

# Rates Forecast

A Research Publication by DZ BANK AG



## DZ BANK interest rate forecast: a new equilibrium

### BONDS

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- » **The ECB will raise interest rates by 50 basis points in February and March and carry out a final small hike in May.**
- » **The US Federal Reserve is approaching the end of its rate hikes. We expect two more increases of 25 basis points each.**
- » **We see 10-year Bund yields rising to 3.0% on a 12-month horizon, while their US counterparts are expected to reach levels around 4.60%.**

We have left our interest rate forecast almost unchanged compared to last month but have made substantial changes to our economic growth forecasts. We now expect a much more shallow recession in the eurozone, with Germany narrowly avoiding a recession. Although inflation will ease gradually over the year, it will remain a long way above the ECB's target. Against this backdrop we expect a further 125 basis points (bp) of ECB rate hikes over the coming months. Europe's monetary guardians will in our view tighten monetary policy by a further 50 bp in February and March and carry out a final 25 bp hike in May.

We expect the US monetary guardians to raise interest rates by a comparatively modest 25 bp at their next meeting on 1 February, which would represent a further step down in the pace of monetary tightening. We then see the Fed bringing the current aggressive rate-hiking campaign to an end with one final rate increase of 25 bp in March. The market is pricing in rate cuts in the second half of the year. We believe this is too optimistic given continuing high wage and price inflation. The US labour market remains robust. The Fed's efforts to reduce the overheating on the labour market do not seem to be bearing fruit yet. Many Fed policymakers therefore want to keep the target range for interest rates unchanged at its terminal level this year to ensure that inflation does not rebound after the slowdown in recent months. We therefore expect policy rates to remain on hold this year after the final hike in March.

2022 will be remembered as the year when yields catapulted higher in both the US and the eurozone. As long as the central banks are tightening policy, the bond market is likely to remain under pressure. There has been growing optimism in recent weeks due to falling rates of inflation, which has led to modestly lower 10-year yields. But high core inflation points to broad-based inflation pressure and suggests that the battle against inflation is by no means won. We are forecasting a 10-year Bund yield of 3.0% on a one-year view, while we see US Treasury yields rising to 4.60%.

## FINDING A NEW EQUILIBRIUM

### Central banks to end the monetary tightening cycle in 2023

The macroeconomic environment is currently dominated by falling, but still high, rates of inflation. Economies have also remained surprisingly robust in spite of a whole host of headwinds. The mild temperatures in Europe mean a potential energy crisis is becoming ever more unlikely. In summary, the uncertainties that held sway on the bond markets last year seem to be gradually easing.

2023 could be the year when the financial markets reach a new equilibrium at higher policy rates and bond yields. One important prerequisite for lower market volatility is that the Ukraine-Russia war does not escalate and other geopolitical crises, such as the tensions over Taiwan and the strained trade relationship between the US (and the West more generally) and China do not deteriorate drastically. The whole issue of supply chain bottlenecks should, however, be consigned to history this year, as China has abandoned its zero-Covid strategy and herd immunity should be achieved in the major cities fairly quickly. China could still represent a drag on global growth at the beginning of the year, but this will likely fade as the year goes on.

Energy prices will remain a key influence on inflation and therefore on monetary policy at the Fed and ECB. The trend is firmly downwards at the moment, which has led to an improvement in the medium-term inflation outlook in recent weeks, particularly in Europe. If the winter remains relatively mild, Europe's gas storage could still be more than half full at the end of the winter. This would ease concerns about supplies next winter. Food prices are likely to remain high, however, and underlying inflation pressure as reflected in core inflation is also still elevated. We are forecasting average inflation of 6.7% in the euro area in 2023. While inflation is expected to slow in 2024, it will remain some way above the ECB's 2% inflation target at 3.4%.

### ECB: central bank officials wary of second-round effects

Although euro area inflation fell in December, January's inflation data could cause a surprise, as many companies increased prices at the turn of the year and government support schemes ended in Germany and several other euro area countries. Nonetheless, we should now be past the peak in inflation and we expect it to ease moderately in the coming months. Although this is good news for central bankers, we still expect a further rise in policy rates over the coming months.

We see the ECB raising interest rates by 50 bp in both February and March. This forecast is supported not only by the hawkish statements central bank officials continue to make, but also by increasingly broad-based inflation pressures. Core euro area inflation excluding the highly volatile food and energy components rose to 5.2% in December, for example. The risks to price stability are therefore still very real. Tight labour market conditions could now also lead to a significant upturn in wage growth in the eurozone. The European monetary guardians will therefore have no choice but to tighten monetary policy further to bear down on inflation pressures. Christine Lagarde bolstered these expectations in December by suggesting that the central bank would carry out at least two more 50 bp rate hikes. The ECB will continue to tighten monetary policy even if the eurozone goes into recession during the winter months. Rowing back on rate hikes would entail a loss of credibility after the hawkish comments in recent weeks.

But with inflation set to fall in the first half of 2023, and against the backdrop of the economic slowdown, we expect the ECB to end the rate hike cycle in May this year with a final small rate increase. This is in spite of the fact that inflation will still not be

**Uncertainty about the inflation outlook gradually diminishing**

**We expect yields to rise on trend**

**Energy prices are heading down...**

**... but inflation pressure has broadened**

**Energy prices are heading down...**

**... but inflation pressure has broadened**

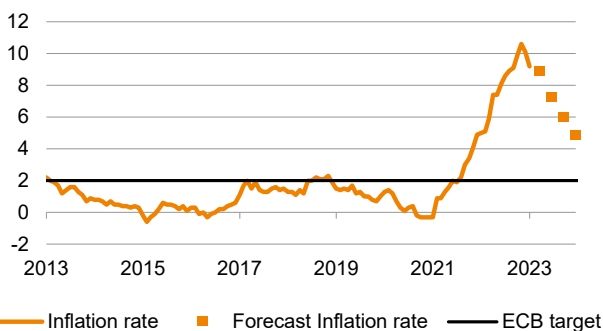
**We expect the ECB to switch to 50 bp hikes**

**The rate hike cycle will end in May at a deposit rate of 3.25%**

back to levels compatible with the central bank’s price stability target and moreover monetary policy is not particularly restrictive at a deposit rate of 3.25%. However, there are a number of reasons to expect an end to rate hikes. One of the most important is that the ECB is keenly aware of the long lags between monetary tightening and its impact on the economy. The central bank will likely also want to avoid sending the economy into a prolonged slump after what will probably be two quarters of negative growth in the fourth quarter of 2022 and first quarter of 2023. Furthermore, further large rate hikes could put significant pressure on government budgets and deficits have already risen sharply as a result of the pandemic and the energy crisis. Finally, the fact that the monetary guardians are further tightening their monetary stance by initiating quantitative tightening (QT) could be used as a further justification for ending the campaign of rate increases.

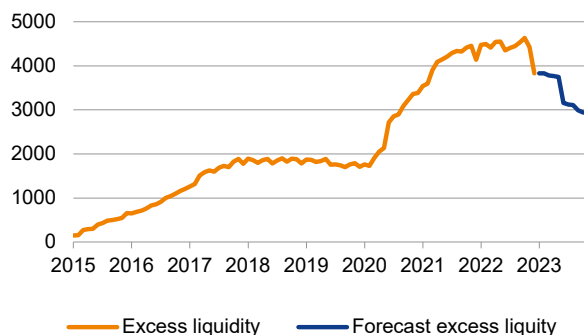
**Interest rate increases impact government bond yields**

**INFLATION EXPECTED TO REMAIN ABOVE THE 2% TARGET FOR SOME TIME**  
IN PERCENT



Source: DZ BANK Research; Bloomberg

**EXCESS LIQUIDITY IS DECLINING SLOWLY**  
IN EUR BILLION



Source: DZ BANK Research; Bloomberg

The ECB will reduce its balance sheet in homeopathic doses from March by cutting back its reinvestments. From March to June the APP holdings will fall by EUR 15 billion per month. This is just a very small first step, given that total outstanding central bank liquidity stands at around EUR 4.1 trillion. Excess liquidity will therefore only decline slowly. With inflation still likely to be elevated, the central bank may cease reinvesting entirely within the APP programme from July. Overall we expect this quantitative tightening to shrink the balance sheet by around EUR 210 billion by the end of the year. There will also be further TLTRO III repayments in the course of this year. These should amount to at least EUR 750 billion in 2023, which would imply excess liquidity shrinking by around EUR 1 trillion by the end of the year. However, at around EUR 3 trillion excess central bank liquidity would remain very high (see right-hand chart above).

**Excess liquidity expected to contract this year**

**Yields expected to rise on trend**

Falling inflation in the last two months has prompted a surge of optimism on the bond market, with yields on 10-year Bunds falling from a peak of 2.55% to 2.20%. However, the rally is likely to peter out soon in our view. As long as the ECB is raising interest rates and making hawkish statements in an attempt to bear down on inflation expectations, we expect yields to trend up. A further fall in inflation could give Bunds a boost in the short term. But the high level of inflation overall will limit this effect in our view.

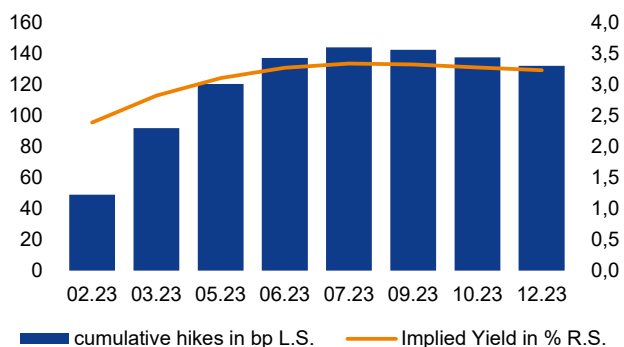
**Falling rates of inflation have boosted the bond market**

We expect the bond markets to remain under pressure in the second half of the year as the economic indicators turn more positive and the rise in yields to continue. This

forecast is somewhat different from consensus. The persistence of inflation will be the main reason for continuing high yields at the long end in our view. Even in the fourth quarter of this year inflation will still be running at an average of 4.5%, while average inflation of 3.4% in 2024 will leave the ECB with little or no scope for rate cuts. The market is pricing in a more optimistic inflation outlook and expects a slight easing of the monetary reins at the end of the year (see left-hand chart below). We expect these hopes to be disappointed, however, which will create scope for a correction. A further argument for higher yields is the continuing withdrawal of excess liquidity, even if liquidity will remain high in absolute terms for now and any resultant upward pressure on yields is therefore likely to be limited. Due to further ECB rate hikes we expect 2-year yields to rise to 3.3%. Thus the yield curve will become even more inverted on a three-month view.

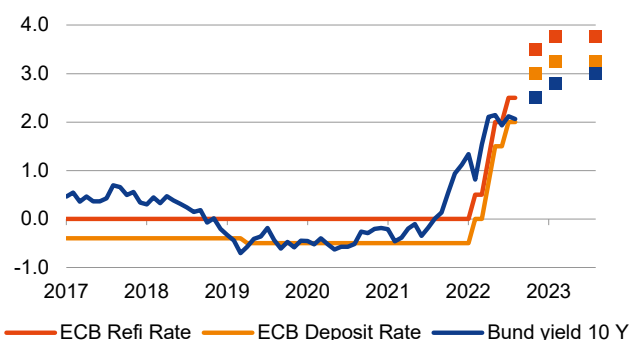
**Reasons for a continuing rise in yields: rate hikes, inflation to remain high, shrinking excess liquidity**

**FIRST TENTATIVE EXPECTATIONS OF RATE CUTS AT END OF 2023**  
R.S. IN PERCENT; L.S. IN BP (EXPECTATIONS DERIVED FROM OIS)



Source: DZ BANK Research; Bloomberg

**DZ BANK INTEREST RATE FORECAST: FURTHER RATE HIKES**  
IN PERCENT



Source: DZ BANK Research; Bloomberg  
squares = 3, 6 and 12-month forecasts

**US: rate increase campaign approaching its conclusion**

The US economic data published in recent months has shown gradually falling inflation, a still-robust labour market and a resilient economy in spite of the Fed's aggressive rate hikes. Upward pressure on prices has already eased considerably in the last few months. We expect inflation to continue falling back steadily as the year goes on against the backdrop of a slowdown in consumer spending. We expect the Fed to raise interest rates by 25 bp in both February and March. Fed policymakers have recently stuck to their mantra that inflation and the very tight labour market pose the biggest risk to the economy. The signs are that the US monetary guardians are focused on the inflation component of their mandate, and are less concerned about growth.

**Fed expected to carry out two more rate hikes**

We expect the Fed's campaign of interest rate increases to come to an end after two further 25 bp rate hikes. We agree with the general market consensus that the Fed will tighten policy up to a terminal rate of 5% in the current cycle. However, in contrast to the market's expectations, we do not anticipate rate cuts over the next 12 months. Hopes that the Fed may cut interest rates are in our view based on the assumption that the US economy will tip into recession. The argument is that a recession would slow the US labour market by enough to lead to a significant easing of wage growth and thus underlying inflation.

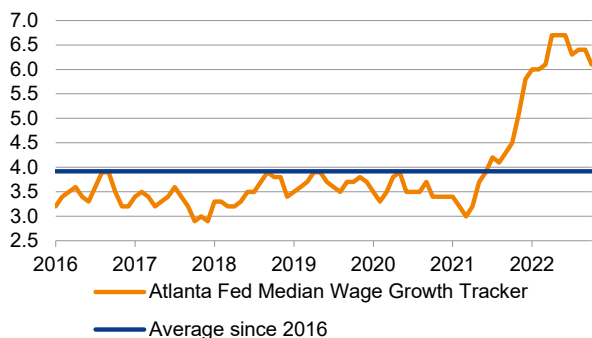
**One of the fastest and most aggressive rate hike cycles ever is approaching its end**

We are also forecasting a US recession in the first half of this year, but because we believe the labour market will remain robust and the unemployment rate will only rise slowly, we expect inflation to remain too high. Thus the dilemma for the Fed remains

**Labour market still a headache for the Fed – overheating only easing slowly**

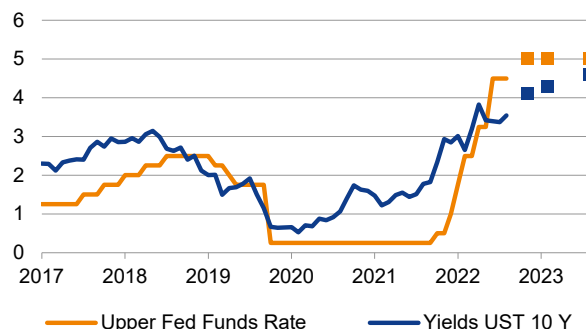
as real as ever. If it cuts interest rates too early, wage growth could pick up again and undermine the fight against inflation, particularly since the economy is expected to recover sharply in the second half of the year. Contrary to market consensus, we are therefore not expecting any rate cuts in 2023. The Fed may be forced to keep the Fed funds rate at around 5% for a prolonged period.

**WAGE GROWTH REMAINS HIGH**  
IN PERCENT



Source: DZ BANK Research; Bloomberg

**DZ BANK FORECAST: NO FED RATE CUTS**  
IN PERCENT



Source: DZ BANK Research; Bloomberg  
squares = 3, 6, and 12-month forecasts

**US Treasury yields: inflation and the Fed the key determinants**

The Fed’s rate hikes in 2022 have led the yield curve to invert significantly. The outlook for the US Treasury market remains negative in our view. Firstly, the uncertainty about the likely peak in policy rates will continue for some time. Various central bankers have expressed concern about the recent fall in bond yields on the grounds that this has loosened financial conditions too far. If yields continue to fall, the Fed might end up keeping its foot on the monetary policy brakes for longer than the market is anticipating. Secondly, inflation will remain persistently high in our view. The expected growth slowdown is the sole reason to expect a fall in 10-year Treasury yields.

We see 10-year Treasury yields at 4.10% on a three-month view, with the euphoria about lower inflation fading as Fed officials continue to make hawkish comments. On a 12-month horizon we are forecasting 10-year yields rising further to levels of around 4.60%. In our view the rapid reduction in the size of the Fed’s balance sheet should contribute to keeping the bond market under pressure.

**Fed not overjoyed about the recent fall in yields**

**This could lead to financial conditions loosening by more than the Fed wants**

**In 3 months: 10-year UST at 4.10%**

## EURO AREA

## Bund yields

20.01.2023	current	+ 3 months	+ 6 months	+ 12 months	31.12.2023
<b>refi rate</b>	<b>2.50</b>	<b>3.50</b>	<b>3.75</b>	<b>3.75</b>	<b>3.75</b>
<i>prior refi rate</i>		3.50	3.75	3.75	3.75
<b>deposit rate</b>	<b>2.00</b>	<b>3.00</b>	<b>3.25</b>	<b>3.25</b>	<b>3.25</b>
<i>prior deposit rate</i>		3.00	3.25	3.25	3.25
1 year	2.73	3.16	3.30	3.29	3.29
<b>2 years</b>	<b>2.55</b>	<b>3.20</b>	<b>3.30</b>	<b>3.30</b>	<b>3.30</b>
3 years	2.27	3.12	3.26	3.27	3.27
4 years	2.21	2.99	3.20	3.23	3.23
<b>5 years</b>	<b>2.17</b>	<b>2.90</b>	<b>3.15</b>	<b>3.20</b>	<b>3.20</b>
6 years	2.09	2.84	3.10	3.17	3.17
7 years	2.11	2.75	3.03	3.14	3.14
8 years	2.03	2.65	2.95	3.10	3.10
9 years	2.05	2.56	2.87	3.05	3.05
<b>10 years</b>	<b>2.10</b>	<b>2.50</b>	<b>2.80</b>	<b>3.00</b>	<b>3.00</b>
<i>prior 10y yield</i>		2.50	2.80	3.00	3.00
15 years	2.20	2.57	2.98	3.22	3.22
30 years	2.04	2.30	2.75	3.00	3.00
	<b>current</b>	<b>+ 3 months</b>	<b>+ 6 months</b>	<b>+ 12 months</b>	<b>31.12.2023</b>
2/5-spread	-38	-30	-15	-10	-10
<b>2/10-spread</b>	<b>-45</b>	<b>-70</b>	<b>-50</b>	<b>-30</b>	<b>-30</b>
5/10-spread	-6	-40	-35	-20	-20
<b>10/30-spread</b>	<b>-6</b>	<b>-20</b>	<b>-5</b>	<b>0</b>	<b>0</b>

Yields 1 to 30 years Bunds (computed curve, no benchmarks) in percent; Spread in basis points

Source: DZ BANK Research; Bloomberg

## Euro swap rates

20.01.2023	current	+ 3 months	+ 6 months	+ 12 months	31.12.2023
1 month Euribor	1.99	3.20	3.40	3.45	3.45
<b>3 month Euribor</b>	<b>2.39</b>	<b>3.30</b>	<b>3.60</b>	<b>3.65</b>	<b>3.65</b>
6 month Euribor	2.86	3.45	3.65	3.70	3.70
12 month Euribor	3.30	3.55	3.75	3.75	3.75
1 year	3.27	3.65	3.80	3.75	3.75
<b>2 years</b>	<b>3.17</b>	<b>3.85</b>	<b>3.90</b>	<b>3.85</b>	<b>3.85</b>
3 years	2.97	3.76	3.85	3.83	3.83
4 years	2.84	3.59	3.75	3.78	3.78
<b>5 years</b>	<b>2.76</b>	<b>3.50</b>	<b>3.70</b>	<b>3.75</b>	<b>3.75</b>
6 years	2.71	3.46	3.66	3.72	3.72
7 years	2.68	3.37	3.57	3.64	3.64
8 years	2.67	3.25	3.45	3.55	3.55
9 years	2.67	3.15	3.35	3.48	3.48
<b>10 years</b>	<b>2.67</b>	<b>3.10</b>	<b>3.30</b>	<b>3.45</b>	<b>3.45</b>
<i>prior 10y swap rate</i>		3.15	3.35	3.50	3.50
15 years	2.64	3.06	3.36	3.57	3.57
30 years	2.13	2.40	2.80	3.05	3.05
	<b>current</b>	<b>+ 3 months</b>	<b>+ 6 months</b>	<b>+ 12 months</b>	<b>31.12.2023</b>
2/5-spread	-41	-35	-20	-10	-10
<b>2/10-spread</b>	<b>-51</b>	<b>-75</b>	<b>-60</b>	<b>-40</b>	<b>-40</b>
5/10-spread	-9	-40	-40	-30	-30
<b>10/30-spread</b>	<b>-53</b>	<b>-70</b>	<b>-50</b>	<b>-40</b>	<b>-40</b>
	<b>current</b>	<b>+ 3 months</b>	<b>+ 6 months</b>	<b>+ 12 months</b>	<b>31.12.2023</b>
2y swap spread	62	65	60	55	55
<b>5y swap spread</b>	<b>59</b>	<b>60</b>	<b>55</b>	<b>55</b>	<b>55</b>
10y swap spread	56	60	50	45	45
<b>30y swap spread</b>	<b>9</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>

Rates in percent; Spread in basis points

Source: DZ BANK Research; Bloomberg

## UNITED STATES

### US Treasury yields

20.01.2023	current	+ 3 months	+ 6 months	+ 12 months	31.12.2023
<b>upper Fed rate</b>	<b>4.50</b>	<b>5.00</b>	<b>5.00</b>	<b>5.00</b>	<b>5.00</b>
<i>prior value</i>		4.75	5.00	5.00	5.00
<b>lower Fed rate</b>	<b>4.25</b>	<b>4.75</b>	<b>4.75</b>	<b>4.75</b>	<b>4.75</b>
<i>prior value</i>		4.50	4.75	4.75	4.75
3 month SOFR	4.65	5.05	5.00	5.00	5.00
1 year	4.62	4.90	4.90	4.90	4.90
<b>2 years</b>	<b>4.15</b>	<b>4.77</b>	<b>4.83</b>	<b>4.85</b>	<b>4.85</b>
3 years	3.80	4.62	4.73	4.79	4.79
4 years	3.65	4.50	4.65	4.75	4.75
<b>5 years</b>	<b>3.51</b>	<b>4.42</b>	<b>4.58</b>	<b>4.72</b>	<b>4.72</b>
6 years	3.48	4.33	4.49	4.69	4.69
7 years	3.46	4.25	4.40	4.65	4.65
8 years	3.44	4.17	4.33	4.62	4.62
9 years	3.43	4.10	4.30	4.60	4.60
<b>10 years</b>	<b>3.41</b>	<b>4.10</b>	<b>4.30</b>	<b>4.60</b>	<b>4.60</b>
<i>prior 10y yield</i>		4.10	4.30	4.60	4.60
30 years	3.58	4.20	4.50	4.80	4.80
	<b>current</b>	<b>+ 3 months</b>	<b>+ 6 months</b>	<b>+ 12 months</b>	<b>31.12.2023</b>
2/5-spread	-65	-35	-25	-13	-13
<b>2/10-spread</b>	<b>-74</b>	<b>-67</b>	<b>-53</b>	<b>-25</b>	<b>-25</b>
5/10-spread	-10	-32	-28	-12	-12
<b>10/30-spread</b>	<b>17</b>	<b>10</b>	<b>20</b>	<b>20</b>	<b>20</b>

Yields 1 to 30 years treasuries (computed curve, no benchmark) in percent; Spread in basis points; Source: DZ BANK Research, Bloomberg

### US swap rates

20.01.2023	current	+ 3 months	+ 6 months	+ 12 months	31.12.2023
<b>2 years</b>	<b>4.39</b>	<b>5.20</b>	<b>5.20</b>	<b>5.20</b>	<b>5.20</b>
5 years	3.55	4.55	4.70	4.82	4.82
<b>10 years</b>	<b>3.37</b>	<b>4.10</b>	<b>4.35</b>	<b>4.65</b>	<b>4.65</b>
30 years	3.18	4.00	4.40	4.80	4.80
2/5-spread	-84	-65	-50	-38	-38
<b>2/10-spread</b>	<b>-102</b>	<b>-110</b>	<b>-85</b>	<b>-55</b>	<b>-55</b>
5/10-spread	-18	-45	-35	-17	-17
<b>10/30-spread</b>	<b>-20</b>	<b>-10</b>	<b>5</b>	<b>15</b>	<b>15</b>
<b>2y swap spread</b>	<b>25</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>
5y swap spread	3	5	5	7	7
<b>10y swap spread</b>	<b>-6</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>5</b>
30y swap spread	-42	-20	-10	0	0

Swap rates versus 6-month-Libor in percent; Spread in basis points. Source: DZ BANK Research, Bloomberg

## ECONOMIC FORECASTS

United States	2023	2024	Eurozone	2023	2024
GDP	-0.2% (-0.8%)	2.0% (2.5%)	GDP	0.0% (-1.0%)	1.5% (1.5%)
Inflation	4.8% (4.8%)	3.0% (3.0%)	Inflation	6.7% (6.7%)	3.4% (3.5%)
Core inflation	4.6% (4.1%)	3.1% (3.1%)	Core inflation	5.0% (4.6%)	1.9% (2.1%)

Source: DZ BANK Research

## I. IMPRINT

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#### 4.2 Sustainability Analysis

Issuers of shares and bonds are analysed on the basis of predefined **sustainability factors** and classified in isolation as '**sustainable**' or '**non sustainable**'. For sovereigns, a classification as '**transformation state**' can be made that lies between these two classifications.

#### 4.3 Share Indices

For defined share indices, share price forecasts are made at regular intervals. From the comparison between the current prices and the prepared forecasts on the development of such equity indices, **investment recommendations that are not generally definable and that cannot be defined in advance** may be developed.

#### 4.4 Currency Areas

The assessment of an investment in a **currency area** is based on the total return that can be expected from an investment in the corresponding **currency area**. As a rule, this total return results primarily from the forecast exchange rate change. In addition, the general interest rate level and a possible change in the yield level of the bonds on the corresponding bond market to be taken into account are included in the assessment. A Sharpe ratio, which adjusts the expected yield using the average standard deviation of the total return over the past two years, is used to calculate which currency areas are "attractive", which are "unattractive" and which are "neutral".

"**Attractive**" means that the risk-adjusted exposure in the currency area is expected to show an above-average and positive return over the next six to twelve months.

"**Unattractive**" means that the risk-adjusted exposure in the currency area is expected to show a below-average and negative return over the next six to twelve months.

"**Neutral**" means that the risk-adjusted exposure in the currency area is expected to show relatively low or average returns over a period of six to twelve months.

The aforementioned returns are **gross returns**. The gross return as success parameter relates to bond yields before deduction of taxes, remunerations, fees and other purchase costs. This compares with the net return of a specific investment, which is not calculated and can deliver significantly lower returns and which measures the success of an investment in consideration of / after deducting these values and charges.

#### 4.5 Weighting recommendations for market segments

**Weighting recommendations for market segments** or otherwise defined groups of different issuers, i.e. their **weighting recommendations in the overall market strategy Fixed Income**, in the **sector strategy Corporate Bonds** and their **weighting recommendations for Covered Bond jurisdictions**, are **not independent investment categories** and therefore **do not contain investment recommendations**.

These isolated statements **alone** are **not sufficient** to form the basis of an investment decision. Reference is made to the explanation of the used relevant methods.

In the case of recommendations on market segments or otherwise defined groups of different issuers, the terms "Overweight", "Underweight" and "Neutral weight" are used.



"**Overweight**" means that the aforementioned bond segment is expected to perform significantly better on a six-month horizon than the average of the other bond segments in coverage, both in the event of a positive and negative overall market trend.

"**Underweight**" means that the aforementioned bond segment is expected to perform significantly worse on a six-month horizon than the average of the other bond segments in coverage, both in the event of a positive and negative overall market trend.

"**Neutral weight**" means that the bond segment in question is expected to perform approximately in line with the average of the other bond segments in the coverage over a six-month period.

The weighting recommendations for market segments or otherwise defined groups of different issuers are independent of the recommendations for individual issuers or those of superordinate or subordinate market segments. They are relative, i.e. if not all the segments mentioned are weighted "Neutral", at least one bond segment is weighted "Overweight" and one bond segment is weighted "Underweight". Accordingly, the weighting recommendations are not an absolute statement about profit and loss (cf. DZ BANK methodological studies at [www.dzbank.com/disclosures](http://www.dzbank.com/disclosures)).

#### 1. Overall market strategy

The weighting recommendations in the overall Fixed Income market strategy refer to the comparison of bond segments relative to one another. There are currently five bond segments in the overall market strategy: 1. Government Bonds, 2. Agency Bonds, 3. Covered Bonds, 4. Bank Bonds (senior unsecured), 5. Corporate Bonds (senior unsecured). Calculations of the total return are decisive for the expected performance. The weighting recommendations in the overall market strategy are independent of the weighting recommendations within the individual bond segments themselves, because the respective peer group within each individual bond segment is a completely different one. For example, weighting recommendations within government bond sector refer to issuer countries in relation to each other, which have no relevance at the level of weightings in the overall market strategy.

#### 2. Sector strategy Corporate Bonds

In the corporate bond segment, we summarise the relative performance we expect of a sector in comparison with the developments forecast for the other sectors in a sector assessment. Calculations of the credit spread return are decisive for the expected performance.

#### 3. Strategy Covered Bonds

Our weighting recommendations for Covered Bond jurisdictions ("country") are based on a comparison of the respective country segment (sub-index within the iBoxx € Covered Index) with the total index (iBoxx € Covered Index). The credit spread return is decisive for the expected performance.

#### 4.6 Derivatives

For derivatives (**Bund futures, Bobl futures, treasury futures, Buxl futures**) the arrows (↑)(↓)(→) merely indicate the trend direction and do not contain any investment recommendation. The trend direction is derived solely from the use of generally recognised technical analysis indicators without reflecting an analyst's own assessment.

#### 4.7 Commodities

"**Upward arrow (↑)**" means that the absolute price increase expected in the next twelve months is greater than 10%.

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If no update is made, investment recommendations **end / lapse on expiry** of the **validity periods** named below. These periods **begin** on the **day** the Other Investment Information was **published**.

**5.3** The **validity periods** for Other Research Information are as follows:

<b>Sustainability analyses:</b>	twelve months
Analyses according to the <b>value approach:</b>	one month
Asset allocation analyses ( <b>DZ BANK Sample Portfolio</b> ):	one month
Euro Stoxx Sector Strategy ( <b>DZ BANK Sector Favourites</b> ):	one month
Dividends ( <b>DZ BANK Dividend Aristocrats</b> ):	three months
<b>Share indices (fundamental):</b>	three months
<b>Currency areas:</b>	six to twelve months
<b>Weighting recommendations for market segments</b>	six months
<b>Overall market strategy</b>	six months
<b>Sector strategy Corporate Bonds</b>	six months
<b>Strategy Covered Bonds:</b>	six months
<b>Derivatives</b>	
(Bund futures, Bobl futures, treasury futures, Buxl futures):	one month
<b>Commodities:</b>	one month

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