Financial markets

Financial market setting

Financial markets focusing on persistently high inflation rates and bouts of distinct tension in US regional banking system

Since the beginning of the year, international financial markets have been contending with persistently high inflation rates and bouts of distinct tension, particularly in the US regional banking system. At the start of the first quarter, major central banks tightened their monetary policy stance in view of the inflation outlook, which continues to be above the 2% definition of price stability over the projection horizon up to 2025. They also indicated that further interest rate rises were necessary in order to ensure a timely decrease in inflation. The collapse of several US regional banks led to concerns emerging about the stability of the financial system from mid-March onwards. Market uncertainty soared amid fears of contagion effects, triggering a flight to safety which significantly reduced yields on safe securities. At the same time, market participants made downward revisions to their expectations about the paths of policy rates – especially for the United States. Markets assumed that the US regional banking crisis could lead to deteriorated financing conditions there over a longer period. By contrast, the collapse of the major Swiss bank Credit Suisse was only a temporary strain on the international financial system. As the reporting period progressed, the spillover effects on international financial markets emanating from the United States receded. Together with favourable economic reports, especially for the euro area, as well as growing risk appetite and further policy rate hikes, this stabilised bond yields on both sides of the Atlantic. In the equity markets, as well, the bank turmoil had only a temporary and comparatively moderate impact; overall, both the broad EURO STOXX index and European bank equity prices recorded marked gains. The euro has also been trading more strongly on balance since the turn of the year, including against the US dollar and the Japanese yen. It thus continued its effective appreciation from the final quarter of 2022.

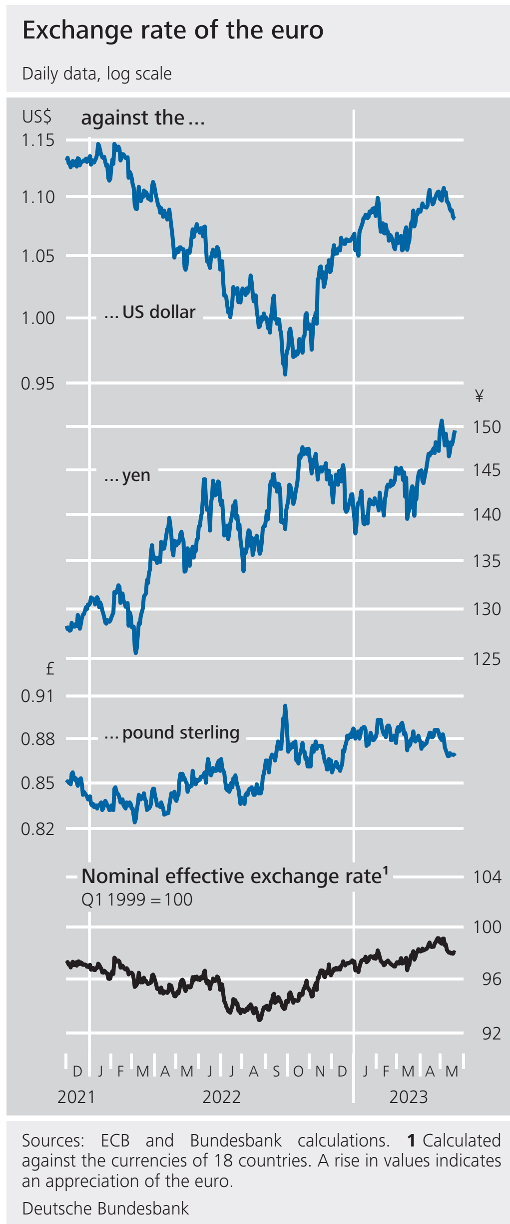
Exchange rates

Euro up against US dollar

The main reason for the euro's appreciation against the US dollar in the year to date was the growing divergence in the monetary policy outlook on both sides of the Atlantic as viewed by the market. However, following the euro's initial marked appreciation against the US dollar at the beginning of the year, the market picked up on monetary policy tightening signals from the Federal Reserve in February and early March, which temporarily weighed on the euro. Surprisingly robust US economic data and unexpectedly high inflation figures formed the background to these developments. The collapse of several US regional banks led market participants to make significant downward revisions from mid-March onwards to the expected tightening of the Fed's monetary policy stance. Nevertheless, interest rate expectations in the euro area, which had also fallen for a time in connection with the banking turmoil, rose again rapidly in view of persistently high inflation rates. This contrasted with an unexpectedly sharp decline in inflation rates reported for the United States in April, which further dampened expectations of interest rate increases there. As a result, the euro area's monetary policy outlook compared to that for the United States was estimated to be more restrictive than before. This along with the publication of better-than-expected economic indicators from the euro area buoyed the euro, causing it to reach its highest level against the US dollar in more than a year at the beginning of May. However, the subsequent publication of robust US economic data resulted in the euro once again falling below this mark, trading at US$1.08 as this report went to press. Since the beginning of the year, the euro has appreciated by 1.3%.

Euro gains significantly against yen, …

The euro recorded particularly large gains against the yen. The relative monetary policy stance of the two respective central banks was



Sources: ECB and Bundesbank calculations. 1 Calculated against the currencies of 18 countries. A rise in values indicates an appreciation of the euro.
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a key factor in this, too. The yen was burdened above all by the Japanese central bank's new Governor announcing his intention to maintain the ultra-loose monetary policy of his predecessor. Moreover, the marked losses of the yen, which usually tends to appreciate in times of heightened tension in the international financial markets, suggest that the foreign exchange market, too, regarded the recent banking turmoil as being regionally confined to the United States. As this report went to press, the euro was trading at ¥150, which was some 6.3% above its value at the end of December.

… but depreciates against pound sterling

By contrast, the euro depreciated against the pound sterling. Despite a series of policy rate hikes by the Bank of England to 4.5%, the UK inflation rate was still in double-digit territory at the end of the period under review and was also higher than expected. At the same time, economic growth surprised on the upside. Both of these factors dampened nascent expectations of a flatter interest rate path in the United Kingdom and buoyed the pound. As this report went to press, the euro was trading at £0.87, around 2.1% lower than at the end of December.

Euro stronger in effective terms

On a weighted average against the currencies of the broader group of countries, the euro has appreciated by 0.8% on balance since the beginning of the year. In addition to the aforementioned gains against the US dollar and the yen, the euro's gains of around 3.0% against the renminbi and 6.6% against the won provided the greatest contributions to the euro's appreciation in effective terms. By contrast, the euro depreciated against the currencies of some central and eastern European countries.

Securities markets and portfolio transactions

Bond market

Yields on ten-year government bonds down in euro area and United States

Overall, nominal government bond yields have declined since the beginning of the year in both the United States and the euro area. These developments were largely shaped by changes in the monetary policy outlook on both sides of the Atlantic. For the case of the United States, market participants adjusted their expected path of policy rates by anticipating an earlier end to the tightening cycle and pricing in marked downside risks to the policy outlook from the third quarter of 2023 onwards, which put pressure on government bond yields worldwide. This revision of expectations was mainly due to the tensions in the US regional banking system that emerged in March, which also impacted the European

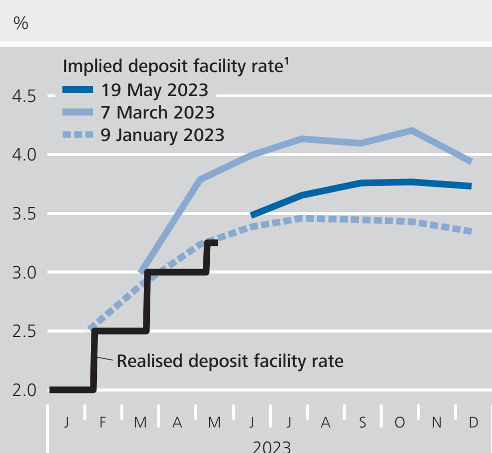
financial markets for a time. In the euro area, however, the predominantly brighter economic outlook and the perception of persistent inflation dynamics – if viewed in isolation – also exerted upward pressure on yields, limiting the spillover effects from the United States. While the Fed, like the Eurosystem, continued to tighten its monetary policy in the reporting period, it increased policy rates to a lesser extent than the Eurosystem. Moreover, at its meeting in May, the ECB Governing Council announced that it expects the reinvestment of maturing securities purchased under the asset purchase programme (APP) to be completely discontinued as of the second half of the year.

US regional banking turmoil dampens yields

Yields on US as well as European government bonds rose initially until early March. A contributing factor was that, given the slow decline in inflation rates, market participants initially assumed that a higher level of policy rates would likely be required over a longer period in both currency areas. However, the US regional banking turmoil and related fears of contagion effects triggered a flight to safety, putting strong pressure on government bond yields. In view of a temporary sharp increase in general uncertainty, market participants made downward revisions to their expectations about the policy rate path, especially for the United States and, to a lesser extent, also for the euro area. One possible explanation for this is that market participants believed the pressure on the US banking system could reinforce the transmission of monetary policy in the United States and thereby reduce the extent of necessary policy rate hikes. This was reflected in significantly higher interest rate uncertainty for a time, as was shown, for example, by the increase in the implied volatility of Bund yields. The easing of financial market tensions as of the end of March, continuing positive economic reports, especially in the euro area, and a greater risk appetite returning amongst investors caused yields to rise again. Over the entire reporting period, however, the GDP-weighted yield on ten-year euro area bonds fell by 19 basis points

Policy rates in the euro area

%



Sources: ECB and Refinitiv. **1** Based on swap contracts covering scheduled ECB Governing Council meeting days.
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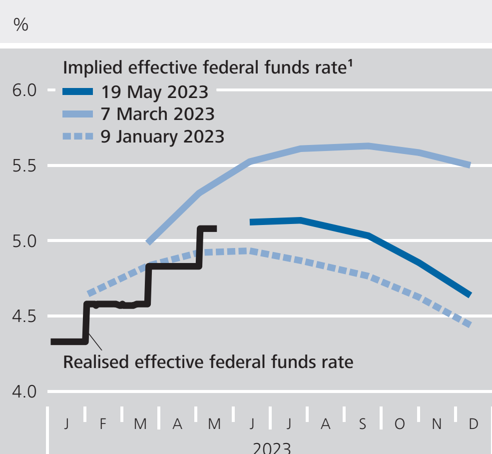
Policy rates in the United States

%



Sources: ECB and Refinitiv. **1** Based on federal funds futures contracts covering scheduled FOMC meeting days.
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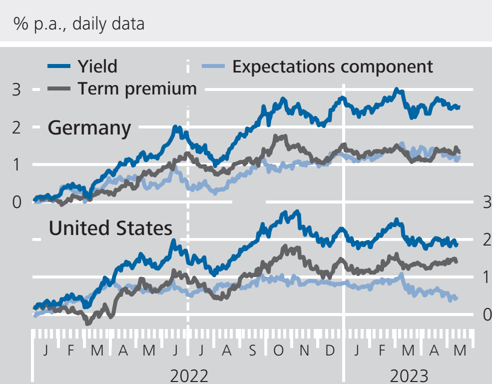
Decomposition of ten-year yields on Bunds and US Treasuries*

% p.a., daily data



Sources: Bundesbank calculations following the methodology of Adrian et al. (2013). Database for US Treasury yields following the methodology of Gürkaynak et al. (2007). * Cumulated changes since 31 December 2021.
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to 3.1%, while yields on ten-year US Treasuries fell by 20 basis points to 3.7%.

Yields up in the United Kingdom and virtually unchanged in Japan

In the United Kingdom, the yields on ten-year gilts rose markedly in the period under review (+33 basis points to 4.0%). In view of still unexpectedly high inflation rates, wages rising surprisingly fast and positive signals from real economic leading indicators, market participants expected further policy rate hikes by the Bank of England. In Japan, yields on ten-year Japanese government bonds fell slightly to 0.4% (-2 basis points). They therefore remain within the target range, which was doubled by 25 basis points in December and since then has stood at between -50 and +50 basis points. At its April meeting, the Japanese central bank did not change its monetary policy stance.

Lower yield on ten-year Bunds

The yield on ten-year Bunds fell in the period under review (-14 basis points to 2.4%), amid a temporary significant increase in the fluctuation range. According to a model breakdown of the yield curve, the decline in yields largely reflects a decline in the term premia that investors demand for assuming price risks when purchasing long-term bonds. This is due to a marked decline in real term premia, whereas inflation risk premia increased somewhat (see the remarks on p. 42). The lower term premia, which are in keeping with the likewise lower US term premia, point to priced-out upside risks and, at the same time, to growing downside risks in the interest rate outlook.

Liquidity premium somewhat higher

The yield spread between ten-year Bunds and maturity-matched bonds issued by the Kreditanstalt für Wiederaufbau (KfW) initially moved sideways, before rising visibly in March. This spread reflects the liquidity premium that market participants pay for the higher liquidity of Bunds. Its temporary rise reflects the tensions in the banking sector, which increased demand for the more liquid Bunds compared with KfW bonds. With financial market uncertainty falling significantly as of the end of March, the liquidity premium narrowed again visibly and was only slightly higher at the end of the period under review than it was at the beginning of the year. The scarcity premium for Bunds, as measured by the yield spread between ten-year Bunds and maturity matched overnight index swaps (OIS), moved in parallel with the liquidity premium. At the end of the reporting period, it was also slightly higher than its end-December level.

Slight narrowing of yield spreads in euro area

The yield spread between ten-year Bunds and ten-year government bonds of other euro area countries (GDP-weighted average) narrowed slightly compared with the beginning of the year to 95 basis points. It was noteworthy that the tensions in the banking sector in March were reflected in the government spreads only temporarily and only to a weak extent. This is relevant in light of the sovereign-bank nexus, through which a distressed banking system can, in principle, fuel doubts about a country's solvency (and vice versa). For example, the yield spreads for Italy, where the sovereign-bank nexus is comparatively entrenched, actually narrowed at an above-average extent in the reporting period. This suggests that market participants did not consider the temporary uncertainty in the banking system to stem from country-specific European causes. Both the increased risk appetite and the improved economic outlook are likely to have contributed to the, on balance, somewhat narrower yield spreads. The discontinuation of reinvestments of maturing securities under the APP, which the ECB Governing Council expects from July 2023, did not visibly affect yield spreads.

Market participants expected high inflation rates to persist

At the end of the reporting period, market-based short-term inflation expectations for the euro area were at a similarly high level to that seen at the beginning of the year, after temporarily falling to just slightly above 2% as a result of the banking turmoil. Once concerns about the euro banking system had dissipated rapidly, markets revised their inflation expectations, as measured by the forward inflation curve, upwards again over the entire ten-year horizon. This upward revision was driven, amongst other things, by new historical highs

Developments in the free float of Federal securities

Their high credit quality and liquidity make Federal securities (Bunds) an important benchmark for pricing other financial instruments in the euro area. A necessary condition to fulfil this benchmark function is a sufficiently large free float – recent developments in the free float will be discussed in more detail in the following sections.[1] Generally speaking, free float refers to the share of a securities issue that is freely available to market participants for trading. A sufficiently large free float is a prerequisite for good tradability and market liquidity. It allows new, relevant information to enter the bond price formation process quickly and efficiently.

A frequently used approach for quantifying the free float is based on market participants' securities holdings data. For the euro area, this measure can be approximated using the Eurosystem's Securities Holdings Statistics by Sector (SHSS).[2] Free float comprises the sum of relevant securities holdings in the private sector. The holdings of insurance corporations and pension funds – which are classed as strategic investors, are subject to strict regulatory requirements and which generally hold securities to maturity – are not considered free float. Public sector investors, such as central banks, also tend to hold securities over the long term. The holdings of this group of investors are likewise not considered free float. In methodological terms, free float can be measured both in absolute amounts and as a percentage of the total volume of outstanding bonds.

The Eurosystem's impact on the free float

The Eurosystem's public sector purchase programme (PSPP), which was launched at the beginning of 2015, largely involved euro area government bonds and thus also Federal securities. Up until the end of 2019, the Federal Government's net issuance fluctuated around the zero mark, meaning that the total volume of outstanding bonds remained virtually unchanged. The monetary policy purchases therefore resulted in other holders reducing their holdings and the Eurosystem becoming the largest single investor in Federal securities over the course of the programme. Provided the sellers were not strategic investors with a long-term horizon, the asset purchases reduced the free float accordingly.[3] If free float is recorded in absolute terms at nominal values (€ billion), it reached its lowest level to date,

Federal securities: outstanding volume and Bundesbank holdings

€ bn

1 Includes the Finance Agency's proprietary holdings. **2** Exclusively holdings held by the Bundesbank.
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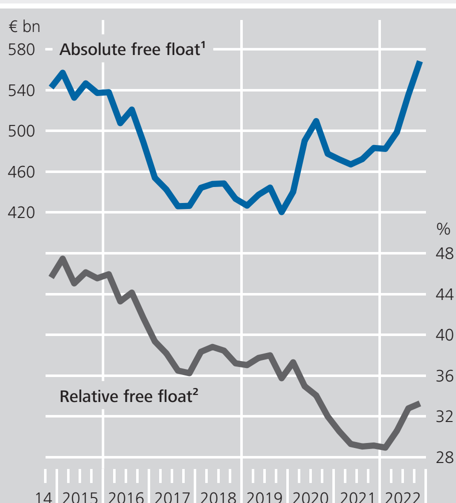
1 See also previous analyses of the change in the holder structure of Federal securities in Deutsche Bundesbank (2018, 2022a). For more information on their impact on the market for Federal securities, see Deutsche Bundesbank (2022b).
2 See Deutsche Bundesbank (2015).
3 In order to counteract a shortage of Federal securities, the conditions for the purchase programmes were adjusted and securities lending against cash collateral was introduced at the end of 2016; see Deutsche Bundesbank (2022c).

Federal securities in free float*



Sources: ESCB (SHSS database) and Bundesbank calculations. * End-of-quarter values based on nominal values. Securities issued by FMS Wertpapiermanagement and central government's off-budget entities are not included. 1 Total private sector holdings, excluding euro area insurance corporations and pension funds. For non-euro area countries, the entire private sector is considered free float as insurance corporations and pension funds are not reported separately. Only holdings recorded in the SHSS database are included. 2 Free float in relation to the outstanding volume of Federal securities counted, including the Finance Agency's own holdings.

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€420 billion, in the fourth quarter of 2019 – in relation to the observation period from the end of 2014. At 36%, the relative measure of free float also briefly recorded a low.

In response to the coronavirus pandemic, the ECB Governing Council introduced an additional purchase programme – the pandemic emergency purchase programme (PEPP) – which likewise included government debt securities.[4] At the same time, substantial fiscal support measures were taken by the government, leading to higher government expenditure, which was financed in part by additional issuance of Federal securities. On balance, net new issuance by the Federal Government has exceeded the Eurosystem's net purchase volume since the beginning of 2020. As a result, the two methods for measuring free float outlined above have shown different developments in recent years. Measured in absolute terms, free float increased significantly on balance to €568 billion at the end of 2022. This meant it was higher than before the start of the monetary policy purchase programmes. When interpreting these figures, it must be borne in mind that the total outstanding volume of Federal securities has grown by almost one-half since the end of 2019. However, when

4 This is a temporary asset purchase programme of private and public sector securities implemented to counter the threats posed by the extraordinary economic and market conditions during the pandemic on the ability of the Eurosystem to fulfil its mandate. It was launched on 26 March 2020 and ran in addition to the asset purchase programme (APP). Its envelope was expanded over the programme's lifetime to a total of €1,850 billion.

Holder structure of Federal securities in free float*

Holdings

Item	2014		2019		2022	
	€ bn	%	€ bn	%	€ bn	%
Free float, total	542.4	45.6	420.3	35.7	568.2	33.3
Domestic private investors1	63.1	5.3	40.7	3.5	60.2	3.5
Financial investors1	51.7	4.4	37.2	3.2	52.4	3.1
Non-financial investors	11.3	1.0	3.5	0.3	7.8	0.5
Private investors from the euro area excluding Germany1	128.7	10.8	78.4	6.7	128.0	7.5
Financial investors1	124.3	10.5	76.6	6.5	122.3	7.2
Non-financial investors	4.4	0.4	1.8	0.1	5.7	0.3
Private investors from non-euro area countries	350.7	29.5	301.2	25.6	380.0	22.3

Sources: ESCB (SHSS database), Bundesbank calculations. * Holdings at year-end based on nominal values. Securities issued by FMS Wertpapiermanagement and central government's off-budget entities are not included. 1 The holdings of insurance corporations and pension funds as strategic long-term investors are deducted.

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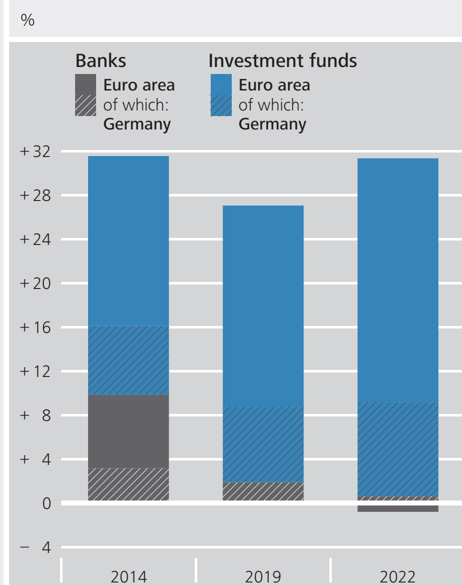
viewed in relative terms in relation to the total outstanding volume, free float continued to decline on balance, chiefly because the Eurosystem substantially increased its holdings of Federal securities again in the context of the PEPP. The relative measure of free float reached its lowest level to date in the first quarter of 2022, at just under 29%. There has been a slight rebound since then, which is not least associated with the end of net purchases under the PEPP. At 33%, however, the figure was significantly lower at the end of 2022 than the figure of 46% recorded before the start of the purchase programmes.[5]

Composition of free float: selected financial sectors*

%



Sources: ESCB (SHSS database) and Bundesbank calculations. * Free float as total private sector holdings excluding euro area insurance corporations and pension funds. For non-euro area countries, the entire private sector is considered free float as insurance corporations and pension funds are not reported separately. Only holdings recorded in the SHSS database are included.

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Breakdown of free float

The SHSS allows the free float to be broken down more precisely into the regions in which investors are resident. Private investors from non-euro area countries contribute the largest share. At the end of 2022, their share of the total outstanding volume of Federal securities amounted to 22%, which corresponds to roughly two-thirds of total free float. A further breakdown into financial and non-financial investors is possible for investors from the euro area and Germany. Insurance corporations and pension funds are deducted from the group of financial investors since they are considered strategic investors as outlined above.[6] Looking at private investors in the euro area, Federal securities are held almost exclusively by financial investors. This breakdown has also hardly changed over time. It is striking that, at the end of 2022, financial investors' absolute holdings were roughly back at the levels that were attributed to their portfolios before the start of the purchase programmes. By contrast, there has been a decline in the percentage share accounted for by financial euro area investors measured in terms of the total outstanding volume.

Significant shift among financial investors

Looking at financial investors in the euro area, it is clear that banks, in particular, have withdrawn from Federal securities compared with the end of 2014. The investment fund sector has taken their place. This development can be attributed to various reasons. On the one hand, new regulatory requirements or changing business models, for example, may have led to altered investment behaviour.[7] A further reason could be

5 For information on the monetary policy effects of the purchase programmes on the yield curve, see Deutsche Bundesbank (2023). The programmes primarily took effect through a change in the free float of government bonds and thus the aggregate duration risk on the balance sheets of securities holders outside of the Eurosystem.

6 This breakdown is not possible for non-euro area countries, which means that insurance corporations and pension funds cannot be deducted from the free float for these countries.

7 For instance, greater regulatory requirements may have caused banks to reduce their market-making activity; see the empirical study on corporate bonds by Haselmann et al. (2022).

that European banks have used their access to the deposit facility in recent years. Given that the interest rate on many Federal securities was lower than the deposit facility rate over extended periods of time, this facility gave them a more attractive alternative to holding high-quality liquid assets.[8] In view of the shift in the interest rate environment, it remains to be seen whether banks will return to being more significant investors in Federal securities in the long term. At the end of 2022, their share was less than 1% of the total outstanding volume.

8 The special role of Federal securities is also evident from the fact that, in the secured short-term money market, an interest rate reduction is granted if German Federal securities are provided as collateral. For information on this repo specialness in connection with the asset purchase programmes, see Baltzer et al. (2022).

in the euro area core inflation rate, i.e. the inflation rate excluding energy and food price developments. Markets therefore expect inflation to persist for a longer period of time and to remain above the Eurosystem's 2% definition of price stability over the next two years (2024: 2.5%; 2025: 2.3%). In contrast to their assessments for the United States, market participants only tentatively believed that the turmoil in the banking sector could amplify the transmission of monetary policy in the euro area and thus significantly reduce the need for policy rate hikes. Survey-based inflation expectations calculated by Consensus Economics put inflation at 5.5% for 2023 and 2.4% for 2024.

Rise in longer-term inflation expectations

Longer-term inflation expectations remained high and are currently at levels last seen in 2012. The five-year forward inflation rate five years ahead, which is derived from inflation swaps, stood at 2.5% at last count, up 10 basis points from the end of December 2022. Against the backdrop of inflation releases in early March 2023, the rate rose to a worrying level of 2.6%. The quarterly survey-based inflation expectations calculated by Consensus Economics for the euro area six to ten years ahead remained virtually unchanged and thus closer to the 2% inflation target. Consequently, the difference between market-based and survey-based long-term inflation expectations widened moderately. This difference can largely be regarded as an inflation risk premium in this context. Market participants are therefore still concerned that inflation dynamics could unexpectedly be above the inflation target in the medium and long term. Uncertainty regarding the inflation outlook thus remained high, which was also reflected in the probabilities of future inflation rates derived from inflation options.

Longer-term market-based and survey-based inflation expectations in the United States rising

Market-based five-year US forward inflation rates five years ahead rose by 5 basis points from their level at the beginning of the year to 2.6%. Survey-based inflation expectations six to ten years ahead calculated by Consensus

Economics grew by 7 basis points to 2.3%. The inflation risk premium as the difference between market-based and survey-based inflation expectations remained positive in the United States, too.

Corporate bond yields down

Yields on BBB-rated European corporate bonds with residual maturities of between seven and ten years have declined slightly in the year to date, for both financial and non-financial corporations (-7 basis points in each case). With yields on matched-maturity Bunds also down, the spreads of financial and non-financial corporate bonds widened moderately. By contrast, spreads on high-yield bonds fell (-27 basis points). Given the banking turmoil in March and the associated temporary decline in risk appetite, spreads had widened in the meantime. However, their increase remained relatively moderate, even for comparatively risky high-yield bonds. As stress in the banking sector eased and implied volatility in the bond markets came down, however, concerns about the debt sustainability of enterprises with lower credit ratings, in particular, also receded noticeably. This was likewise reflected in falling credit default premia for sub-investment-grade companies (iTraxx Crossover (five years): -40 basis points). Measured by yield spreads, financing costs for European enterprises in all rating categories were nevertheless still significantly above their respective five-year averages.

Significant net issuance of German debt securities

Gross issuance in the German bond market in the first quarter of 2023 was significantly higher than in the preceding three-month period. Overall, German borrowers issued paper to the tune of €473½ billion, up from €397 billion in the previous three months. Net of redemptions and changes in issuers' own holdings, domestic issuers ramped up their capital market borrowing by €78½ billion. The outstanding volume of foreign debt securities in the German market rose by €64 billion in the first quarter. On balance, the total outstanding volume of bonds in Germany thus climbed by €142½ billion in the quarter under review.

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

% p.a., weekly averages

Sources: Bloomberg, Refinitiv, 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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Rise in credit institutions' capital market debt

Domestic credit institutions upped their capital market debt by €47½ billion in the reporting quarter, following net redemptions of €19 billion in the previous three-month period. The primary instruments used were debt securities issued by specialised credit institutions as well as other bank debt securities that can be structured flexibly (€20½ billion and €20 billion respectively), and, to a lesser extent, mortgage Pfandbriefe (€5½ billion).

Net public sector issuance

In the first quarter of 2023, the public sector issued bonds to the tune of €30 billion net, following €24 billion in the previous three-month period. Central government (including the resolution agency that is classified as part of it) issued mainly five-year Federal notes (Bobls, €15½ billion), but also Federal bonds (Bunds) with a maturity of 30 years (€8½ billion), seven years (€7½ billion) and ten years (€7 billion) as well as two-year Treasury notes (Schätze, €7 billion). Meanwhile, there were net redemptions of Treasury discount paper (Bubills)

Investment activity in the German securities markets

€ billion

Item	2022		2023
	Q1	Q4	Q1
Debt securities			
Residents	69.2	42.2	85.4
Credit institutions	12.0	− 14.1	32.1
of which:			
Foreign debt securities	12.3	− 7.2	27.9
Deutsche Bundesbank	40.5	1.6	1.1
Other sectors	16.8	54.7	52.2
of which:			
Domestic debt securities	23.4	32.5	15.0
Non-residents	33.3	− 25.8	57.3
Shares			
Residents	13.0	3.5	15.7
Credit institutions	− 1.3	− 3.3	9.4
of which:			
Domestic shares	− 0.7	− 1.0	− 0.8
Non-banks	14.2	6.7	6.2
of which:			
Domestic shares	12.4	11.2	9.9
Non-residents	− 10.3	4.0	− 4.8
Mutual fund shares			
Investment in specialised funds	31.8	11.9	14.9
Investment in retail funds	3.9	1.4	5.8
of which:			
Equity funds	0.0	2.7	4.8

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amounting to €17 billion. On balance, state and local governments were only marginally active in the capital market.

Net issuance of corporate bonds

In the quarter under review, domestic enterprises issued bonds worth €1 billion net, following net redemptions amounting to €3½ billion in the previous quarter. The primary issuers here were non-financial corporations (€1½ billion), which, on balance, issued mainly long-term debt securities.

Purchases of debt securities

All investor groups acquired debt securities in the first quarter of 2023, with foreign investors purchasing German debt securities worth a net €57½ billion. Domestic non-banks expanded their bond portfolio by €52 billion on balance, with their focus mainly on foreign securities. The Bundesbank acquired bonds in the amount of €1 billion net – predominantly under the Eurosystem's asset purchase programmes. Domestic credit institutions added bonds worth €32 billion net to their portfolios, most of which were foreign paper on balance.

Equity market

International equity markets with gains

The international equity markets were dominated by monetary policy expectations, spells of uncertainty in the banking sector and robust economic signals as well as an overall increase in risk appetite. At the beginning of the year, market participants' hopes that inflationary pressures could soon ease and that a sharp economic downturn could be avoided sent prices sharply higher. However, persistently high inflation figures subsequently lent support to expectations that stronger monetary policy tightening would be necessary and resulted in higher interest rates. This slowed the initially strong upward movement in the international equity markets and led to prices moving sideways up until the beginning of March.

Turmoil placing temporary damper on prices

The takeover of Silicon Valley Bank by the US Federal Deposit Insurance Corporation (FDIC) and the collapse of other US regional banks in March then triggered concerns about a US banking crisis, which also spilled over to the European equity markets. The accompanying flight to safety put prices under pressure across the board, causing them to lose some of their previous gains. In addition, uncertainty about future price developments, as measured by the implied volatility of the broad equity indices, spiked sharply higher for a time. In this environment, US banks made very extensive use of the Fed's liquidity facilities, which ultimately reduced concerns about potential contagion effects from financial market developments. At the same time, investors turned their attention back to expectations for business activity and interest rates. In the euro area, in particular, predominantly favourable economic signals led to a further easing of tensions, a renewed increase in risk appetite and rising prices. On balance, the CDAX and the EURO STOXX chalked up marked gains in the year to date, of +13.4% and +13.0%, respectively. Growth was slightly

smaller for US equities (S&P 500) and UK shares (FTSE 100), at 9.2% and 4.1%, respectively; the Japanese Nikkei index climbed by 18.1%.

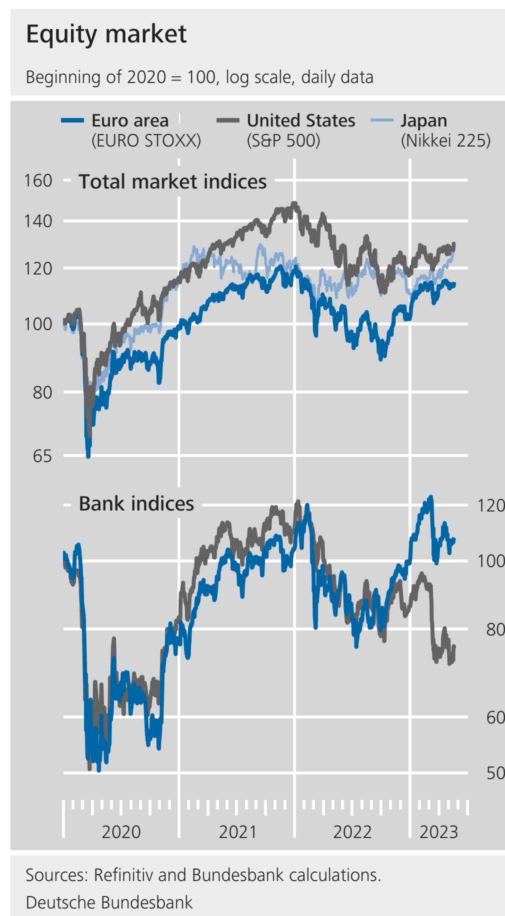
Bank stocks underperform market as a whole

European bank shares moved higher overall in March despite the US banking turmoil. In January and February, the prices of European bank stocks, especially, but also of US bank stocks rose very sharply, something that was driven in part by expectations of higher bank earnings in an environment of rising interest rates. These expectations reflect the fact that monetary policy tightening causes interest margins to widen if deposit rates rise more slowly than lending rates.

Bank shares recover after turmoil

The collapse of Silicon Valley Bank and emerging concerns about the stability of US regional banks not only put US bank shares under considerable pressure in March, but also had a marked knock-on effect on European bank stocks. Some market participants probably feared at times that fast rising interest rates and/or rapid policy rate hikes could also bring about challenges for European banks. However, the fact that markets for bank shares subsequently calmed and prices recovered showed that market participants did not interpret specific difficulties faced by individual credit institutions as an indication of a systemic crisis. The collapse of the major Swiss bank Credit Suisse also sent uncertainty significantly higher initially. However, Switzerland's government-brokered deal quickly calmed the markets. Overall, the view that the European banking sector is stable prevailed in the market. Unexpectedly favourable quarterly results from large US banks, which benefited significantly from the higher margins in interest business, also helped to stabilise prices. As a result, European bank shares have appreciated by 8.9% since the beginning of the year, thus moderately underperforming the market as a whole. By contrast, US bank shares significantly underperformed the broad-based S&P 500 and lost 12.9% on balance.

The valuations of European and US equities have risen in the year to date. This is evident in



Sources: Refinitiv and Bundesbank calculations.
Deutsche Bundesbank

the earnings yield based on the business outlook for the next 12 months, which declined for both the EURO STOXX and the S&P 500. In addition, the implied cost of equity declined for both indices; this metric can be calculated using a dividend discount model and also takes into account the medium-term earnings outlook and the risk-free interest rate. The equity risk premium, which likewise declined in the euro area, also provided a particularly important explanation for the positive developments in the prices of European equities, while short and medium-term earnings expectations changed comparatively little. In a long-term comparison, both the equity risk premium and the implied cost of equity suggest a relatively high valuation for European and US equities.

Valuations up on both sides of the Atlantic

Equity market funding

On balance, funding in the German stock market totalled €4 billion in the reporting quarter, compared with €14 billion in the preceding quarter. The volume of foreign shares in the German market rose by €6½ billion over the

Major items of the balance of payments

€ billion

Item	2022 Q1	2022 Q4	2023 Q1p
I. Current account	+ 59.5	+ 53.1	+ 71.8
1. Goods	+ 34.4	+ 30.5	+ 57.4
2. Services	+ 3.0	− 5.6	− 6.9
3. Primary income	+ 40.4	+ 47.9	+ 40.2
4. Secondary income	− 18.2	− 19.7	− 19.0
II. Capital account	− 3.0	− 5.0	− 10.7
III. Financial account (increase: +)	+ 78.8	+ 103.7	+ 98.0
1. Direct investment	+ 16.9	+ 25.8	+ 44.1
Domestic investment abroad	+ 44.7	+ 10.3	+ 30.6
Foreign investment in the reporting country	+ 27.9	− 15.6	− 13.5
2. Portfolio investment	− 3.9	+ 47.2	+ 25.8
Domestic investment in foreign securities	+ 17.9	+ 24.0	+ 79.1
Shares[1]	− 0.7	− 9.4	+ 4.1
Investment fund shares[2]	+ 12.6	+ 18.5	+ 11.0
of which: Money market fund shares	− 3.0	+ 10.7	+ 0.5
Short-term debt securities[3]	+ 4.7	+ 5.1	+ 7.6
Long-term debt securities[4]	+ 1.3	+ 9.7	+ 56.4
of which: Denominated in euro[5]	− 6.3	+ 7.5	+ 56.0
Foreign investment in domestic securities	+ 21.8	− 23.2	+ 53.3
Shares[1]	− 9.2	+ 2.9	− 4.9
Investment fund shares	− 2.3	− 0.3	+ 0.9
Short-term debt securities[3]	− 5.8	− 24.7	+ 1.7
Long-term debt securities[4]	+ 39.1	− 1.1	+ 55.5
of which: Issued by the public sector[6]	+ 16.9	+ 4.1	+ 47.5
3. Financial derivatives[7]	+ 17.1	− 2.1	+ 20.6
4. Other investment[8]	+ 46.6	+ 31.9	+ 7.3
Monetary financial institutions[9]	− 126.2	+ 84.3	− 42.5
Enterprises and households[10]	+ 69.3	+ 23.1	+ 19.9
General government	− 6.0	+ 8.0	+ 8.3
Bundesbank	+ 109.5	− 83.5	+ 21.7
5. Reserve assets	+ 2.2	+ 0.8	+ 0.2
IV. Errors and omissions[11]	+ 22.3	+ 55.6	+ 36.9

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.

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same period. On balance, domestic credit institutions were the main buyers of equities (€9½ billion). Domestic non-banks added €6 billion net to their equity portfolios, while foreign investors reduced their equity exposure in Germany by €5 billion on balance.

Mutual funds

Sales and purchases of mutual fund shares

In the first quarter of 2023, domestic investment companies recorded inflows of €21 billion, compared with €13½ billion in the previous quarter. On balance, specialised funds reserved for institutional investors were by far the greatest beneficiaries (€15 billion). Of the various asset classes, mixed securities funds, in particular, registered significant inflows of capital (€6 billion), with bond funds (€4½ billion), equity funds (€3½ billion) and open-end real estate funds (€3 billion) also attracting capital. The outstanding volume of foreign mutual fund shares in Germany rose by €11 billion in the period under review. Mutual fund shares were bought on balance almost exclusively by domestic non-banks, which added fund shares worth €36½ billion net to their portfolios. Most of these shares were issued by domestic mutual funds. Non-resident investors expanded their domestic fund portfolio by €1 billion net, while domestic credit institutions sold mutual fund shares to the tune of €5½ billion on balance.

Direct investment

Direct investment sees net capital exports

In the environment, described above, of persistently high inflation rates and temporary concerns about a US regional banking crisis, transactions in Germany's cross-border portfolio investment led to net capital exports of €26 billion in the first quarter of 2023. Direct investment, too, resulted in capital outflows (€44 billion).

Enterprises domiciled in Germany expanded their direct investment abroad by €30½ billion

Higher German direct investment abroad results in capital exports

on balance between January and March 2023, compared with €10½ billion in the previous three months. They boosted, in particular, their equity capital in non-resident subsidiaries by €25 billion – around two-thirds of which constituted reinvested earnings. The volume of loans granted by firms resident in Germany to affiliated group entities abroad rose by a smaller amount, namely €5½ billion. Overall, German enterprises only issued financial loans. Significant volumes of German foreign direct investment flowed to the Netherlands (€8½ billion), the United Kingdom (€6½ billion) and China (€4½ billion).

Foreign direct investment in Germany yields capital outflows

Foreign enterprises reduced their direct investment in Germany by €13½ billion in the first quarter (following a reduction of €15½ billion in the previous quarter). Intra-group lending to German enterprises was dominated by repayments (€25½ billion), especially for financial loans. By contrast, foreign enterprises upped their equity capital in German subsidiaries by €12½ billion. Particularly large return flows of direct investment funds were observed vis-à-vis Ireland (€9½ billion), the Netherlands (€8½ billion) and Luxembourg (€6 billion), all of which are major holding locations. Conversely, enterprises from the United Kingdom stepped up their investment in Germany (€9½ billion).

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