Anatomy of a fall in inflation: from a successful first phase to the conditions for a controlled landing

François Villeroy de Galhau, Governor of the Banque de France

Introduction

This is the fourth time I have had the pleasure of being invited to speak at Dauphine University and I would like to thank Elyès Jouini. But this is the first time that I will speak after Jean-David Levitte and his remarkable talk on current geopolitical conflicts. This order already highlights the essential: we the central bankers are “only” in charge of the monetary and financial responses, but we are obviously exposed to all of this world of issues and tensions.[1]

First, a few words about the strains on France's public finances. Obviously, the current deterioration does not mean that France is bankrupt, but it does highlight at least two imperatives. The first is to confront the truth and to demonstrate credibility: for the past fifteen years, our country and its successive governments have never stuck to our multi-annual commitments to reform. The second imperative, before taking any potentially necessary decisions on taxation, is to finally get to grips with expenditure. I am a great believer in the European social model, but here in France it costs us around 10 GDP points more than our neighbours. And the last few years have done nothing to reduce the gap: once we got over the "bump" of exceptional support related to Covid and energy, our total government expenditure as a percentage of GDP rose when compared with 2019. In volume terms, excluding the effect of this exceptional expenditure, it could increase by more than 2% in 2024[2]. It is high time, not to decree austerity and a general reduction in spending, but to stabilise expenditure in overall volume terms. This assumes an effort in terms of priorities and efficiency that is fair and shared by everyone – not just the State, but local authorities and social services as well.

To come back to the challenge for central banks, the succession of two shocks as rare and as opposed in terms of economic impact as the pandemic – which was deflationary – followed by the Russian invasion of Ukraine – which was inflationary – was (i) absolutely unprecedented, (ii) massive in scale, (iii) both very rapid and partly temporary.

Thankfully, the wave of inflation has now subsided, dropping in the euro area from a peak of 10.6% in October 2022 to 2.6% last February. This positive development often raises two questions that I would like to deal with this evening in "anatomy of a fall" in inflation: (i) did monetary policy really contribute to this success, or was it down to luck? (ii) how can we now go the "last mile", i.e. ensure that inflation lands back safely at its 2% target?

I. The twin successes of monetary policy: avoiding both contagion and recession

Let's start with the part that relates to our environment... or even to luck. Yes, inflation was initially fuelled by supply shocks, and so was disinflation when these shocks reversed. The very sharp rise and subsequent decline in inflation followed changes in energy prices and disruption to global

supply chains, as indicated by changes in the ocean freight index. However, unlike the oil shocks of the 1970s, inflation has not become persistent.
Image

A DECLINE IN ENERGY PRICE SHOCKS AND SUPPLY CHAIN DISRUPTIONS

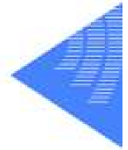
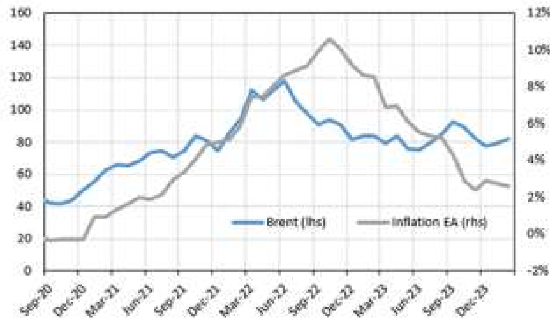


FIGURE 1: PRICE OF BRENT AND EURO AREA INFLATION (HICP)



Source: Eurostat, Refinitiv Datastream, Banque de France calculations.
Note: oil prices in USD/b, Year-on-year HICP inflation in the euro area.
Last point 02/2024.

FIGURE 2: SEA FREIGHT INDEX (LEVEL)

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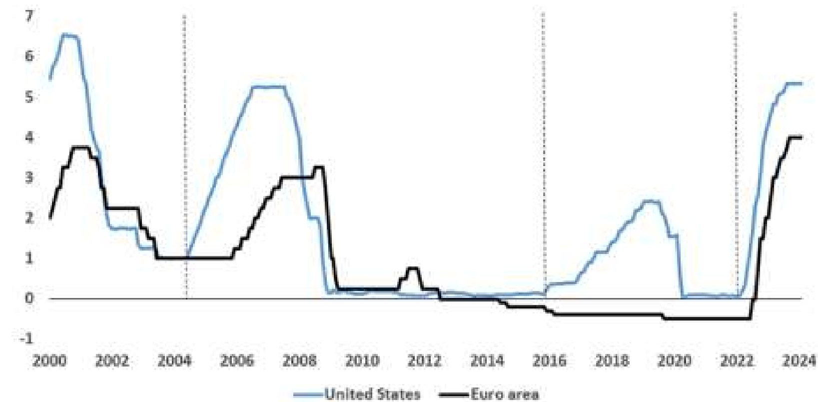
Avoiding contagion: monitoring core inflation

That leaves the less spectacular part of inflation, but which in our opinion was more threatening because it risked being more persistent and self-sustaining: core inflation, i.e. excluding energy and food (these two components are directly linked to world prices). It was this risk of inflation spreading to manufactured goods and then to services that led us to react in the spring of 2022, rather than just "looking through" the initial supply shocks as textbook monetary theory would have recommended. Central banks therefore responded with the biggest overall interest rate hike ever, at a very sustained pace.

Image

UNPRECEDENTED MONETARY TIGHTENING BY CENTRAL BANKS

FIGURE 3: KEY ECB AND FED INTEREST RATES



Note : For the euro area, deposit facility rate; for the United States, effective federal funds rate (EFFR).
Sources: European Central Bank, Federal Reserve (Fed).

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Consequently, core inflation in the euro area, after peaking at 5.7% in February 2023, has now come back down to 3.1%.
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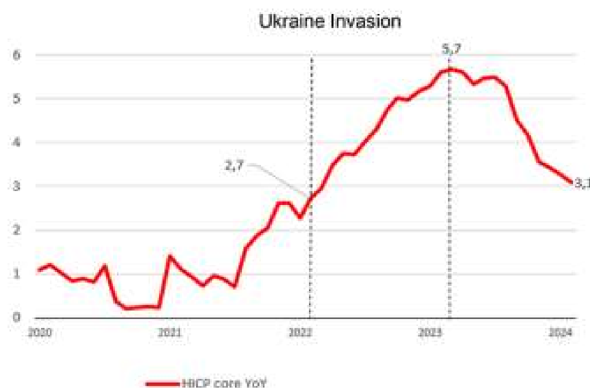
SPREAD OF INFLATION TO CORE INFLATION

FIGURE 4: CORE INFLATION IN THE EURO AREA



Source: ECB. Last point: February 2024.
Note: The first dotted line represents the invasion of Ukraine on February 24. 2022. Second dotted line: core inflation peak.

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This is still too much in relation to our headline inflation target of 2%, but it is a rapid and significant decrease. Given that we are dealing here mostly with services, we cannot seriously give credit for this to the commodities cycle... but before attributing it to monetary policy, we need to take a closer look at the two channels through which it is transmitted. [3]

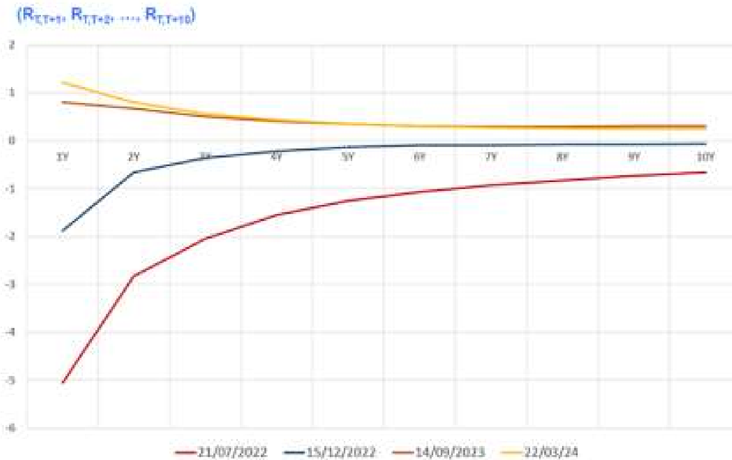
The traditional ("historical") channel via credit and demand

The traditional channel for monetary policy is to curb demand when faced with pressure on supply.

To do this, central banks first aim to raise real interest rates[4] over different time horizons. These real rates, which can be calculated from nominal interest rates deflated by inflation expectations[5] at the same time horizon, reflect true financing conditions. Starting from exceptionally low levels, since the end of 2022 they have turned positive again for all maturities. Our monetary policy has therefore quickly moved into restrictive territory, from an exceptionally accommodative starting point.
Image

REAL RATES NOW IN POSITIVE TERRITORY ACROSS ALL MATURITIES

FIGURE 5: EA OIS REAL YIELD CURVE
($R_{T,T+1}$, $R_{T,T+2}$, ..., $R_{T,T+10}$)



Source: Bloomberg, Banque de France calculations.
Note: Real interest rates are calculated from OIS and ILS rates at the same horizons. 07/21/2022 corresponds to the first rate hike, 12/15/2022 corresponds to the date when the interest rate on the deposit facility rose to 2%. 14/09/2023 corresponds to the last rate hike.

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This rise in market interest rates was passed on to bank lending rates (for households and businesses), causing lending to slow. While the year-on-year change in outstanding loans remains slightly positive in the euro area (0.2% for businesses and 0.5% for households in January 2024) – and is actually more favourable in France – this growth is much weaker than before the tightening of financial conditions (around 5% year-on-year at the start of 2022).
Image

A TIGHTENING OF CREDIT TO NON-FINANCIAL CORPORATIONS AND HOUSEHOLDS

FIGURE 6: LENDING RATES FOR NON-FINANCIAL CORPORATIONS (NFCs) AND VOLUMES

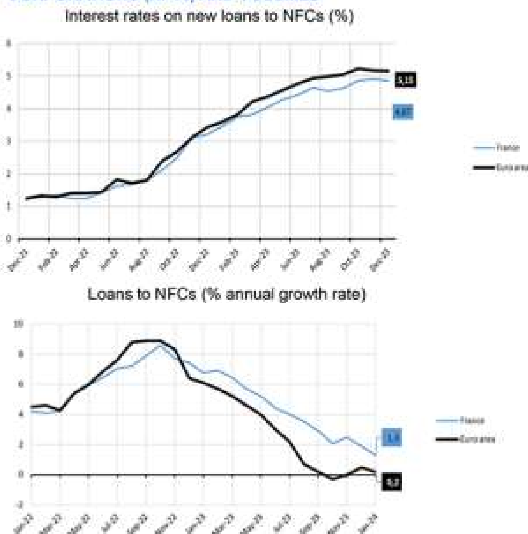
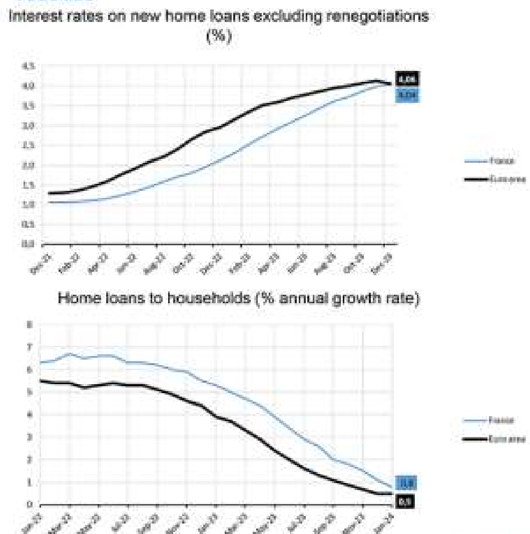


FIGURE 7: HOME LOAN RATES TO HOUSEHOLDS AND VOLUMES



Sources: ECB (monetary statistics); last point: January 2024 for volume of outstanding loans, December 2023 for interest rates. For loans to NFCs, this includes all types of loans.

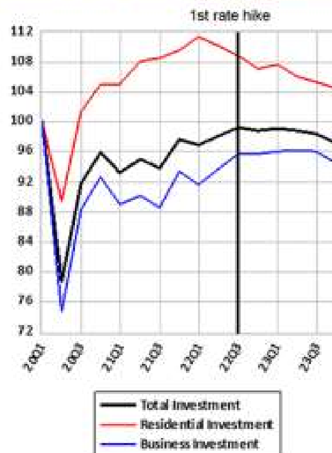
This credit channel is especially powerful in Europe, where the bulk of investment (in homes and businesses) is financed by banks. Raising the cost of credit can therefore temper domestic demand, consumption and investment... but without generating a sharp decline.
Image

SLOWDOWN OF INVESTMENT AND DEMAND IN THE EURO AREA

FIGURE 8: PRIVATE VS. PUBLIC DOMESTIC DEMAND IN THE EURO AREA (VOLUME)

Source: Eurosystem forecasts for March 2024.

FIGURE 9: NON-FINANCIAL CORPORATION AND HOUSEHOLD INVESTMENT IN THE EURO AREA (VOLUME)



Source: Eurosystem forecasts for March 2024.

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It should be added that, on a global scale, this synchronised monetary tightening has impacted global demand and indirectly helped to slow energy and commodity price increases. This raises a major question: how has this "historical channel" not resulted in the much-feared recession in 2022 on both sides of the Atlantic... which up to this point was almost always the consequence of monetary tightening? In theoretical terms, this is the famous Phillips curve, which traces the inverse relationship between the unemployment rate and the inflation rate. From this we can usually calculate a "sacrifice ratio": the rise in the unemployment rate that must be accepted to obtain, for example, a 1% fall in the inflation rate. This "soft landing" or even "immaculate disinflation" with virtually full employment in the US is objectively a pleasant surprise. It may have been helped by employment reforms in France, but to explain it we also need to look at the newer channel of expectations.

Avoiding recession... through the newer channel of inflation expectations

Modern monetary policy has been enhanced by three revolutions since the last great wave of inflation in the 1970s and the “victory” of the 1980s.

- The first is **institutional**: the *independence* of central banks in all advanced economies. In the 1980s and 1990s, this independence was enshrined in their statutes, including in those of the Eurosystem from the outset – and for the Banque de France in 1993 – in order to guarantee the stability of the single currency.

- The second concerns the **objectives**: the transition from steering monetary aggregates (the now outdated “monetarist” approach) to *direct inflation targeting*.[6]

- The third is based on **economic theory**: the importance of *inflation expectations* and steering these, since the work of Michael Woodford (2003))[7] .

The objective of price stability – the legacy of the victory over inflation in the 1980s – certainly cannot prevent extreme events such as wars or pandemics from temporarily raising inflation. However, this objective does allow low inflation to be considered as a credible normal situation. Ultimately, this leads to price- and wage-setting behaviour being "anchored" to low and stable medium-term inflation and avoids traditional wage-price spirals. In other words, a central bank with a strong and credible reaction function significantly shortens an inflationary episode and reduces the cost in terms of activity and employment.

This is exactly what worked in 2022. When inflation began to rise in mid-2021, short-term interest rate expectations initially followed the same path. But as soon as monetary tightening accelerated in mid-2022, inflation expectations plateaued and then fell. This solid anchoring of expectations marks a decisive difference with the 1970s: the enhanced credibility of central banks, thanks to their independence and the success of inflation targeting, has been bolstered by their swift action, thus obviating the need to raise real interest rates to levels as high as those witnessed in previous cycles.[8]

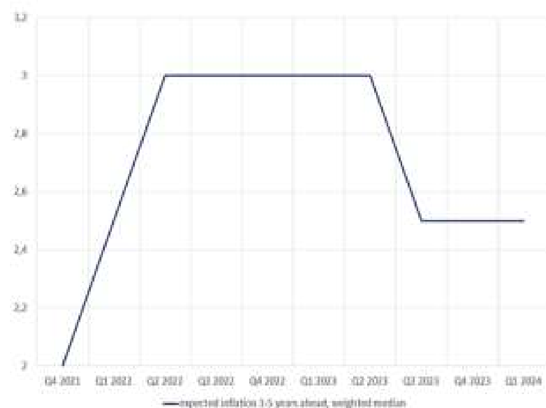
Image

ANCHORED INFLATION EXPECTATIONS FOR MARKETS AND FIRMS

FIGURE 10: LONG-TERM MARKET INFLATION EXPECTATIONS IN THE EURO AREA (ILS EA)

Source: ILS in the euro area refer to the Harmonised Index of Consumer Prices excluding tobacco (HICPxT). 5-day moving average. Last point: 08/03/2024.

FIGURE 11: FIRMS' EXPECTATIONS OF THE ANNUAL INFLATION RATE (FRANCE, %)



Source: Quarterly survey of inflation expectations, Banque de France. Last point: Q1 2024.

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As for the Banque de France, as early as January 2023, we deliberately opted to undertake this public commitment: to bring inflation down to 2% by 2025 – barring any new shocks. I did so because this was our forecast, but also because this precise date – which many still doubted at the time – boosted the power of the expectations channel. Nevertheless, let us humbly acknowledge two limitations: we do not yet understand enough – or we cannot measure with sufficient accuracy – the formation of household and business expectations. And the existence of an expectations channel should not lead to a belief that monetary policy only works like a magical incantation: its credibility also depends on its concrete impacts on credit and demand.

Overall effect of monetary policy: up to 2 points of inflation avoided in 2023

Using these two channels – credit and expectations – monetary tightening has effectively contributed to the disinflation process. Various models developed by the ECB[8] and the Banque de France quantify this contribution of monetary policy, estimating that inflation would have been around 1 to 2 percentage points higher in 2023 under a counterfactual scenario where the rise in key rates is that anticipated by the markets at the end of 2021, before the invasion of Ukraine. The impact in 2024 and 2025 would be even greater, due to the time lag in monetary policy

transmission. Although the energy price counter-shock initially guided the disinflation process, monetary policy is now the dominant driving force; and its maximum impact on inflation has not yet been fully achieved. Moreover, it should be stressed that the counterfactual scenario presented in these simulations does not factor in the risk of inflation expectations becoming unanchored: in the absence of sufficient monetary tightening, the additional inflation could have been even greater and more persistent.
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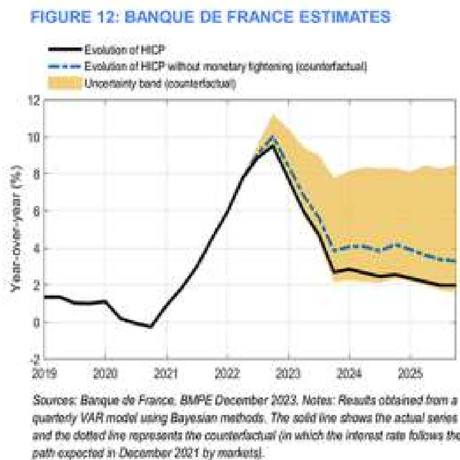
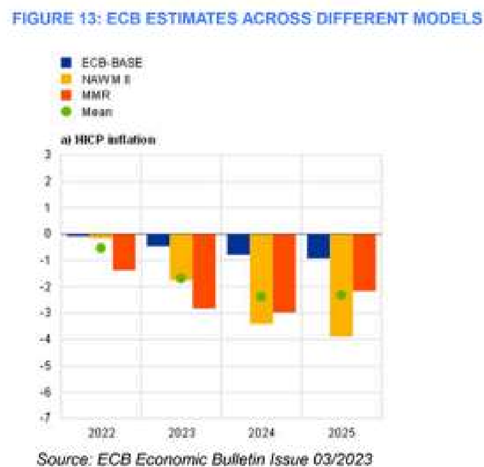
MONETARY POLICY'S CONTRIBUTION TO LOWER INFLATION





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I would like to add a consideration that owes nothing to economic theory, but everything to psychological wisdom. In September 1914, on the evening of the victory at the Battle of the Marne – which had a hundred possible victors –, General Joffre is reputed to have said "I don't know who won the Battle of the Marne, but if it had been lost, I know who would have lost it". If the battle against inflation had been a failure, central banks would certainly have been held responsible.

II. Achieving a soft landing now at 2% inflation

The Eurosystem published new macroeconomic projections during the Governing Council meeting on 7 March. We forecast that euro area inflation will return to its 2% target temporarily this summer and more permanently next year, with an average of 2% in 2025 and 1.9% in 2026. Inflation in France should be even lower, at 1.7% in both years. The return to target is therefore in sight. However, our monetary steering will need to be finely calibrated to ensure a successful landing. Given the balance of risks, I advocate a policy of agile gradualism; then, once the first rate cut has been decided, we will have two less frequently mentioned but more important choices, regarding the speed of the fall and the landing zone.

We should not be overly concerned about "last mile" risks

The options markets are currently split down the middle, between inflation expectations that are still too high (overshooting the 2% target) and those that are too low (undershooting the target).

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INFLATION RISKS ARE NOW SYMMETRIC

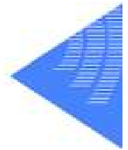
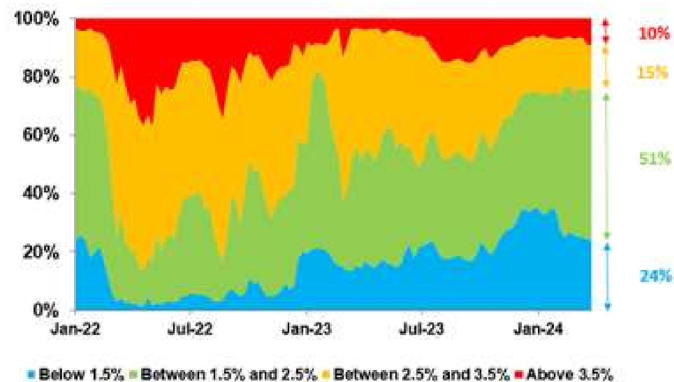


FIGURE 14: INFLATION PROBABILITY DISTRIBUTION DERIVED FROM 5-YEAR OPTIONS IN THE EURO AREA



Source: Bloomberg, Banque de France calculations.
Risk-neutral inflation probabilities in intervals taken from 5-year inflation options
Last point 25 March 2024

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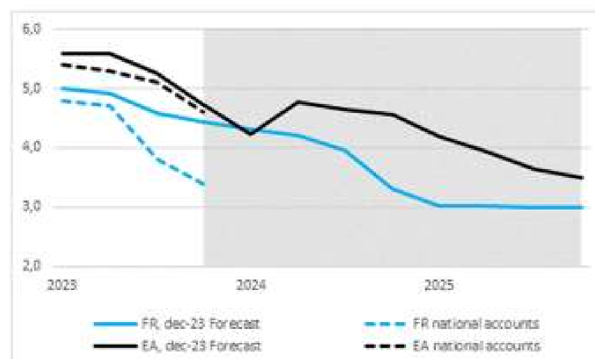
This even balance of risks is good news, given that our target is *symmetric* around 2%. However, it masks a deeper debate. The “wait-and-see” school of thought is indeed worried about the last mile. Disinflation now needs to extend to the “core”, and primarily to services: it will therefore be different, they claim, harder, and will no longer benefit from the favourable base effects of energy disinflation. In economic terms, they assume that the Phillips curve will not be linear and will be less favourable now, and the “sacrifice ratio” higher.

But there is no serious evidence to support this hypothesis. Admittedly, services inflation remains higher at 4%. But it has started to fall (after peaking at 5.6% in July 2023); historically, its average may have exceeded the headline target of 2%, but it is still compatible with it. Moreover, there are no signs of a wage-price spiral, which is important as wages are particularly decisive for services. On the contrary, average compensation per employee has slowed markedly, by more than we predicted in our December forecasts. In France, the first wage agreements signed this year between industry representatives and firms suggest that wage rises will continue to moderate in 2024, albeit remaining above inflation.[10]

Image

NO WAGE-PRICE SPIRAL HAS MATERIALISED

FIGURE 15: EVOLUTION OF WAGES IN FRANCE AND IN THE EURO AREA



Source: Eurosystem forecasts (December 2023) and Eurostat.
Note for the reader: the solid lines correspond to the ECB's compensation per employee forecast in December 2023, the dotted lines to the actual figures as published by Eurostat up to Q4 2023.

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True, services disinflation can hence be slower, but not more arduous; the last mile may differ in pace, but not in nature.[11] Accepting this slower last mile may also provide protection against the risk of undershooting the inflation target.

We need to pay close attention to activity, and therefore opt now for agile gradualism

Moreover, we must not ignore the risk of weighing excessively on activity by keeping our foot pressed on the monetary brake for too long. The risks to inflation today are balanced; but those to growth are on the downside. We clearly have a primary target, which is our destination – bringing inflation down to 2% by 2025. There can be no doubt as to our determination and commitment, although I'm not overly concerned with getting to 2.0% to the exact decimal point. Keeping this primary target in sight, we now need to incorporate a *secondary target for our trajectory*: if we can reach our destination with a soft rather than a sharp landing, it will be a lot better for the economy, for our European citizens, their income and their jobs, and for the healthy conduct of fiscal policies. We cannot ignore the potential costs in terms of lost wellbeing.

The time has come to insure against this second risk, by starting to lower rates. This insurance seems to me to be consistent with the rationale of those who, last September, argued for a final rate hike to protect us at that time from the risk of too high inflation: the risks have evolved, and we now need to adapt our insurance policy. Monetary policy itself acts with a lag, so waiting too long puts us at risk of finding ourselves "behind the curve". If inflation then fell persistently to below our target, there would be a risk of us having to cut interest rates further and more aggressively, or even finding ourselves once again stuck at the effective lower bound.

The exact date of this first cut – April or the start of June – is of no existential importance: let me reiterate here that I firmly believe it should come in the spring, and independently of the US Federal Reserve calendar. Regarding the disinflationary trend, weather conditions this spring are not necessarily the same on both sides of the Atlantic. It seems to me that there was emerging support for this active gradualism during our last meeting. Taking out this insurance policy is particularly worthwhile given that the costs of doing so are minimal: we will then have two choices for steering, two margins for manoeuvre, which from now on will be much more decisive than the timing of the first cut.

The speed of approach: what pace of rate cuts?

A few principles seem to be generally accepted. We will probably start with a moderate cut. We will not then be obliged to cut rates at every Governing Council meeting, but we will need to keep that option open. The pace will above all be pragmatic and that pragmatism will be guided by the economic data. Among that data, as stressed by Christine Lagarde, [12] our forecasts will become increasingly important again compared with "backward-looking" indicators alone as we become more confident in our models.

However, the question of the expected speed also harks back to the debate about what guidance we should give to the markets. Refusing today to give excessive and unconditional "forward guidance" should not mean taking "deciding meeting by meeting" too literally. The main thing is that our future decisions should remain state-dependent, and not be made according to a pre-set calendar.

Since we are talking about landings, let's continue with the aeronautical imagery: autopilot – or long-term guidance – should only be used during stable phases of the flight; our economy is a long way from that. But using instruments to steer through the more difficult phases does not mean not giving any indications to passengers, for example on the landing in progress; they appreciate the information.

The landing zone: what terminal rate?

Market expectations over the number of rate cuts, and then our "terminal rate" in 2025 after the cycle of cuts, have varied a lot since last September. At present, they appear to have more or less stabilised and to be more justified. That said, it would obviously still be premature to give a figure, especially when I've just been arguing for pragmatic gradualism. However, it seems reasonable to provide a few pointers here.
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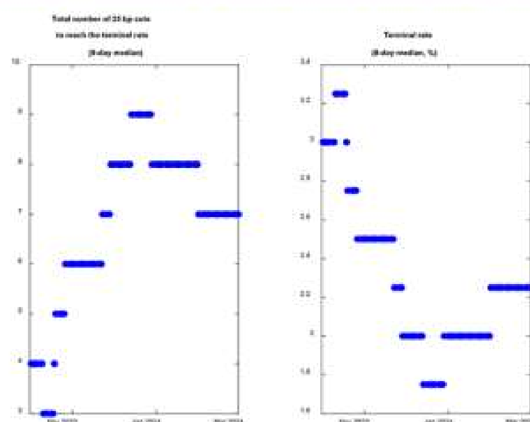
EVOLUTION OF MARKET EXPECTATIONS OF THE TERMINAL RATE

FIGURE 16: NUMBER OF RATE CUTS (25 BP) AND TERMINAL RATE ANTICIPATED BY MARKETS



Source: Bloomberg; Banque de France calculations, based on OIS 1M forwards. Last point: 01/03/2024.
Note: The terminal rate is the rate reached at the last rate cut anticipated by the markets.

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Barring a very negative economic shock, we should not return to the ultra-low rates of the previous era, from 2015 to 2021. I want to stress this, because there is a risk that our collective memory – including that of borrowers and financial operators – may prove too short. Negative or zero rates were the exception, used to tackle the threat of deflation, which was even greater after 2020 because of Covid. Tomorrow's inflation could be more volatile due to multiple supply shocks,[13]

but the average should be closer to our target of 2% over the medium term. The structural shifts we are seeing – such as climate change and the fragmentation of trade – are now creating a more inflationary environment.

However, we have *significant leeway to lower rates* before our monetary policy becomes overly accommodative again. The economic debate gets excited here about the frontier zone – that of the *neutral or equilibrium rate r**: the rate which, midway through the cycle, is supposed to balance supply and demand, and savings and investment as well by the way. It is both an essential structural variable and a key cyclical marker: it is meant to be the dividing line between a restrictive monetary policy – if inflation is too high, interest rates have to go above r* to curb demand – and an accommodative monetary policy.

The beauty of this debate is that r* is neither observable nor measurable: for this reason, some doubt whether the concept is even relevant. However, the ECB and the Banque de France have ventured some estimates, using a series of semi-structural models.

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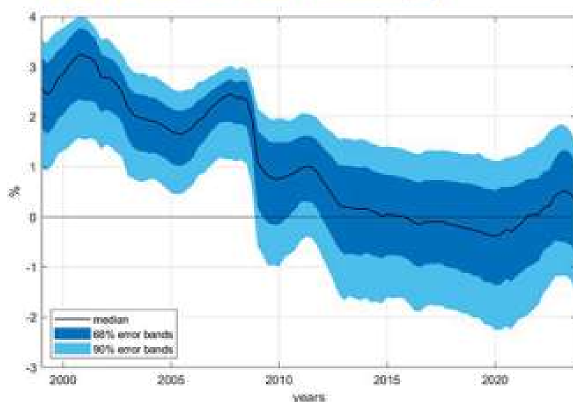
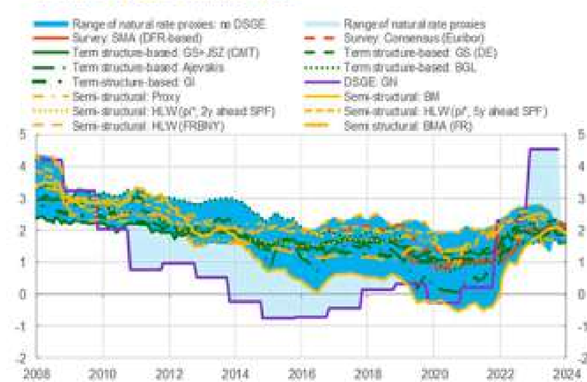
ESTIMATES OF THE NEUTRAL RATE R*

FIGURE 17: BANQUE DE FRANCE ESTIMATES (%)



Source: Banque de France. Last point: Q4.2023.

FIGURE 18: ECB ESTIMATES (%)



Source: ECB Economic Bulletin 01/24.

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These estimates converge fairly closely around two observations:

- The sharp fall in r* over the past two decades from 2000 to 2020 (of at least 2%, due notably to the slowdown in growth and ageing of the population) appears to have come to a halt since the pandemic. This is good news for monetary policy: the risk of interest rates being dragged down and hitting the zero nominal bound more frequently has eased slightly. Some even argue – based more on daring than actual evidence – that r* has risen more markedly, even if the fundamental trends in demographics and productivity have remained unchanged.
- In the euro area, the real neutral rate is now estimated to be slightly positive, at between 0% and 0.5% – admittedly with a wide "confidence interval"; and therefore the nominal neutral rate, adjusted for average inflation of 2%, could be between 2% and 2.5%. It is estimated to be around one percentage point higher in the United States, taking into account the surplus of investment over savings, and stronger demographics and productivity gains.

This 2% to 2.5% range could be taken as a reasonable estimate of the average of ECB nominal rates over a future monetary cycle (it is also close to the average policy rate of 2.5% over the period 1999-2011 [14]). However, this range is not necessarily the target for the current rate-cutting phase: it simply shows that we have significant leeway to lower our rates before even exiting a restrictive

policy stance. This is another reason for opting for agile gradualism over an excessive wait-and-see approach.

*
* *

Let me conclude by returning to “anatomy of a fall”, this time the film. For those who have seen it, it differs in two obvious ways from our subject today: the victim’s fall is dramatic, fatal, whereas for inflation, we are aiming for a soft landing. The second difference is that, at the end of the film, nobody really knows who was responsible; in our case, we shoulder our responsibilities – yesterday by raising rates fast enough to avoid the spread of inflation, tomorrow by lowering them early enough to avoid any costs in the form of lost activity. This leaves one essential similarity: the film is an undeniable success, and I reiterate that we will win against inflation. Without fearing the last mile or wavering in our determination: we have had the tightening phase, then the holding phase since last September. You can now be confident in the third phase of the scenario, that of agile gradualism. Thank you for your attention.

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[1] Villeroy de Galhau, F., "Monetary Policy in Times of Conflicts, speech, 21 November 2023.

[2] Cour des Comptes, 2024 Public Annual Report (table No. 5 page 27)

[3] Villeroy de Galhau, F., *How monetary policy will defeat inflation: channels and locks, speech, 17 February 2023*

[4] OIS, Overnight Indexed Swap.

[5] ILS, Inflation Linked Swaps.

[6] Inflation targeting, which began in 1990 at the Central Bank of New Zealand, was adopted by the ECB from the outset.

[7] Woodford, M. (2003): “Interest and Prices: Foundations of a Theory of Monetary Policy”, Princeton University Press.

[8] Amatyakul, P., De Fiore, F., Lombardi, M., Mojon, B. and Rees, D., *The contribution of monetary policy to disinflation*, BIS Bulletin (Bank for International Settlements), 20 December 2023

[9] Darracq-Paris, M. et al., ECB Economic Bulletin, 2023

[10] Baudry L., Gautier E. and Tarrieu S., *Negotiated wage increases for 2024: where do we stand?*, Eco Notepad blog post, Banque de France No. 349, 28 March 2024

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