in periods of rising policy rates.

Market participants do not expect inflation rates of 2% until November 2023

Inflation swaps indicate that market participants revised their short-term inflation expectations upwards multiple times in recent months in response to rates of price increase that were higher than generally expected. As this report went to press, market-based inflation expectations for the Harmonised Index of Consumer Prices (HICP) in the euro area (excluding tobacco) stood at 5.0% on average for 2022. At present, market participants do not anticipate an annual rate of change in the HICP of 2% until November 2023. Surveys conducted by Consensus Economics also showed that inflation expectations for 2022 were revised upwards in January and February; the annual average stood at 3.9% at last count. Survey-based inflation expectations for the coming months were consistently below the market-based values. The positive inflation risk premium reflected in the difference between market and survey-based values for this period suggests that market participants are hedging against risks arising from unexpectedly high inflation in the future. The option-implied probability that average euro area inflation over the next five years could exceed the new target of 2% has increased from 40% at the end of September to 49% as this report went to press.

Forward inflation rates in euro area

In contrast to the inflation expectations over the short and medium term, market data point to virtually unchanged inflation expectations for forward inflation rates in five years. Thus, at 1.8%, the forward inflation rate over a five-year period starting in five years' time, which is derived from inflation swaps, was only marginally shy of its value at the end of September. Survey-based inflation expectations calculated by Consensus Economics for the euro area six to ten years ahead were raised to the target of 2% in January, compared with 1.9% in October 2021.

Yield spreads of corporate bonds up

Yields on BBB-rated European corporate bonds with residual maturities of between seven and ten years have risen significantly since September 2021. Bonds issued by financial corporations recorded an increase in yields of 111 basis points to 2.1%. At 1.7%, yields on non-financial corporate bonds were 96 basis points higher than at the end of September 2021. Since the yields on matched-maturity Federal securities rose less sharply on balance, the spreads of European financial and non-financial corporate bonds over Bunds widened by 68 and 52 basis points, respectively. The increase in yields on high-yield bonds was particularly strong, with spreads rising by 95 basis points. At the same time, the credit default premia for debtors with poor creditworthiness increased (iTraxx Crossover (five years) +78 basis points). Measured by yield spreads, funding conditions for European enterprises in the capital market were somewhat above their five-year average as this report went to press.

Low net sales in the bond market

Gross issuance in the German bond market in the fourth quarter of 2021 fell significantly short of the value for the previous quarter. Overall, German borrowers issued paper to the tune of €354 billion, down from €442½ billion in the previous three months. Net of redemptions and changes in issuers' own holdings, domestic issuers ramped up their capital market borrowing by €12 billion. The outstanding volume of foreign debt securities in the German market fell by €11½ billion in the fourth quarter. On balance, the total outstanding volume of bonds in Germany thus climbed by €1 billion in the quarter under review.

Lower net public sector issuance

In the final quarter of 2021, the public sector issued bonds to the tune of €21½ billion net, following €31 billion in the previous quarter. The Federal government (including the resolution agency classified as part of central government) issued mainly Federal bonds (Bunds), primarily with a ten-year maturity (€15 billion). This contrasted with net redemptions of five-year Federal notes (Bobls) totalling €4½ billion. State and local governments redeemed debt securities worth €4½ billion on balance.

Investment activity in the German securities markets

€ billion

Item	2020 Q4	2021 Q3	2021 Q4
Debt securities			
Residents	70.9	72.2	43.4
Credit institutions	− 14.4	− 4.5	− 27.8
of which:			
Foreign debt securities	2.0	− 1.5	− 15.0
Deutsche Bundesbank	70.5	60.1	58.3
Other sectors	14.8	16.6	12.9
of which:			
Domestic debt securities	2.5	3.6	10.5
Non-residents	− 105.7	− 9.6	− 42.6
Shares			
Residents	30.2	30.8	38.8
Credit institutions	5.2	3.5	2.3
of which:			
Domestic shares	1.8	0.7	− 0.1
Non-banks	25.0	27.3	36.6
of which:			
Domestic shares	3.0	9.1	26.2
Non-residents	− 0.6	0.4	− 7.5
Mutual fund shares			
Investment in specialised funds	43.3	14.9	56.7
Investment in retail funds	8.0	10.2	11.6
of which:			
Equity funds	4.3	2.4	2.7

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Outstanding volume of corporate bonds down

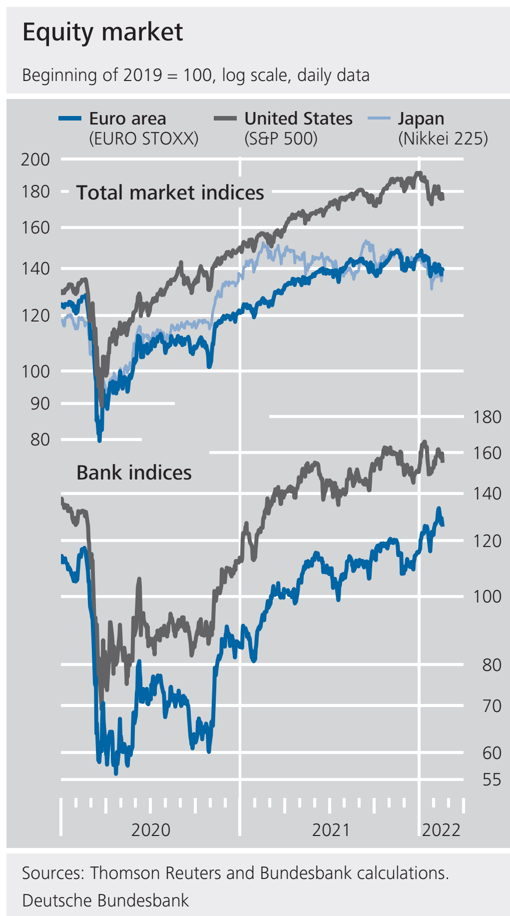
In the quarter under review, domestic enterprises redeemed bonds worth a net €8 billion, following net issuance amounting to €13 billion in the previous quarter. These redemptions were, on balance, almost solely attributable to other financial intermediaries' long-term securities expiring.

Fall in credit institutions' capital market debt

Domestic credit institutions reduced their capital market debt in the quarter under review by €1½ billion, following net issuance of €9 billion in the previous quarter. Redemptions mostly affected debt securities of specialised credit institutions (€1½ billion) and public Pfandbriefe (€1 billion). By contrast, other bank debt securities that can be structured flexibly were issued to the tune of €1½ billion net.

Purchases of debt securities

The Bundesbank was the chief net purchaser of debt securities in the fourth quarter of 2021, in-



Equity market

Beginning of 2019 = 100, log scale, daily data

Sources: Thomson Reuters and Bundesbank calculations.
Deutsche Bundesbank

creasing its bond portfolio by €58½ billion net, principally under the Eurosystem's asset purchase programmes. Domestic non-banks acquired debt securities for €13 billion net, with domestic paper the focus of interest. By contrast, foreign investors and domestic credit institutions disposed of fixed-income securities amounting to €42½ billion and €28 billion net respectively.

Equity market

Majority of international equity markets experience rising prices

Prices in the international equity markets have declined markedly since the start of January when expectations of rising central bank interest rates became entrenched. However, previous price gains meant that some markets were still trading slightly higher than at the end of the third quarter of 2021. This was true of equity markets in the United Kingdom and the United States, for example – the UK's FTSE 100 index rose by 6.4% from the end of September, while the US S&P 500 increased by 1.7%. Meanwhile, the Euro STOXX recorded comparatively weak growth (+0.5%). By contrast, the CDAX and the Nikkei recorded net losses on balance, sliding 1.5% and 7.5% respectively.

Price developments on either side of the Atlantic varied greatly in individual sectors. For instance, technology stocks, in particular, which recently reached high valuations, sustained significant price losses in some cases. Market participants anticipate that these stock corporations, which have particularly strong growth prospects, will see a disproportionately positive earnings trend in the medium and long term as compared with enterprises with an established business model. A higher interest rate means that these profits, which lie far in the future, are discounted at a higher rate and their present value is reduced accordingly, which weighs on these enterprises' share price. By contrast, shares in energy companies have experienced strong growth given the sharp rise in energy prices.

Bank stocks in the euro area outperform market as a whole

Similarly, strong price gains were recorded by European bank stocks, which – spurred by the prospect of improved margin business – benefited disproportionately from an interest rate rise and the associated steepening of the yield curve. Higher earnings expectations for banks have led to the equity prices of banks listed in the Euro STOXX increasing by 9.0% since the end of the third quarter of 2021, thus significantly outpacing the market as a whole. By contrast, bank stocks in the United States posted lower gains (+2.6%). In this context, the overall flattening of the US yield curve, as measured by the spread between two-year and ten-year yields, observed since September had a dampening effect.

Stock market volatility slightly up

Price uncertainty in the equity markets – as measured by the implied volatility of equity indices calculated from options – was slightly higher than at the end of September 2021 on balance. It experienced two wave-like phases during the reporting period. Initially, the World

Health Organization's classification of the Omicron variant as a variant of concern temporarily led to a strong increase in equity market volatility worldwide. However, as growing evidence emerged that this virus variant could be less severe than previously thought, volatility in the equity markets subsided again in the following weeks. At the start of the year, global monetary policy tightening and geopolitical tensions contributed to a renewed rise in price uncertainty.

Valuations down in the euro area, still low by historical standards

European equity valuations became more favourable compared with the end of September 2021. For instance, the implied cost of equity of the Euro STOXX – calculated from the Bundesbank's dividend discount model – went up. This indicator recently recorded high levels by historical standards, which suggests that the prices of the stocks that constitute the Euro STOXX are valued moderately in relation to the companies' earnings outlook. It should be noted, however, that analysts' short-term earnings expectations and medium-term earnings growth expectations remain at a very high level according to IBES surveys.

Valuations in the United States up slightly

Different developments were observed in the United States. Here, the implied cost of equity declined somewhat. Given analysts' current earnings expectations, this indicates a balanced valuation level overall.

Stock market funding

On balance, funding in the German stock market totalled €18½ billion in the final quarter of 2021, compared with €10 billion in the preceding quarter. A large-scale capital injection by a public limited company played a key role in this context. The volume of foreign shares in the German market rose by €12½ billion over the same period. On balance, equities were purchased mainly by resident non-banks (€36½ billion), which also include investment companies. Domestic credit institutions added €2½ billion net to their share portfolios, while foreign investors reduced their equity exposure in Germany by €7½ billion on balance.

Major items of the balance of payments

€ billion

Item	2020 Q4	2021 Q3	2021 Q4p
I. Current account	+ 72.3	+ 59.0	+ 60.1
1. Goods	+ 53.7	+ 46.1	+ 36.7
2. Services	+ 6.0	− 3.3	+ 3.4
3. Primary income	+ 30.4	+ 29.2	+ 36.2
4. Secondary income	− 17.9	− 13.1	− 16.2
II. Capital account	− 3.4	+ 2.0	− 3.8
III. Financial account (increase: +)	+ 96.4	+ 8.7	+ 59.3
1. Direct investment	+ 3.2	+ 17.9	+ 18.6
Domestic investment abroad	+ 43.8	+ 37.0	+ 27.6
Foreign investment in the reporting country	+ 40.7	+ 19.0	+ 9.0
2. Portfolio investment	+ 172.5	+ 61.2	+ 94.9
Domestic investment in foreign securities	+ 67.7	+ 51.0	+ 41.9
Shares[1]	+ 22.9	+ 19.4	+ 13.3
Investment fund shares[2]	+ 30.2	+ 22.3	+ 40.0
of which: Money market fund shares	+ 8.4	− 2.2	+ 14.0
Short-term debt securities[3]	− 1.9	+ 6.7	− 10.4
Long-term debt securities[4]	+ 16.5	+ 2.5	− 1.0
of which: Denominated in euro[5]	+ 7.7	− 3.5	+ 3.5
Foreign investment in domestic securities	− 104.8	− 10.2	− 53.0
Shares[1]	− 1.0	+ 0.4	− 7.6
Investment fund shares	+ 1.8	− 1.1	− 2.8
Short-term debt securities[3]	− 33.5	+ 8.9	− 6.2
Long-term debt securities[4]	− 72.2	− 18.5	− 36.3
of which: Issued by the public sector[6]	− 39.0	− 28.7	− 32.9
3. Financial derivatives[7]	+ 9.1	− 10.7	+ 13.4
4. Other investment[8]	− 89.3	− 91.0	− 67.9
Monetary financial institutions[9]	+ 23.7	− 29.1	+ 98.7
Enterprises and households[10]	− 1.3	− 1.3	− 53.3
General government	− 0.9	− 0.6	+ 3.8
Bundesbank	− 110.8	− 60.0	− 117.1
5. Reserve assets	+ 0.8	+ 31.2	+ 0.3
IV. Errors and omissions[11]	+ 27.6	− 52.2	+ 3.0

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.

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Mutual funds

Sales and purchases of mutual fund shares

In the final quarter of 2021, domestic investment companies recorded a significant net inflow of €68½ billion, compared with €25 billion in the previous quarter. On balance, the bulk of the net new money was channelled to specialised funds reserved for institutional investors (€56½ billion). Among the asset classes, mixed securities funds, in particular, saw significant inflows of capital (€26½ billion), with funds of funds (€11 billion), equity funds (€8½ billion), open-end real estate funds (€7 billion) and bond funds (€4½ billion) also recording inflows. The outstanding volume of foreign mutual fund shares in Germany rose by €40 billion in the period under review. Mutual fund shares were bought on balance almost exclusively by domestic non-banks, which added a notable €106½ billion net worth of fund shares to their portfolios. Most of these shares were issued by domestic mutual funds. German credit institutions bolstered their fund portfolios by €4½ billion net, while non-resident investors disposed of domestic fund shares worth €3 billion net.

Direct investment

Direct investment sees net capital exports

Transactions in cross-border portfolio investment resulted in net capital exports of €95 billion in the fourth quarter of 2021. Direct investment, too, resulted in net capital outflows (€18½ billion).

German direct investment abroad results in capital exports

Enterprises domiciled in Germany expanded their direct investment abroad by €27½ billion between October and December 2021 (previous quarter: €37 billion). They boosted their equity capital in foreign subsidiaries by €6 billion. Furthermore, they provided affiliated group entities with additional loans worth €21½ billion. The fourth quarter saw considerable volumes of direct investment funds flowing from Germany to the United States (€9 billion), Luxembourg (€7½ billion) and Sweden (€3½ billion). By contrast, domestic enterprises reduced their investment in the Netherlands (€11 billion) and in China (€2 billion).

Capital inflows through foreign direct investment in Germany

Conversely, foreign enterprises increased their direct investment in Germany by €9 billion, following €19 billion in the third quarter of 2021. On balance, the additional funds were provided exclusively in the form of equity capital. Intra-group lending saw the granting of new loans and redemptions balance each other out. Particularly high inflows of direct investment were recorded from Ireland (€6 billion) and the United States (€5½ billion) in the fourth quarter. Enterprises from the Netherlands (€11 billion) and the United Kingdom (€3 billion) reduced their direct investment funds in Germany.