

Euro Area Watch

Back to school – January 2024 edition

New Year, same narrative

Prior to the break, we argued that markets are either pricing too many cuts too early for central banks given our macro outlook, or we are missing something. After the break, we are still leaning towards the former. We worked through our numbers again. Our Euro area GDP forecasts move to 0.4% and 1.1% in 2024/25E (-10bp per year), mainly on the back of idiosyncratic German fiscal choices. Our Euro area inflation forecast moves to 2.3% for 2024E (-30bp) and 1.4% in 2025E (unchanged), mainly on lower energy market prices. Undershooting our 2025 forecast on insufficient demand and excessively tight policy remains our base case.

ECB is not lowering its guard

With the outlook broadly unchanged, our ECB call remains intact, too. We expect quarterly cuts in 2024E from June, one cut per meeting in 2025E until the depo is at 2%, and then more in 2026E. We still think the ECB prefers to do too much rather than too little (in contrast to the Fed). And, as a consequence, the ECB will want to wait for evidence that wage growth is past its peak before cutting. To us, that means the risk of faster cuts in 2H24 is currently bigger than the likelihood of cuts before June.

So much to be vigilant about

We are bears, so we cannot but emphasise risks to the Euro area outlook. The starting point is weak, given the permanent income loss from the energy shock and severe policy tightening, hitting the economy when Covid scars still hadn't healed. There is still a considerable risk that we underestimate endogenous weakening via persistently high savings rates, a profit margin squeeze or labour market easing. Never mind the omnipresent potential for new shocks.

If we had to identify some positive news, then it would be: 1) the de facto status quo on fiscal rules in the EU that reduces acute downside risks from fiscal tightening; 2) the faster disinflation than expected a couple of months ago that should help purchasing power somewhat; and 3) the relative easing of financing conditions, although we still think they might have gone too far too fast.

Calendar of key events

As usual, our "back to school" edition comes with a calendar of key events. The EU election on 6-9 June is the big occasion this year. Though perhaps not an actionable event from a markets perspective, it could create concerns over the next round of national elections, given current voting intentions for EU-sceptic parties.

For the week ahead, another round of weak industry data is taking centre stage. At the time of writing, Villeroy de Galhau (Tue), Guindos, Schnabel and de Cos (Wed), Vjucic (Thu) and Lane (Fri) are on the ECB speaker agenda.

08 January 2024

Macro
Europe

Ruben Segura-Cayuela
Europe Economist
BofA Europe (Madrid)
+34 91 514 3053
ruben.segura-cayuela@bofa.com

Evelyn Herrmann
Europe Economist
BofASE (France)
+33 1 8770 0292
evelyn.herrmann@bofa.com

Chiara Angeloni
Europe Economist
BofA Europe (Milan)
+39 02 6553 0365
chiara.angeloni@bofa.com

Alessandro Infelise Zhou
Europe Economist
BofASE (France)
+33 1 8770 0058
alessandro.infelise_zhou@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 8 to 10.

12642000

Timestamp: 08 January 2024 01:30AM EST

Back to school – January 2024 edition

New year, same (almost) forecasts

We update our Euro area growth forecasts slightly to 0.4% in 2024 and 1.1% in 2025 (-10bp each). This is still below consensus forecasts of 0.5% and 1.4%, respectively, although the gap has narrowed over time.

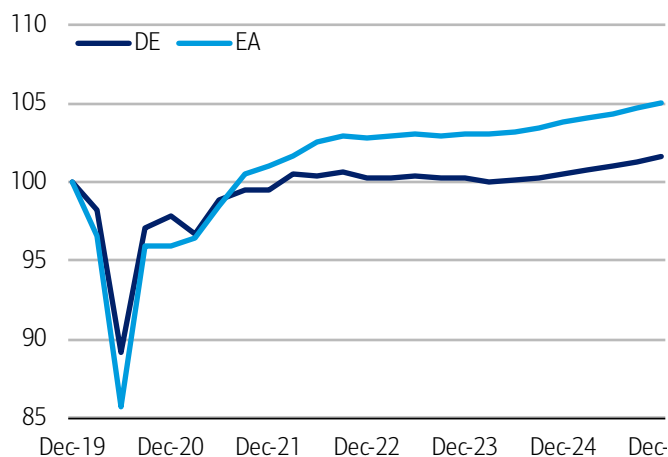
The forecast change is concentrated in Germany, where we cut to -0.1% in 2024E (-40bp) with 2025E unchanged at 0.9%. Germany was on track to underperform the Euro area aggregate, anyway. But the government's decision to resolve the constitutional court challenge to 2024 budget plans with additional fiscal tightening by c 1% (mainly through spending reductions) further accentuates that theme (see [Euro Area Watch: German budget: it's getting special 24 November 2023](#) for our initial response). Elsewhere, forecast changes are marginal, mainly reflecting data revisions.

On the positive side, the acute risk from EU fiscal rule reform is gone (more below), and faster-than-expected disinflation helps, at the margin. And so does the easing of financing conditions, although we would argue markets have moved too much too fast. Sentiment data should continue to improve, partially because of natural mean-reversion by construction, partially because the economy is digesting (slowly) the shocks.

Then again, the outlook remains fragile. There is still a sizeable risk that we are underestimating the endogenous weakness that the permanent energy shock and severe policy tightening provokes. Household savings rates remain stubbornly high. Corporate profits have started to compress. And, corporate insolvencies are rising, though perhaps more "normalising" from admittedly very low levels. Also, the labour market is easing. Furthermore, perhaps we are underestimating the strain on the corporate sector from state-backed loans having to be repaid soon in parts of the Euro area, at a time when lending flows have come to pause. So far, none of these phenomena go beyond what is compatible with our expectations, but vigilance is warranted.

Exhibit 1: Euro area and German GDP levels (4Q19= 100)

The Euro area is stuck below pre-crisis trend levels, Germany even more so

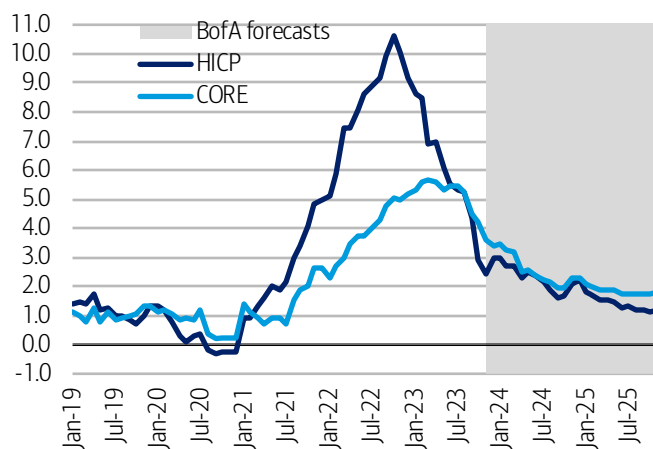


Source: BofA Global Research, Eurostat

BofA GLOBAL RESEARCH

Exhibit 2: Euro area inflation forecasts

2% target in reach for headline in August, for core in late-24



Source: BofA Global Research, Eurostat

BofA GLOBAL RESEARCH

Inflation: it went up, and now it is falling

We had updated our Euro area inflation forecasts ahead of last week's December print. Our headline inflation forecast moved to 2.3% in 2024 (-30bp) and stayed at 1.4% in 2025, with the core at 2.5% (-10bp) and 1.8% (unchanged), respectively. See [Euro Area Watch: Inflation update: What goes up... 02 January 2024](#). The headline rate will probably be back at target in August – core in late 2024E. And then, both should fall further. We continue to expect an inflation target undershoot in 2025 on the back of insufficient demand and (too) tight policy.

More short term, we had expected Dec-23 HICP at 3.0% with core inflation at 3.4% yoy. The small downward surprise to headline arguably doesn't change the outlook much, especially with core broadly as expected. Uncertainty into Jan/Feb prints is always a bit higher given the change in weights. Select countries' energy and tax measures come on top of that – with (again) Germany the epicentre of the noise potential. But, more broadly speaking, we had expected Dec/Jan inflation to be higher vs November again in headline terms, but to resume the disinflation trend again thereafter.

Ending energy price caps and VAT changes are the main German factors. According to the German Association of Energy and Water Industries (BDEW), electricity prices were still c 10% above cap levels on average in Dec-23, so that is likely to create a January bump. Gas prices are back below cap level, but the VAT reversal from 7% to 19% in February will still be felt. VAT will also return from 7% to 19% in select hospitality sectors in January (basically restaurants excluding catering and takeaway). We pencil in services inflation up by c 10bp, though in practice, passthrough is uncertain.

ECB call: bias for holding too long

Markets are pricing earlier and more central bank cuts for 2024 than we expect, with similar trajectories for the US and the Euro area. Our US team has brought forward the start of expected quarterly Fed cuts to March ([US Economic Viewpoint: Sticking the landing 18 December 2023](#)). But we leave our ECB call unchanged: the first cut in June, and quarterly cuts thereafter for 2024E; and one cut per meeting in 2025E until the depo is back at 2%. We then expect a pause, with more cuts in 2026E.

To us, the difference in the December communication between the Fed and ECB is symptomatic of their relative inflation tolerance. Unlike the Fed, the ECB would rather do too much than too little to make sure inflation returns to target, implicitly creating an asymmetric risk of undershoot (which is actually our base case).

The ECB wants to see evidence that wage growth has peaked (or at least plateaued) in spring, to make sure the disinflation trend engaged now goes all the way. We would argue that tentative evidence thereof is already in the data but the ECB seems to be ignoring that.

As a consequence, we would argue there is a bigger risk of faster cuts post-June than earlier cuts, at least at this stage. January inflation prints will be important for this. The usual menu-cost adjustments will determine how persistent core inflation will be throughout 2024 and therefore be an important input for the speed of the cutting cycle in 2H24.

On other policy matters, we still expect the operational framework review to bring an adjustment in the minimum reserve ratio to 2-3%. And absent significant surprises, we expect the central bank to stick to the pre-announced plan to reduce PEPP (Pandemic Emergency Purchase Programme) reinvestments by half in 2H24 and stop fully thereafter.

Wage growth: where it is and where it's going

We still argue that the Euro area labour market is not as tight as headline unemployment rates and employment numbers suggest. Labour supply has increased, employment levels are up, and working hours per employed remain 1.3% below the pre-crisis trend. We think this is more likely to be labour market slack than a structural shift, given the economic backdrop. Consequently, we would expect negotiated wage growth to cool from 4.6% yoy in 4Q23 to 3.5% (if not further) by end-2024 and into 2025.

Evidence of an inflection of wage growth is cumulating.

- At the Euro area level, the “Indeed wage posting”, which ECB hawks had pointed to during the hiking cycle, has eased from close to 5% in 2H22 to 3.8% on average in Oct/Nov. Negotiated wage growth picked up to 4.6% in 3Q23, but, as we flagged previously, that mainly reflects one-off payments in German wage deals (again).

- In Belgium, where inflation indexation is very pronounced, the headline rate fell from close to 11% yoy in 2H22 to -0.6% yoy in 4Q23. The labour market cannot replicate that pace but negotiated wage growth slowed from a peak at 9.4% in 1Q23 to 7.5% two quarters later.
- In France, minimum wages are a function of inflation (unless the government applies discretion) and, with inflation cooling, the magnitude and frequency of increases should slow from here. We cannot rule out that the broader wage growth rise in France last year simply reflected that, rather than labour market tightness or inflation expectations.
- In Germany, most of the negotiated wage growth comes from one-off inflation payments, which should (by definition) not repeat eternally. Base pay growth briefly returned to pre-Covid levels but inflected again in recent months. We will be watching the wage bargaining round in 2024 closely – Exhibit 3 provides the tentative calendar.
- Spain is worth watching closely. Collective bargaining stands just below the agreed level for 2023 of 4% (3.63% in November), suggesting we should not worry a lot but there is no clear peak in sight yet. The early months of 2024 will be important to understand whether the agreed step-down to 3% materialises.

Exhibit 3: German wage bargaining round 2024

Differentiating between one-off and base pay components will matter

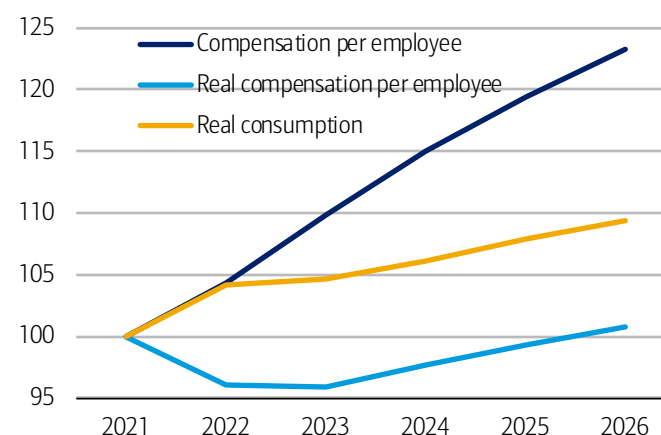
End of current deal	Sector	Empl ('000)
Dec-23	Security services	155
	Hospitality (Hamburg, Brandenburg, Saxony)	83
	Health insurance	79
	Plastic industry (Bavaria, Berlin, Brandenburg)	79
	Real estate	64
Jan-24	Private transport services Lower Saxony	77
Feb-24	Print industry	109
Mar-24	Construction	731
	Labour leasing	700
	Hospitality (Bavaria, Mecklenburg-Vorpommern)	182
	Private transport services (Baden Wuerttemberg)	93
Apr-24	Private transport services (North-Rhine Westphalia)	176
	Hospitality (Lower Saxony, Thuringia)	67
May-24	Banking sector	205
	Hospitality (Schleswig Holstein, North Rhine Westphalia)	175
Jun-24	Chemical industry	587
	System catering	79
Sep-24	Metal and electronic industry	3639
	Painting services	131
	Hospitality (Baden Wuerttemberg)	100
	Roofing trade	72
Nov-24	Private transport services (Bavaria)	132
	Volkswagen AG	100
Dec-24	Public service (federal and municipalities)	2442
	Cleaning services	490
	Deutsche Post	160

Source: BofA Global Research, WSI Tarifarchiv

BofA GLOBAL RESEARCH

Exhibit 4: ECB forecasts: compensation and consumption (2021=100)

The real labour income shock is deep and long lasting



Source: BofA Global Research, Eurostat

BofA GLOBAL RESEARCH

Fiscal rules: reform on paper, status quo in practice

We have been worried for more than a year about the potential outcome of the negotiations on new fiscal rules. We were concerned that they could end up being too tight structurally, leaving little room for fiscal policy to act through the cycle and restricting the ability of governments to address the long-term challenges facing the European economy. And the outcome clearly showed we were right to worry.

Indeed, Germany and the rest of the fiscal hawks manage to obtain very strict fiscal rules – the wrong recipe for what the region needs, we think. But, in the usual European bad compromise spirit, the only way to get these rules agreed was by introducing enough caveats to ensure they don't bite fully until 2027.

The likelihood is that these rules are never applied. In fact, the door to upside we described a few weeks back – more sensible fiscal rules and a common fiscal capacity to deal with European challenges after the European Parliament election – is still full open. We start the year with at least this optimistic take.

Europe is still Europe

As customary with our “back to school” summary, we provide a year ahead calendar for key 2024 events for (developed) EU (Exhibit 5), as well as our usual week ahead calendar (Exhibit 6).

The US election will likely overshadow any European events this year, but the electoral calendar is busy this side of the pond too. General elections in the UK are to be held by January 2025 at the latest and will likely take place in 2H24. In continental Europe, immediate policy ramifications of the European parliament election on 6-9 June will probably be limited, and therefore actionable market implications too. But voting intentions show a rise in right-wing, EU-sceptic support. Some concerns about the next round of national elections could materialise. In France, the 2027 presidential election is probably still too far out for markets to care. In Germany, however, select state elections follow in the autumn, and the 2025 general election (a priori in September) is not. So the calendar is prone to deliver the usual reminder of EU institutional fragilities next year.

Exhibit 5: Calendar of Developed Europe events

EU elections in June, UK elections by Jan-25 are the bigger election events

Calendar of main Euro area/UK events for 2024**Central banks**

25-Jan	Euro area	ECB monetary policy meeting
01-Feb	UK	BoE MPC meeting
07-Mar	Euro area	ECB monetary policy meeting (with forecast update)
21-Mar	UK	BoE MPC meeting
11-Apr	Euro area	ECB monetary policy meeting
09-May	UK	BoE MPC meeting
06-Jun	Euro area	ECB monetary policy meeting (with forecast update)
20-Jun	UK	BoE MPC meeting
18-Jul	Euro area	ECB monetary policy meeting
01-Aug	UK	BoE MPC meeting
12-Sep	Euro area	ECB monetary policy meeting (with forecast update)
19-Sep	UK	BoE MPC meeting
17-Oct	Euro area	ECB monetary policy meeting
07-Nov	UK	BoE MPC meeting
12-Dec	Euro area	ECB monetary policy meeting (with forecast update)
19-Dec	UK	BoE MPC meeting

EU events/European Semester timeline (non-exhaustive)

15-Jan	Euro area	Eurogroup
16-Jan	EU	Economic and Financial Affairs Council
01-Feb	EU	Special European Council
Mid-Feb	EU	European Commission - Winter Economic Forecasts
22-24 Feb	EU	Informal meeting of economic and financial affairs ministers
23-Feb	Euro area	Eurogroup
11-Mar	Euro area	Eurogroup
12-Mar	EU	Economic and Financial Affairs Council
20-Mar	EU	Tripartite Social Summit
21-22 Mar	EU	European Council
Apr	EU members	Stability and Convergence Programmes and bi-annual national reform programme report (incl. Recovery and Resilience Fund)
11-Apr	Euro area	Eurogroup
12-Apr	EU	Economic and Financial Affairs Council
17-18 Apr	EU	Informal meeting of the members of the European Council
Early-May	EU	European Commission - Spring Economic Forecasts
13-May	Euro area	Eurogroup
14-May	EU	Economic and Financial Affairs Council
End of May	EU	The EC published the country-specific recommendations
17-Jun	EU	Informal meeting of the members of the European Council
20-Jun	Euro area	Eurogroup
21-Jun	EU	Economic and Financial Affairs Council
27-28 Jun	EU	European Council
1-3 July	EA	ECB Forum on Central Banking
Mid-July	EU	European Commission - Summer Economic Forecasts
Mid-Oct	EU members	2025 Draft Budget Plans and bi-annual RRF report
Mid-Nov	EU	European Commission Autumn Forecasts
30/11/2022	EU	European Commission preliminary budget plan assessment

National elections

6/9 Jun-24	EU	European Parliament elections
09-Jun	Belgium	Federal elections
Autumn-24	Austria	Legislative elections
By 2025	UK	UK (A UK general election must be held by January 2025 and is widely expected in Autumn 2024)

Local elections

02-May	UK	Local elections
01-Sep	Germany	Saxony, Landtag elections
01-Sep	Germany	Thuringia, Landtag elections
22-Sep	Germany	Brandenburg, Landtag elections
Unknown	Spain	Basque Country, Parliament elections
Unknown	Spain	Galicia, Parliament elections

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 6: Week ahead calendar

Key data releases next week in developed Europe

Day	DATE		GMT	Country	Data/Event		BAS-MLe	Cons.†	Previous
Mon	08-Jan	☆☆☆	07:00	Germany	Factory Orders (mom)	Nov	1.2%	--	-3.7%
Mon	08-Jan	☆☆☆	07:00	Germany	Factory Orders (wda, yoy)	Nov	-3.7%	--	-7.3%
Mon	08-Jan	☆☆☆	10:00	Euro area	Retail Sales (mom)	Nov	-0.3%	--	0.1%
Mon	08-Jan	☆☆☆	10:00	Euro area	Retail Sales (yoy)	Nov		--	-1.2%
Mon	08-Jan	☆☆☆	10:00	Euro area	Consumer Confidence (F)	Dec	-15.1	--	-15.1
Mon	08-Jan	☆☆☆	10:00	Euro area	Economic Confidence	Dec	94.6	--	93.8
Mon	08-Jan	☆☆☆	10:00	Euro area	Industrial Confidence	Dec	-9.2	--	-9.5
Mon	08-Jan	☆☆☆	10:00	Euro area	Services Confidence	Dec	5.0	--	4.9
Tue	09-Jan	☆☆	00:01	UK	BRC Sales Like-For-Like (yoy)	Dec		--	2.6%
Tue	09-Jan	☆☆☆	07:00	Germany	Industrial Production (sa, mom)	Nov	-1.0%	--	-0.4%
Tue	09-Jan	☆☆☆	07:00	Germany	Industrial Production (wda, yoy)	Nov	-5.1%	--	-3.5%
Tue	09-Jan	☆☆☆	09:00	Italy	Unemployment Rate	Nov	7.8%	--	7.8%
Tue	09-Jan	☆☆☆	10:00	Euro area	Unemployment Rate	Nov	6.5%	--	6.5%
Wed	10-Jan	☆☆☆	07:00	Norway	CPI (mom)	Dec		--	0.5%
Wed	10-Jan	☆☆☆	07:00	Norway	CPI (yoy)	Dec		--	4.8%
Wed	10-Jan	☆☆☆	07:00	Norway	CPI underlying (mom)	Dec		--	-0.2%
Wed	10-Jan	☆☆☆	07:00	Norway	CPI underlying (yoy)	Dec		--	5.8%
Wed	10-Jan	☆☆☆	07:45	France	Industrial Production (yoy)	Nov		--	1.8%
Wed	10-Jan	☆☆☆	07:45	France	Industrial Production (mom)	Nov	0.2%	--	-0.3%
Wed	10-Jan	☆☆☆	09:00	Italy	Retail Sales (mom)	Nov		--	0.4%
Wed	10-Jan	☆☆☆	09:00	Italy	Retail Sales (yoy)	Nov		--	0.3%
Thu	11-Jan	☆☆☆	08:00	Spain	Industrial Output (nsa, yoy)	Nov		--	0.9%
Thu	11-Jan	☆☆☆	08:00	Spain	Industrial Output (sa, yoy)	Nov		--	-1.5%
Thu	11-Jan	☆☆☆	08:00	Spain	Industrial Production (mom)	Nov	0.3%	--	-0.5%
Thu	11-Jan	☆☆☆	09:00	Italy	Industrial Production (mom)	Nov	0.2%	--	-0.2%
Thu	11-Jan	☆☆☆	09:00	Italy	Industrial Production (wda, yoy)	Nov		--	-1.1%
Thu	11-Jan	☆☆☆	09:00	Italy	Industrial Production (nsa, yoy)	Nov		--	2.0%
Fri	12-Jan	☆☆☆	07:00	UK	Monthly GDP (mom)	Nov	0.2%	--	-0.3%
Fri	12-Jan	☆☆☆	07:00	UK	Monthly GDP (3m/3m)	Nov		--	0.0%
Fri	12-Jan	☆☆☆	07:00	UK	Industrial Production (mom)	Nov		--	-0.8%
Fri	12-Jan	☆☆☆	07:00	UK	Industrial Production (yoy)	Nov		--	0.4%
Fri	12-Jan	☆☆☆	07:00	UK	Manufacturing Production (mom)	Nov		--	-1.1%
Fri	12-Jan	☆☆☆	07:00	UK	Manufacturing Production (yoy)	Nov		--	0.8%
Fri	12-Jan	☆☆	07:00	UK	Index of Services (mom)	Nov		--	-0.2%
Fri	12-Jan	☆☆	07:00	UK	Index of Services 3M/3M	Nov		--	0.1%
Fri	12-Jan	☆☆☆	07:00	UK	Construction Output (sa, mom)	Nov		--	-0.5%
Fri	12-Jan	☆☆☆	07:00	UK	Construction Output (sa, yoy)	Nov		--	1.1%
Fri	12-Jan	☆☆☆	07:00	UK	Visible Trade Balance GBP/Mn	Nov		--	-17.0bn
Fri	12-Jan	☆☆☆	07:00	UK	Trade Balance GBP/Mn	Nov		--	-4.5bn
Fri	12-Jan	☆☆☆	07:45	France	Consumer Spending (mom)	Nov	-0.3%	--	-0.9%
Fri	12-Jan	☆☆☆	07:45	France	Consumer Spending (yoy)	Nov		--	-1.3%
Fri	12-Jan	☆☆☆	07:45	France	CPI EU Harmonized (mom, F)	Dec	0.1%	--	0.1%
Fri	12-Jan	☆☆☆	07:45	France	CPI EU Harmonized (yoy, F)	Dec	4.1%	--	4.1%
Fri	12-Jan	☆☆☆	07:45	France	CPI (mom, F)	Dec	0.1%	--	--
Fri	12-Jan	☆☆☆	07:45	France	CPI (yoy, F)	Dec	3.7%	--	--
Fri	12-Jan	☆☆☆	08:00	Spain	CPI (mom, F)	Dec	0.0%	--	0.0%
Fri	12-Jan	☆☆☆	08:00	Spain	CPI (yoy, F)	Dec	3.1%	--	3.1%
Fri	12-Jan	☆☆☆	08:00	Spain	CPI EU Harmonised (mom, F)	Dec	0.0%	--	0.0%
Fri	12-Jan	☆☆☆	08:00	Spain	CPI EU Harmonised (yoy, F)	Dec	3.3%	--	3.3%
Fri	12-Jan	☆☆☆	08:00	Spain	CPI Core (yoy, F)	Dec	3.8%	--	3.8%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Disclosures

Important Disclosures

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible. BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Individuals identified as economists do not function as research analysts under U.S. law and reports prepared by them are not research reports under applicable U.S. rules and regulations.

Macroeconomic analysis is considered investment research for purposes of distribution in the U.K. under the rules of the Financial Conduct Authority.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSCF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSCF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your

jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial

instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies. Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.