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2. Monetary policy in the euro area

2.1 The tightening of monetary policy continued 79

2.2 The tightening of monetary policy was quickly transmitted to financing conditions 83

2.3 Monetary policy in the light of risks to price stability 88

2.1 The tightening of monetary policy continued

Interest rates were the main instrument used to tighten monetary policy

In 2023, inflation stood at 5.4 % in the euro area, well above the ECB's medium-term target of 2 %. As inflation had reached 8.4 % in 2022, this was a decline, which was mainly due to the drop in energy prices. At the same time, economic growth clearly slowed again in 2023, from 3.4 % to 0.6 %. Coupled with the fading of the effects of the post-pandemic economic recovery, tighter monetary policy helped curb the growth of aggregate demand. This slowdown did not, however, cause the euro area to slip into a recession.

The ECB continued to raise its key rates, with hikes totalling 450 basis points since July 2022. However, the Governing Council decided to leave policy rates unchanged in October and December 2023, taking the view that they "are at levels that, maintained for a sufficiently long duration, will make a substantial contribution to th[e] goal" of ensuring that inflation returns to its 2 % medium-term target. At year's end, the deposit facility rate thus stood at 4 %, the main refinancing operations rate at 4.5 % and the marginal lending facility rate at 4.75 %.

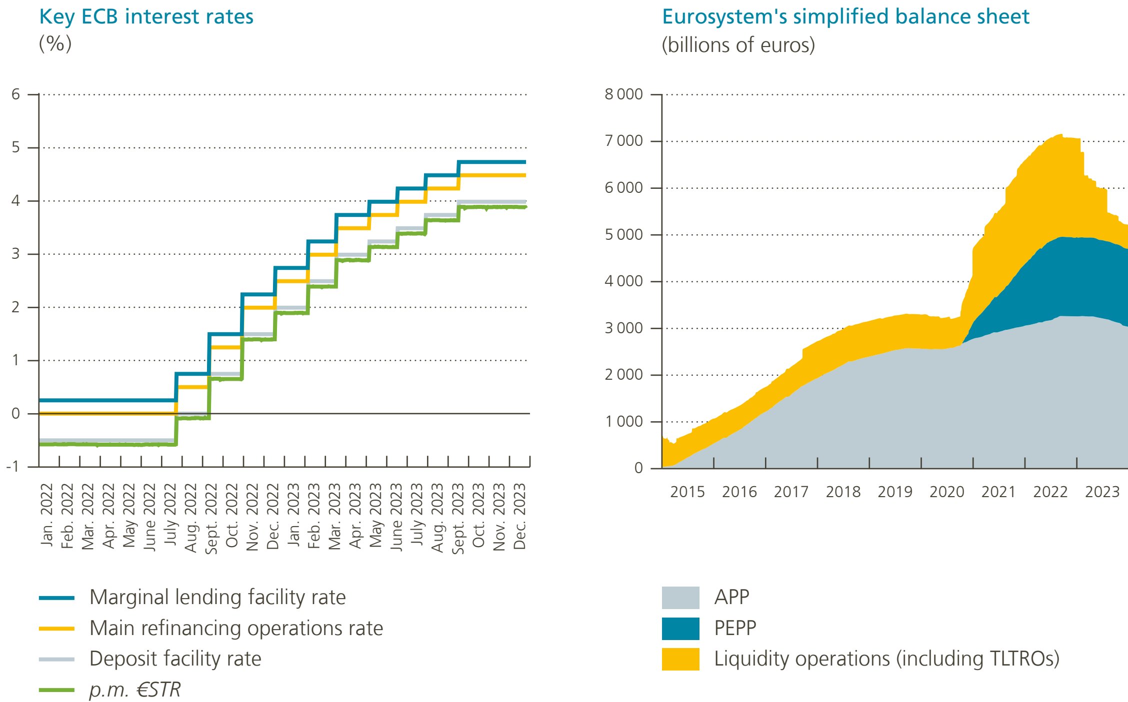
The euro short-term rate (€STR) – the implicit objective of the ECB's interest rate policy – remained close to the deposit facility rate. As liquidity remained abundant in the banking system, there was virtually no recourse to main refinancing operations and the marginal lending facility, and the deposit facility rate was *de facto* the ECB's main policy rate. The deposit facility rate sets the threshold below which it is unattractive for banks in the euro area to lend funds overnight. That being said, the €STR was slightly lower than the deposit facility rate as it corresponds to the average rate at which banks can obtain financing without collateral on the overnight money market, including from financial institutions that do not have access to the deposit facility (and which therefore accept lower rates).

The Eurosystem (made up of the national central banks of the euro area and the ECB) continued the gradual and relatively passive reduction of its securities holdings, which forms an integral part of its process of monetary policy tightening. In December 2022, the Governing Council decided that starting in March 2023, the asset purchase programmes (APP) portfolio would be reduced at a measured and predictable pace by not reinvesting in full the principal payments from maturing securities. In July 2023, all reinvestment was discontinued. As for the Pandemic Emergency Purchase Programme (PEPP), the Governing Council decided in December 2023 not to reinvest the full proceeds from maturing securities as from July 2024, but to reduce this portfolio by €7.5 billion per month on average in the second half of the year and to cease reinvestment at the end of 2024.

The size of the Eurosystem's balance sheet decreased significantly, mainly due to the repayment of targeted longer-term refinancing operations (TLTROs). One of the most important TLTRO repayment dates fell in June 2023, i.e. three years after the June 2020 lending operation, at the height of the Covid-19 crisis, for an amount of around €1 300 billion. A number of early repayments had already been received, notably following the tightening of TLTRO conditions at the end of 2022. The June 2023 redemption amounted to €477 billion. The last TLTRO redemption date falls in December 2024.

Figure 2.1

Key interest rates were raised again and the Eurosystem's balance sheet continued to shrink



Sources: ECB, LSEG.

The ECB also made some changes to how it implements monetary policy

In July 2023, the ECB decided to stop remunerating the minimum reserves held by commercial banks with national central banks. Credit institutions are required to hold minimum reserves, equivalent to 1 % of the value of specific liabilities, mainly short-term customer deposits. Given the current conditions of ample liquidity, banks tend to hold significant "excess" reserves, i.e. amounts above the required level.

Nevertheless, the interest paid by the Eurosystem national central banks on the deposit facility increased in 2023, reinforcing their expectation of losses. Excess reserves, which remained substantial this year, continued to be placed on the deposit facility and therefore to be remunerated at the deposit facility rate, which was raised sharply. At the same time, the income from the assets held by central banks did not benefit from the same increase. Many of these assets (particularly sovereign bonds) are low yield, as the vast majority were purchased when interest rates were low (lowering long-term rates further was a means used by the ECB to rekindle inflation). The National Bank of Belgium (the "Bank") announced a loss of €580 million on the closing date of its 2022 annual accounts.

The volume of reserves held at national level determines the amount of interest paid by national central banks to commercial banks, but these interest expenses are pooled in full at the Eurosystem level. In Belgium, attention focused on Euroclear in view of the frozen Russian assets that it had ended up holding after the imposition of financial sanctions on Russia for its invasion of Ukraine. It began depositing the proceeds from these assets (generated from coupon payments or maturing securities) with the Bank. The Bank remunerates these deposits at the deposit facility rate but, in fact, bears only a small portion of this expense, which is pooled at Eurosystem

level.[1] More specifically, each central bank pays a share of the Eurosystem's aggregate expenses, which is proportionate to its share in the capital key (3.61 % for the Bank).

Public authorities can also make deposits with the Eurosystem: the ceiling on the remuneration paid on government deposits was lowered in 2023. Until the end of April 2023, the ceiling was set at the deposit facility rate or the €STR, whichever was lower. It was subsequently set at the €STR minus 20 basis points. This decision reflected the desire to encourage a gradual and orderly reduction in such deposits held with the Eurosystem, in order to minimise the risk of adverse effects on the functioning of the money market and to ensure the smooth transmission of monetary policy.

In addition, a decision on the future operational framework for monetary policy is on the horizon for 2024, which will shed light on the end of the balance sheet normalisation process.

1 See J. Willequet, (2023), "A problem shared is a problem halved: how the NBB shares risk within the Eurosystem | nbb.be", NBB blog, 22 September.

The operational framework mainly concerns the method used to steer short-term money market interest rates, particularly the €STR. Prior to 2008, a so-called "corridor system" was used in the euro area, whereby the €STR (or its equivalent at the time, the euro overnight index average or EONIA) was set between the deposit facility rate and the marginal lending facility rate. This short-term rate thus fluctuated around the main refinancing operations rate. Today, the ECB applies a *de facto* "floor system". This transition took place a few years ago, as the ECB injected liquidity into the banking system through its purchase programmes and lending operations. As the ECB has now begun to reduce the size of its balance sheet, a "corridor system" will be reintroduced should all excess liquidity disappear from the banking system. That being said, the reintroduction of a corridor system with a smaller balance sheet could be accompanied by a return of €STR volatility within the corridor. Alternatively, the ECB could decide to keep a certain amount of excess liquidity in the banking system in order to maintain the floor framework and retain a high degree of control over short-term money market rates. A floor system can essentially be implemented in two ways. In a supply-driven floor system, the central bank

ensures a certain level of excess reserves through a structural portfolio of assets. This is the system currently used in the euro area and the option chosen by the Federal Reserve for the United States going forward. In a demand-driven floor system, currently favoured by the Bank of England, the central bank holds a smaller structural portfolio of assets than in the supply-driven option but conducts a larger volume of credit operations with banks. A disadvantage of floor systems is that they entail risks associated with a larger central bank balance sheet and a larger financial market footprint. These aspects, as well as many other parameters such as the width of the corridor, form the object of studies and discussion within the Eurosystem committees and the Governing Council.

2.2 The tightening of monetary policy was quickly transmitted to financing conditions

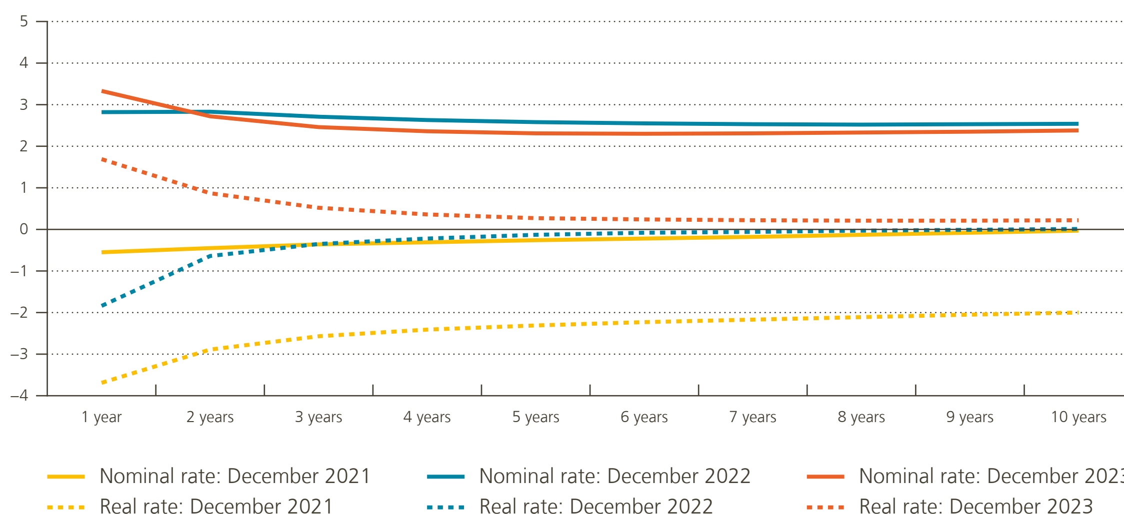
Changes in financial market rates reflected the tightening of monetary policy

The risk-free yield curve remained high for all maturities in 2023. The ECB controls short-term money market rates and indirectly influences longer-term rates through market participants' expectations of future rate decisions. The euro area's benchmark curve, the so-called risk-free yield curve, reflects these market expectations. This curve inverted in 2023, meaning short-term rates were higher than long-term rates due to the sustained rise in the former (directly linked to the rise in the deposit facility rate), while longer-term rates remained relatively stable. The latter had indeed already risen significantly prior to 2023, in anticipation of the tightening of monetary policy.

Figure 2.2

Trends in nominal and real risk-free rates reflected the tightening of monetary policy [1]

(percentage)



Sources: Bloomberg, LSEG.

1 Risk-free rates are approximated by the rates on overnight indexed swaps. Inflation compensation is measured by the rates on inflation-linked swaps. Real rates are obtained by subtracting inflation compensation from risk-free rates. Average of December observations.

In real terms, risk-free rates are relatively low, which puts the degree of monetary policy tightening into perspective. Real rates are approximated by subtracting the inflation component from nominal rates. Although the increase in nominal rates initiated in mid-2022 seems fairly aggressive from a historical perspective, it only partly reflected the rise in inflation. Real risk-free rates did nevertheless rise (thanks to stable inflation expectations). At the end of 2023, while nominal rates were at a relatively high level, suggesting a fairly restrictive monetary policy stance, real rates were barely above zero.

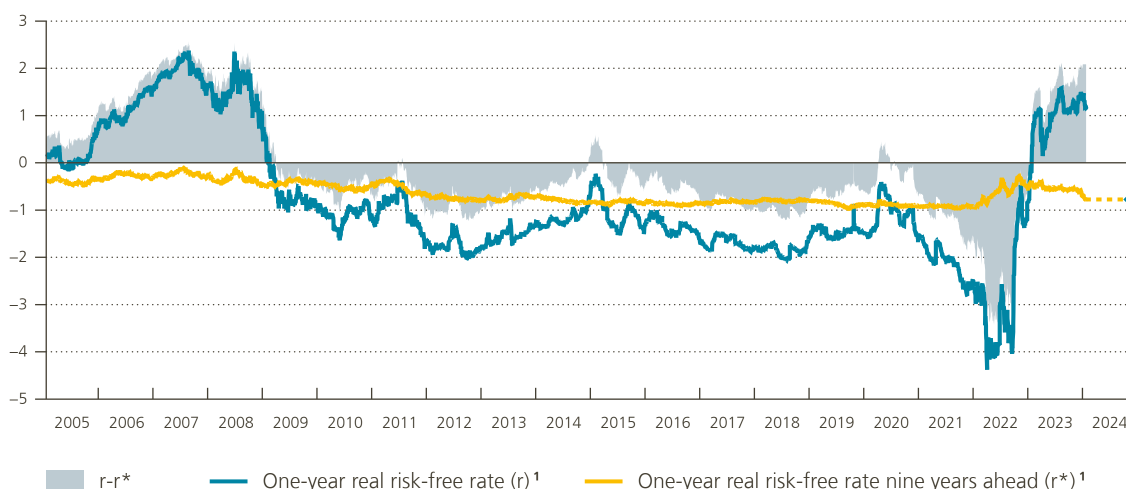
Several measures indicate that the monetary policy stance only recently became restrictive and that the degree of restriction is not particularly pronounced. The difference between the observed real monetary policy rate, r, and the equilibrium real rate, r* ("r-star"), determines in principle the monetary policy stance. r* represents the monetary policy rate which, if maintained over the long term, would imply a return of the economy to its equilibrium level, i.e. economic activity in line with potential output and a stable inflation rate of 2 %. This rate is not directly observable and is therefore often estimated using economic models which are subject to a significant degree of uncertainty. One approach is to approximate r* by a very long-term real forward rate, such as the one-year rate nine years ahead (i.e. the prevailing rate for a one-year period starting nine years from now). This rate can be compared with the one-year rate – which incorporates the recent increase in the deposit facility rate and short-term expectations – after adjusting these two rates for the various risk premia they contain. This measure suggests that monetary policy only became restrictive (meaning, r is greater than r*) from the end of 2022 and that the degree of restriction is less pronounced than in 2005-2008. Furthermore, forward rates indicate that the financial markets expect the monetary policy stance to become more or less neutral (r close to r*) by the end of 2024.

Sovereign yields followed movements in risk-free rates, and fragmentation between countries remained limited, even during the banking turbulence seen at the start of the year. The transmission from risk-free rates to sovereign

Figure 2.3

Monetary policy recently became somewhat restrictive

(percentage)

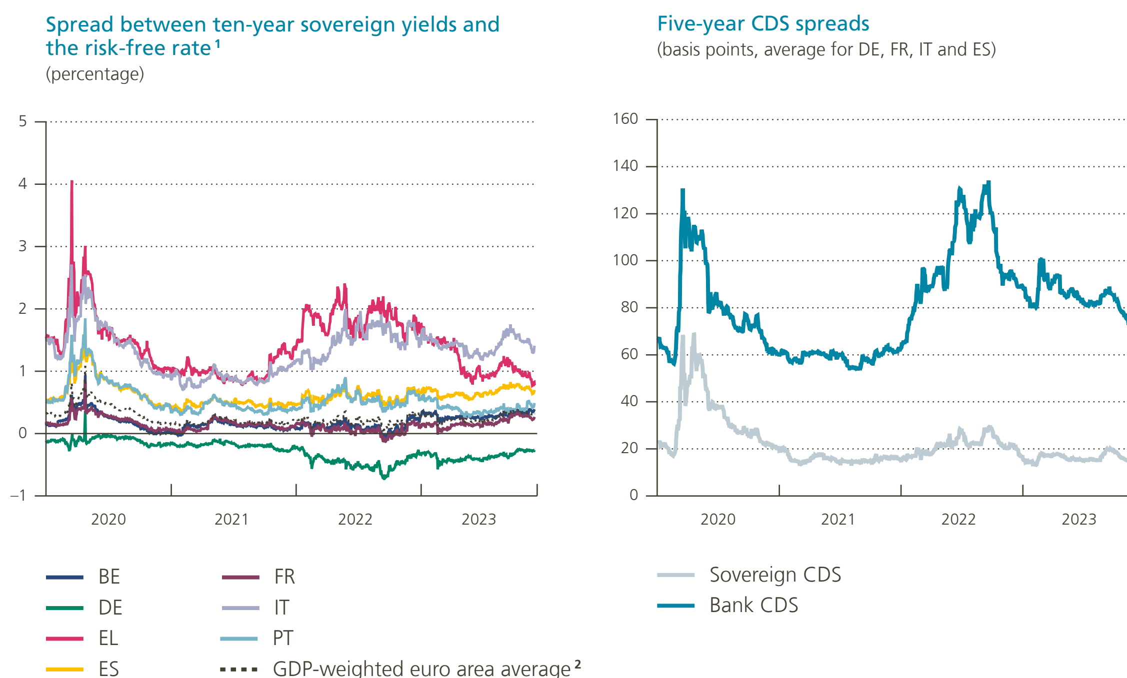


Sources: Bloomberg, LSEG, own calculations.

1 The one-year real risk-free rate and one-year real risk-free rate nine years ahead are approximated by the rates on overnight indexed swaps adjusted for inflation and real term premia estimated using a yield curve model. Prior to October 2019, EONIA-indexed swap rates are used, reduced by 8.5 basis points. The blue diamond represents the one-year forward rate adjusted in the same way. The yellow dotted line keeps the adjusted one-year rate constant nine years from now.

Figure 2.4

Fragmentation remained limited despite turbulence in the banking sector



Sources: LSEG, own calculations.
1 The risk-free rate is approximated by the ten-year rate on overnight indexed swaps.
2 The GDP-weighted average includes the following countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain.

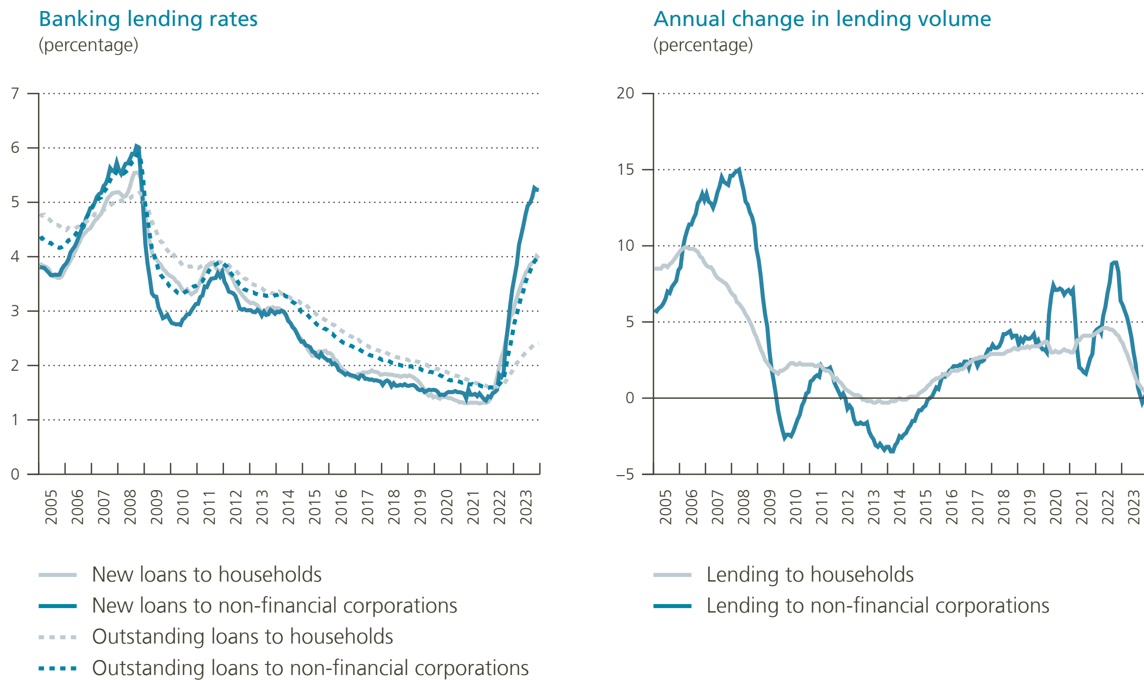
yields was almost perfect, as sovereign yield spreads remained stable overall, although displayed diverging dynamics in some countries. From 2020 until early 2023, Italian and Greek spreads were broadly similar, as were Portuguese and Spanish spreads. These two pairs have since separated against the backdrop of a more mixed fiscal outlook. According to European Commission projections, Portugal, unlike Spain, should post a large primary budget surplus in 2023 and 2024. Similarly, Greece managed to reduce its public debt ratio, which led to an improvement in its sovereign debt rating. In contrast, Italy's path to healthier public finances seems more uncertain, due to an upward revision of its projected budget deficit in September 2023. That being said, sovereign spreads did not exhibit undue volatility during the banking sector turbulence in March 2023, when the US banks Silicon Valley Bank and Signature Bank failed, followed shortly thereafter by the faltering of Credit Suisse, which was eventually taken over by UBS. In the euro area, no banks failed during this period, but spreads on bank credit default swaps (CDS) rose rapidly, while those on sovereign CDS remained relatively stable. The existence of the Transmission Protection Instrument (TPI), adopted in 2022, could explain the absence of the spread of tensions to the sovereign bond market in the euro area.

The tightening of monetary policy was largely transmitted to bank lending rates

Bank lending rates continued to rise significantly. Rates on new loans to businesses and households reached levels not seen since the global financial crisis of 2008, rising from around 3 % at the end of 2022 to 5.2 % and 4 %, respectively, in December 2023. Interest rates on outstanding loans rose less than on

Figure 2.5

Bank lending rates continued to rise and credit growth weakened significantly



Sources: ECB, LSEG.

new loans, as the former often benefited from fixed rates or a relatively long initial rate fixation period, which was particularly the case for household mortgage loans.

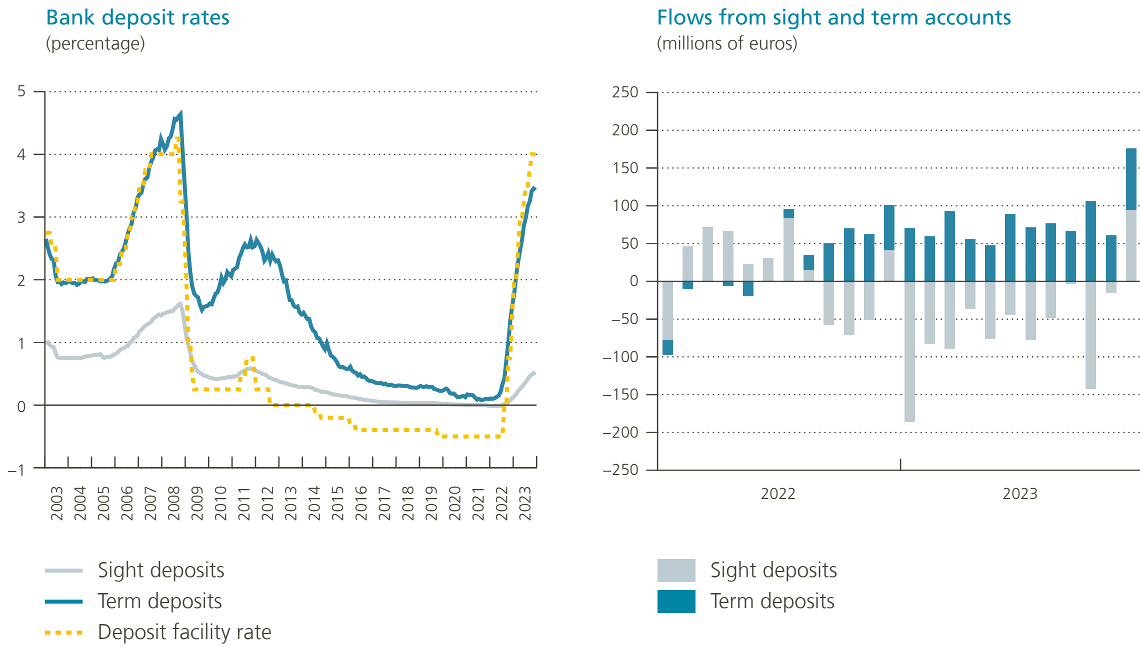
The results of the Eurosystem's bank lending survey show that banks tightened their lending conditions and that demand for credit fell. The tightening of lending conditions was mainly attributable to a greater perception of the level of risk and lower risk tolerance. Tightening went beyond the cost of credit: collateral requirements were also beefed up and maturities and loan amounts reduced. In addition, the rejection rate for loan applications rose for both businesses and consumers. At the same time, demand for credit fell, mainly due to higher interest rates (implying a drop in the number of profitable investment opportunities) and past growth in corporate profit margins (increasing internal financing capacity).

As a result, the annual growth rate of lending slowed significantly. The weakening of both demand for and supply of credit explain the slowdown in the lending growth rate seen from the end of 2022. The rate fell significantly in December 2023, to values close to zero for both non-financial corporations and households. At the same time, debt ratios (the ratio of outstanding debt to GDP) contracted for both households and non-financial corporations, partly as a result of domestic inflation.

In contrast to bank lending rates, sight deposit rates rose only very slightly. However, this trend did not extend to all types of deposits, since the yield on term deposits rebounded significantly, in line with the increase in the ECB's deposit facility rate. This difference in dynamics also triggered a transfer of assets from sight accounts to term accounts. In addition to these transfers, the current reduction in the ECB's balance sheet could intensify competition between banks to attract deposits, which are their main sources of funding, and exert upward pressure on bank deposit rates.

Figure 2.6

Sight deposit rates remained relatively low, leading to a shift from sight accounts to term accounts



Source: ECB.

2.3 Monetary policy in the light of risks to price stability

The pandemic highlighted how supply shocks can have more significant and persistent inflationary effects than expected. Until the post-pandemic economic recovery, the prevailing view in monetary policy discussions was that it was theoretically preferable for central banks to look through the temporary effects of supply shocks and, therefore, tolerate transitory inflation so as not to exert a heavier burden on economic growth. However, persistent bottlenecks in supply chains and historically high commodity prices – especially for energy, following Russia's invasion of Ukraine – pushed inflation up further, leading to fears that inflation expectations could become de-anchored. In addition, the vigorous recovery of demand – allowing corporate profit margins and wages to rise – pushed the euro area towards inflation that was more domestic in nature. Fears of a de-anchoring of inflation expectations coupled with robust aggregate demand called for a more vigorous monetary policy response, especially against the backdrop of a strong labour market.

Given the high level of macroeconomic uncertainty, the ECB clarified the criteria on which it would base its key rate decisions: (1) the inflation outlook in the light of new economic and financial data, (2) the underlying inflation dynamics, and (3) the strength of monetary policy transmission.

Underlying inflation turned a corner, lending credence to the belief that inflation is returning to target

The rapid decline in inflation seen throughout the year mainly reflected the smaller contribution from energy products, but underlying inflation also fell. After peaking at 10.6 % in October 2022, inflation in the euro area fell steadily to 2.9 % by year's end. Similarly, underlying inflation also appears to have started on a downward path. It fell from a peak of 5.7 % in March 2023 to 3.4 % in December 2023.

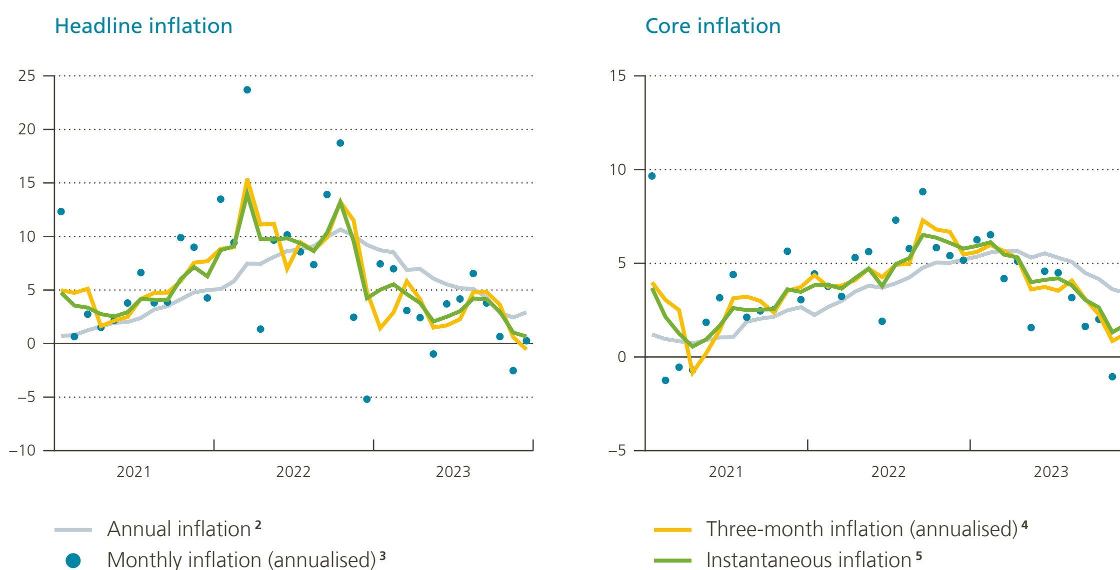
Alternative measures of inflation support the conclusion that a turning point was reached at the end of 2022. The year-on-year inflation rate is an average of monthly inflation rates over the past year.[1] Once abnormally high monthly price rises from the previous year start to disappear from annual inflation rates, the inflation rate slows significantly: these are known as base effects. Due to base effects, year-on-year inflation reflects not only current price dynamics but also price changes a year ago. Consequently, inflation measures that focus on the most recent monthly data are also used. However, given its high degree of volatility, monthly inflation alone is of little help when it comes to making monetary policy decisions. The three-month inflation rate is an alternative. This rate weights the inflation rates for the current month and the previous two months by one-third each. Instantaneous inflation, on the other hand, upweights the most recent observation and assigns progressively decreasing weights to earlier months. These alternative measures indicate that headline inflation reached a turning point at the end of 2022. More in line with recent trends, they were lower than the annual inflation rate in 2023, as they were no longer influenced to the same extent by the spikes in energy prices that occurred at the end of 2022. As for core inflation rates, these are much less volatile from month to month, since energy and food prices are excluded.

1 For more information, see J. Wauters (2023), "The perils of tracking year-on-year inflation | nbb.be", NBB blog, 21 April.

Figure 2.7

Alternative measures of inflation in the euro area [1]

(percentage)



Sources: ECB, own calculations.

1 Seasonally adjusted price indices.

2 Year-on-year inflation is the average of the last twelve monthly inflation rates (annualised).

3 Monthly inflation takes into account only the last observation of the monthly inflation rate.

4 Three-month inflation weights the inflation rates for the current month and the previous two months by one-third and ignores other months.

5 Instantaneous inflation assigns the greatest weight to the most recent observation and progressively decreasing weights to previous months.

While an inflection point was reached in mid-2023 based on year-on-year inflation rates, the alternative measures point to a turnaround towards the end of 2022. Instantaneous core inflation was slightly below 2 % at the end of 2023.

According to the December 2023 ECB staff macroeconomic projections for the euro area, inflation is expected to return to 2 % in the course of 2025. The fall in inflation will mainly be due to mitigation of the effects of past energy price shocks and of tensions upstream of supply chains, coupled with tighter monetary policy. More specifically, the projections assume average inflation of 2.7 % in 2024, 2.1 % in 2025 and 1.9 % in 2026. The projections were constantly revised upwards in 2022, in particular in response to inflation surprises. In 2023, however, forecast revisions between the start and the end of the year were fairly minor. Core inflation is also expected to fall: the Eurosystem projections put it at 2.7 % in 2024, 2.3 % in 2025 and 2.1 % in 2026. Growth in labour costs is expected to be the main driver of core inflation. After rising significantly in 2022, corporate profit margins are expected to weaken over the projection horizon, providing a buffer for rising labour costs.

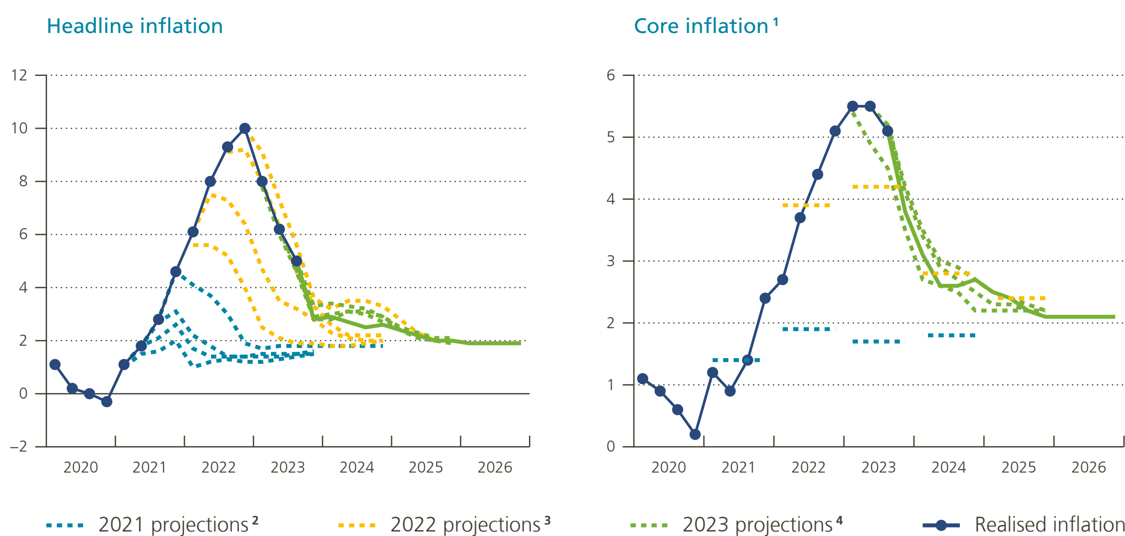
Risks surround inflation forecasts and are reflected in uncertainty over the future path of interest rates

A number of upside risks could reignite inflation despite the tightening of monetary policy. These include domestic factors, such as the growing scale of wage increases against the backdrop of a resilient labour market (with unemployment averaging 6.5 % in 2023), which shored up economic activity, and

Figure 2.8

Euro area inflation forecasts

(percentage)



Source: ECB.
1 Quarterly forecasts for core inflation have only been published since March 2023.
2 December 2021 annual forecast for core inflation.
3 December 2022 annual forecast for core inflation.
4 Solid green line: December 2023 annual forecast.

fiscal policy. In addition, external factors could push up prices, such as the rising cost of raw materials (Russia's invasion of Ukraine and the Middle East conflict, demand for materials needed for the greening of the economy, [1] etc.).

Nevertheless, inflation expectations remain anchored at the 2 % target, helping to contain upside risks. Although inflation rose to historic levels, measures of medium- and long-term inflation expectations sent out fairly reassuring signals. The results of the Survey of Professional Forecasters (SPF) for the fourth quarter of 2023 point to a long-term inflation rate of 2.1 %. However, several issues emerged during the recent episode of high inflation that merit attention. Whereas respondents' long-term expectations were clearly concentrated below 2 % during the period of low inflation in the euro area, they refocused around 2 % from 2022 onwards, as a result of growing inflationary pressures. The range of survey responses reveals that by 2023, a growing share of forecasters (over 10 %) expected inflation to be at or above 2.5 % in the long term. In addition, financial market data pointed to medium-term inflation expectations above 2.6 % at the end of the summer, although these had fallen back to 2.3 % by the end of the year. Finally, the medium-term inflation expectations of consumers (from the Consumer Expectations Survey) rose at the beginning of 2022 and remained at a median level of around 2.5 % for most of 2023.

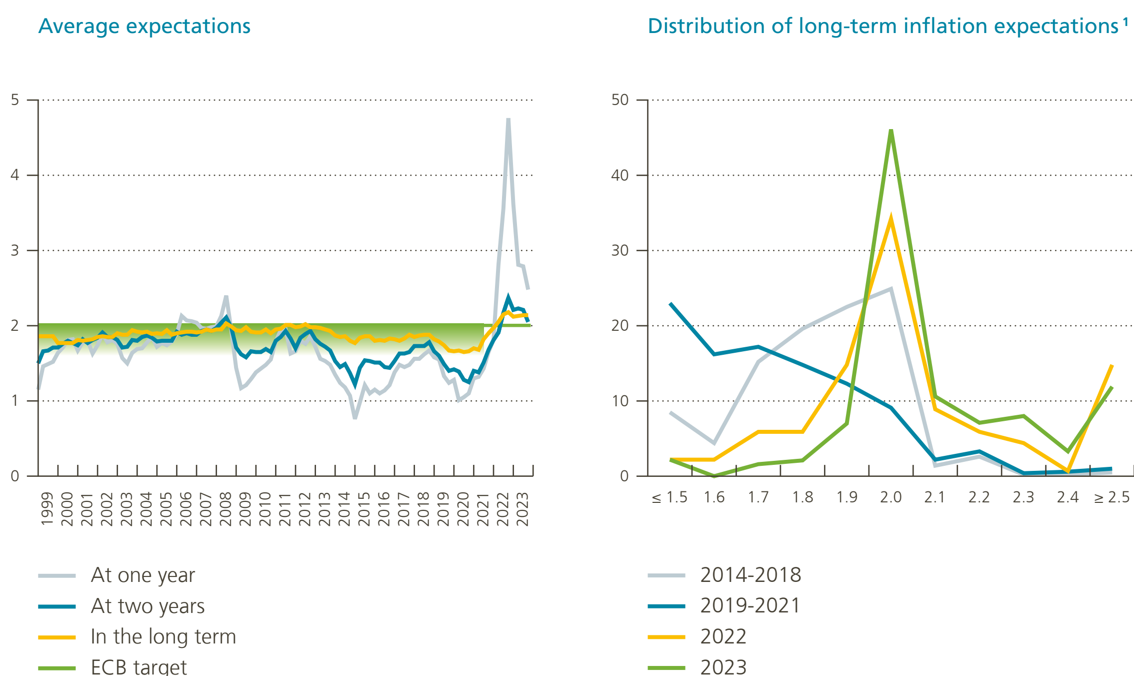
Although inflation expectations remain fairly well anchored at the 2 % target, the longer inflation remains above this level, the greater the risk of a loss of confidence in the target. The danger is that economic agents will stop anticipating a low and stable inflation rate and will start to rely more on the latest inflation figures to form their inflation expectations (in other words, they will become

1 See K. Buysse and D. Essers (2023), "Critical raw materials: from dependence to open strategic autonomy", NBB, *Economic Review.*

Figure 2.9

Inflation expectations of professional forecasters

(percentage)



Source: ECB.

1 The y-axis indicates the percentage of respondents and the x-axis the expected inflation rate.

backward-looking rather than forward-looking). Such a shift could lead to persistent price rises, with inflation and inflation expectations feeding off one another. This would require a more forceful monetary policy response, which could lead to a recession. This scenario is less favourable than one in which the central bank ensures that inflation expectations remain anchored by sticking to its current course of tightening, in order to bring inflation back to target as soon as possible.

While the tightening of monetary policy was rapidly passed on to financing conditions, doubts persist as to how it will affect the real economy and thus bring inflation back to target. The speed of the tightening was unprecedented, given the lengthy period of accommodative policy that preceded it – characterised by historically high balance sheets – and the combination of economic shocks that affected the euro area from 2020 onwards. For example, the impact of recent shocks on the economy's supply capacity and, therefore, on the level of spare capacity is not yet known. These unknowns amplify calibration uncertainty, i.e. the choice of the appropriate level of interest rates and the length of time they should be maintained at that level.

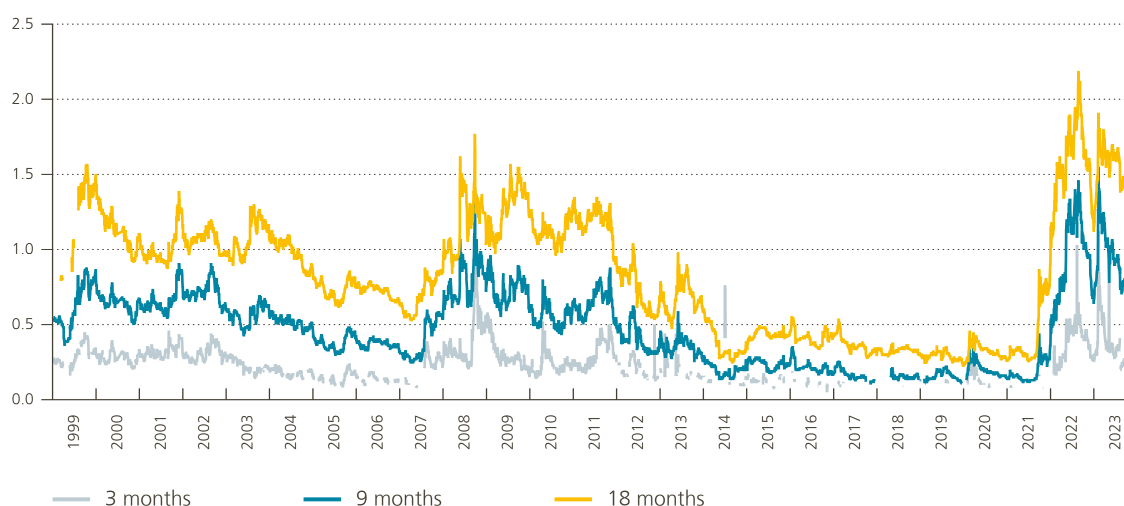
At the end of 2023, the financial markets seemed to think that the ECB had finished raising rates and would start cutting them in 2024, but the wide distribution of potential scenarios reveals substantial uncertainty.[1] The baseline scenario shows expectations for the deposit facility rate at around 2 % by the end of 2025 (see the previous chapter on the global economy). That being said, the distribution of the interest rate expectations of financial market participants is historically wide. The standard deviation of the distribution (a measure of uncertainty) at various anticipation horizons has never been so high, except in the aftermath of

1 See B. De Backer (2023), "Are interest rates set to fall ?" NBB blog, 16 November.

Figure 2.10

Standard deviation of the distribution of expected rates at different forecasting horizons[1]

(percentage)



Source: ECB.

1 Forward distributions are derived from options on the three-month EURIBOR rate. Forward rates contain risk premia.

the 2008 global financial crisis. More recently, this uncertainty was further exacerbated by the banking market turbulence seen in March 2023. Uncertainty over the short-term (three months) has since fallen but remains high over the longer term (18 months).

Could monetary policy in the euro area be constrained by other policies?

The ECB's independence is intended to prevent the political sphere from influencing its monetary policy decisions and its objective of maintaining price stability. When the ECB takes monetary policy decisions, it should not have to worry about whether its actions – such as raising interest rates – could jeopardise the sustainability of public finances or create risks to financial stability.

However, overly flexible fiscal policy can be at odds with restrictive monetary policy. Overly flexible fiscal policy fuels demand and inflation, forcing the central bank to raise interest rates further. Moreover, a rise in interest rates weighs on public finances, all other things being equal. Governments must therefore pay particular attention to the sustainability of public finances when interest rates are rising. If they do not reduce public deficits or do not reduce them sufficiently, the central bank could come under pressure not to raise interest rates (and thereby allow inflation to rise). In the extreme case of the central bank yielding to this pressure, a situation of "fiscal dominance" would arise. Although the fiscal and monetary authorities managed, by working together, to prevent an economic collapse during the health crisis and to pull the economy out of the deep recession into which it had fallen, the risk of fiscal dominance could emerge in a context of rising interest rates that increases the burden of public debt.

Moreover, financial stability is a prerequisite for price stability. In this respect, the ECB, as the lender of last resort, plays an important role in managing liquidity crises and stabilising the financial markets. The separation of monetary and financial stability considerations can be ensured when financial disturbances are caused by market failures or liquidity problems rather than solvency issues. In

other words, monetary policymakers cannot solve solvency problems, which are the responsibility of other authorities.[1]

In terms of financial stability, macroprudential and microprudential policies form the first line of defence, allowing monetary policy to focus on its primary objective of price stability. The aim of macroprudential policy, in particular, is to increase the resilience of the financial system and limit the build-up of vulnerabilities in order to mitigate systemic risk – which can arise from macroeconomic shocks, financial imbalances and contagion effects – and to ensure that financial services continue to be provided efficiently to the real economy even in times of crisis. The macroprudential authorities in the euro area therefore increased capital requirements in 2023, for example by raising countercyclical capital buffers. Insofar as these buffers help to curb credit growth, they may also play an indirect role in the fight against inflation. In general, these prudential measures help to ensure that financial stability concerns do not impede monetary policy decision-making by the ECB Governing Council which is aimed at ensuring price stability in line with the primary objective of the central bank's mandate.

1 See I. Schnabel (2023), *Monetary and financial stability – can they be separated?*, speech at the Conference on Financial Stability and Monetary Policy in the honour of Charles Goodhart, London, 19 May.