

The rise and fall of inflation in the Euro Area (2021-2024): A heterodox perspective

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ABSTRACT

Over the period of 2021–2024, inflation has resurged and then retreated in most industrialized countries. Economists were divided into two main camps: team transitory, which argued that inflationary pressures were primarily cost-push and would tend to fade away as supply disruptions eased, and team permanent, which viewed it as a predominantly demand-pull process and warned about the risks of persistent second-round effects associated with an overheated labor market. This paper covers this theoretical debate on the origins of inflation and contrasts it to the available empirical evidence for the Euro Area, laying out several inconsistencies in the New Keynesian argument proposed by team permanent. Since that was, nevertheless, the predominant interpretation among central bankers, including the ECB, this paper also discusses the impacts of monetary policy decisions informed by the New Keynesian view, arguing that there is good reason to believe that it has had regressive consequences in terms of the functional distribution of income as well as differentiated impacts across Euro Area core and periphery countries.

1. Introduction

Following the onset of the COVID-19 pandemic, the world economy witnessed the resurgence of inflation to levels which had not been registered over the previous decades, particularly in Western economies. After three decades of relative stability – known as the Great Moderation –, the inflation rate rose to 8.4 % in the Euro Area in 2022, following the easing of pandemic-related restrictions on economic activity and the beginning of the Russian invasion of Ukraine. However, in 2023, the annual inflation rate retreated to 5.4 % and, by March 2024, it reached 2.4 %, nearing the European Central Bank's 2 % target (Eurostat, 2024a; Eurostat, 2024b).

The rise of inflation sparked a forceful response from monetary policy authorities in most industrialized countries. Following the example of the US Federal Reserve, the ECB raised its deposit facility interest rate from 0 % in July 2022 to 4 % by September 2023, pushing interest rates to historical highs in the monetary union. This turn to monetary tightening was based on the hypothesis that the inflationary episode was either driven or significantly amplified by aggregate demand, therefore justifying central bank actions to curb investment and employment. Even if there is usually a lag in monetary policy

transmission, the Euro Area economy seems to have been negatively affected, as expected: the region's GDP grew by only 0.5 % in 2023, down from 3.4 % in 2022, and the official projections for 2024 have been revised downwards, with the European Commission stating that “the EU economy narrowly escaped a technical recession in the second half of 2023” and “the broad stagnation of the EU economy throughout 2023 carried over into weak momentum entering the new year” (European Commission, 2024, pp. 2).

Assessing the adequacy of the monetary policy response requires a robust diagnosis of the causes of the recent inflationary bout. While there has been a lively debate on this topic, that debate has been mostly centered on the developments taking place in the US economy. We argue that it is worth taking a closer look at the Euro Area due to its specificities and heterogeneity across countries. This paper contributes to the literature by carrying out a comprehensive analysis of the rise and fall of inflation in the Euro Area, while also exploring the heterogeneity of monetary policy impacts on Euro Area core and periphery countries.

The rest of the paper is structured as follows: Section 2 provides a review of the ongoing debate on the nature of the 2021–2022 inflationary episode and its distributive implications; Section 3 looks at the empirical evidence to assess the role of demand-side and supply-side

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factors in the rise and fall of inflation in the Euro Area, while also establishing a relation between recent developments and long-term trends in the labor market; [Section 4](#) offers a critical analysis of the ECB's monetary policy in light of the existing empirical evidence and discusses the distributive implications of monetary tightening; [Section 5](#) provides some concluding remarks.

2. The debate on inflation and distribution in the 2020s

As inflation returned to the forefront of academic and public debate, economists split between two main groups: (1) “team permanent”, which viewed this as a major turning point for Western economies and warned about the risks of persistently higher inflation rates, and (2) “team transitory”, which, on the contrary, argued that the inflationary surge would be temporary. The different views on the permanent vs. transitory character of inflation reflected also different views on the underlying drivers of the generalized price increase.

The first camp was essentially composed of economists who follow the main tenets of what might be called New Keynesian or New Consensus Macroeconomics (NCM). The central element of this approach is the Phillips curve, which lays down an inverse relationship between the unemployment rate and the wage growth rate. Inflation is seen as a function of two factors: the output gap, i.e. the gap between the economy's actual GDP and its potential GDP, and agents' inflation expectations ([Clarida et al., 1999](#)). Under equilibrium, GDP is assumed to be at potential, unemployment is at its “natural” rate and inflation expectations should remain anchored around the central bank's target. On the contrary, when the economy has a positive output gap, lower unemployment is assumed to foster greater wage demands by workers, putting pressure on firms to raise prices in order to maintain their markups. A negative supply shock – such as an increase in international oil prices – can also foster a similar process, since it reduces potential GDP and thus increases the output gap.

According to this view, as the general price level begins to rise, changing expectations may push the economy towards a wage-price spiral, as defined by [Layard et al. \(1994\)](#): “[...] when buoyant demand reduces unemployment (at least relative to recent experienced levels), inflationary pressure develops. Firms start bidding against each other for labour, and workers feel more confident in pressing wage claims. If the inflationary pressure is too great, inflation starts spiralling upwards: higher wages lead to higher price rises, leading to still higher wage rises, and so on. This is the wage-price spiral” (*ibid.*, pp. 11).

Under this theoretical framework, the 2020s inflation has been therefore characterized by some authors in the NCM tradition as the result of policy mistakes – namely, the fiscal and monetary stimulus programs adopted by public authorities in response to the pandemic ([Summers, 2022](#); [Reis, 2022](#)). For these authors, an excessively expansionary stance during the initial period of the pandemic caused inflationary pressures once economies gradually returned to normal operation. As the inflation rate began to rise, economists on “team permanent” identified labor market tightness as the major cause for concern ([Domash and Summers, 2022](#)) and warned about the risk of a wage-price spiral, calling for restrictive monetary and fiscal policies to prevent it.

Other authors within the NCM camp hold that even if excess demand was not the primary cause of the inflationary bout, it was a mechanism of amplification. [Blanchard and Bernanke's \(2023\)](#) seminal paper builds a model of aggregate wage and price determination to assess the drivers of US post-pandemic inflation. The authors argue that “ultimately, as many have recognized, the inflation reflected strong aggregate demand, the product of easy fiscal and monetary policies, excess savings accumulated during the pandemic, and the reopening of locked-down economies” ([Blanchard and Bernanke, 2023](#), pp. 29). However, they also recognize, in a somewhat contradictory tone, that “as of early 2023, tight labor market conditions still accounted for a minority share of excess inflation” (*ibid.*, pp. 30). [Arce et al. \(2024\)](#) replicate their

methodology to determine the drivers of inflation in the Euro Area and also find that labor market indicators have not played a significant role. In a recent publication, [Blanchard and Bernanke \(2024\)](#) restate the main conclusion: regardless of the origins of inflation, labor market tightness still poses a threat to price stability and monetary tightening is needed to avoid the risk of inflation expectations becoming unanchored and prevent a wage-price spiral.

The NCM view has been disputed by the “transitory team”, which includes heterodox economists from Post-Keynesian, Institutional and Marxist strands. For this camp, inflation was not the result of excess demand, but rather of the spike in systemically significant prices: prices of specific products which are used as inputs in most productive processes, meaning that an increase in their price will eventually be propagated as a cost shock throughout intersectoral linkages ([Weber et al., 2024](#)). In contrast to the demand-pull explanation of inflation provided by the NCM, this camp views inflation as a predominantly cost-push phenomenon. Emphasis is put on supply – rather than demand – issues and the inflationary surge is understood as the outcome of the substantial increase in prices of critical inputs – especially, energy products – due to supply disruptions and bottlenecks ([Stiglitz and Regmi, 2023](#); [Galbraith, 2023](#); [Vernengo and Caldenteu, 2023](#); [Ferguson and Storm, 2023](#)).

In an initial phase, supply chain constraints emerged with the gradual removal of COVID lockdown measures against a background of layoffs and reduced capacity in many industries, particularly raw materials and critical goods and services, such as microchips and maritime transport. These constraints resulted in a significant gap between demand and supply, leading to price increases. In a Kaleckian markup pricing framework, in which firms set their prices as a markup over total costs, assuming firms are able to keep their markup constant and pass the increase in intermediate costs onto prices, this leads to a reduction of the wage share – as wages become a lower share of total costs – and, consequently, an increase in the profit share ([Lavoie, 2024](#); [Nikiforos and Grothe, 2023](#)). This process can be amplified by a temporary increase in firms' market power: since specific cost shocks affect entire industries, companies with greater pricing power in upstream sectors are able to raise prices in order to maintain – or even expand – their profit margins without the risk of losing market share ([Weber and Wasner, 2023](#); [Setterfield, 2023](#)). In any case, “team temporary” argued that inflationary pressures would tend to vanish once supply bottlenecks were gradually addressed and overcome.

These two different views on the origins of inflation translate into significantly different interpretations of its distributive impact. For “team permanent”, distributive issues are often neglected. However, NCM authors stress the negative impact of inflation on households' purchasing power. According to this group, inflation is harmful for households since it erodes real wages and penalizes savings. Curbing inflation through monetary and fiscal tightening should therefore be the priority of policymakers, even if it comes at the expense of higher unemployment rates. According to NCM authors, monetary and fiscal tightening in the short-term is better than the alternative of failing to prevent a wage-price spiral which is then more difficult to curb. “Team transitory” holds a significantly different view. For economists in this camp, the problem is not inflation per se, but rather the cost-of-living crisis resulting from low levels of wage growth ([Hein, 2024](#); [Pianta, 2023a](#); [2023b](#)). According to this perspective, there are two aspects that need to be considered when we analyze the distributive impact of inflation: on the one hand, the inflationary surge has been associated with a shift in the functional distribution of income; on the other hand, the policy response adopted by central banks and governments exacerbates this inequality.

3. The rise and fall of inflation in the Euro Area

After a long period of low and stable prices, the inflation rate level began to increase in 2021, as the restrictions imposed on economic

activity in most countries were gradually eased. The annual inflation rate in the Euro Area rose from -0.3% in December 2020 to 5% in December 2021. The most significant jump would, however, take place in the following year, with the onset of the war in Ukraine and the spike in oil and gas prices in international markets, with annual inflation reaching 10.6% in October 2022 (Eurostat, 2024) (Fig. 1).

This sharp increase in the rate of inflation was followed by an equally rapid decline. The Euro Area registered a sustained reduction of the inflation rate, which reached 2.9% by the end of 2023 and was already close to the ECB's 2% target in the first quarter of 2024. Core inflation, which increased at a significantly lower pace and peaked at 5.7% in July 2023, has decreased as well and was also close to the 2% target in the beginning of 2024. In other words, the inflation rate seems to have come down nearly as quickly as it initially rose.

In response to inflation, most central banks reversed their previous stance and turned to monetary tightening from 2022 onwards. The European Central Bank (ECB) raised its main (deposit facility) interest rate from -0.5% in 2022 to 4% by the end of 2023. This turn to monetary tightening was based on a set of assumptions regarding the nature of the 2020s inflation bout: excessive aggregate demand was either the origin of inflation or its amplifying mechanism; a sustained period of above-target inflation would lead to a de-anchoring of expectations and to excessive wage growth, potentially fueling a wage-price spiral. Raising interest rates was meant to curb aggregate demand and employment in order to reduce the pressure on prices. The validity of this line of reasoning must be assessed against the existing empirical evidence.

3.1. Aggregate demand

Total demand can be decomposed into four main macroeconomic aggregates: private consumption, government expenditure, investment and net exports. Following Stiglitz and Regmi (2023), who map the evolution of these variables in the US economy, it is worth looking at what happened in the Euro Area during the recent rise and fall of inflation (Fig. 2).

In 2022 and 2023, both private final consumption expenditure and private investment were below what would have been registered if the Euro Area had kept its pre-pandemic trend. In other words, private consumption and investment were yet to recover from the impact of the COVID-19 crisis, meaning these can hardly be considered the drivers of the inflationary spike. Public sector consumption and investment

Year-on-year percentage change

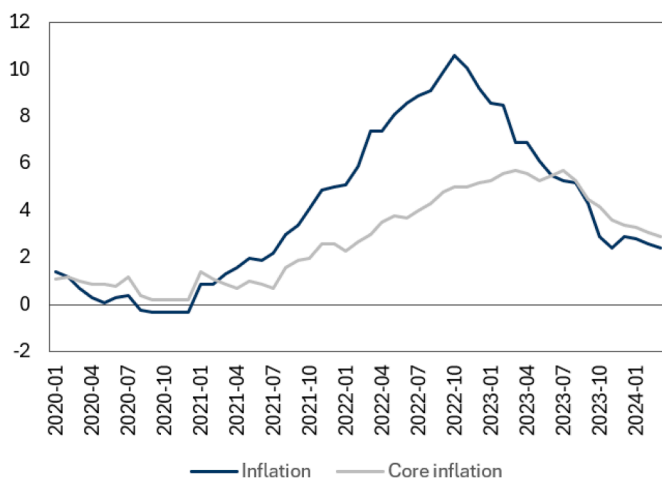


Fig. 1. Inflation rate and core inflation rate in the Euro Area (2020 Q1–2024 Q1).

Source: Eurostat

experienced a much more pronounced increase after the onset of the pandemic, mainly as a result of countercyclical efforts by the national governments to support closed businesses and sustain wages in the wake of the COVID-19 pandemic, when most countries imposed strict restrictions on economic activity. However, real government expenditures were already stabilizing in 2022. In contrast, net exports fell significantly in 2022.

These trends explain why aggregate demand has remained markedly below trend in the post-pandemic period. This appears to contradict the mainstream (i.e. New Keynesian or NCM) interpretation of inflation: on the one hand, the rate of inflation has increased significantly in a context of subdued demand growth; on the other hand, inflation has essentially returned to the ECB 2% target without a significant compression of aggregate demand.

It is worth noting that the “excess demand” perspective does not seem to hold water even under the New Keynesian’s own terms. The European Commission’s output gap estimations show that inflation rose significantly in a context in which the Euro Area’s output gap was either negative (2021) or positive but close to zero (2022). Moreover, in 2022 and 2023, during the inflationary spike, the output gap was estimated to be below the pre-pandemic level, when inflation was unmistakably low (Fig. 3).

The evolution of employment also appears to be inconsistent with the mainstream view on the nature of current inflation. According to NCM authors, labor market tightness was the primary mechanism of amplification of inflationary pressures. In reality, however, while unemployment in the Euro Area was indeed at a relatively low level (compared to the last decade) when inflation started to increase, it remained relatively stable – and even declined slightly – over the last three years. An alternative indicator of labor market conditions is the job vacancy ratio – the ratio between the number of open vacancies and total unemployment. When estimating Phillips curves for European economies, Baba et al. (2023) argue that “high vacancy-to-unemployment ratios – that partly reflect large numbers of unfilled job vacancies – at the end of 2022 suggest that European labor markets may have been tighter than unemployment alone suggests” (ibid., pp. 7). The job vacancy ratio is taken by Blanchard and Bernanke (2023) as a measure of labor market tightness in the US economy and is used by Arce et al. (2024) when replicating their methodology for the Euro Area. But the argument does not seem to ring true, neither in the US (Storm, 2024) nor in Europe. In fact, while v/u peaked in the second quarter of 2022 in the Euro Area, during the high inflation period, it has remained relatively stable during the disinflation period. The inflation rate has essentially returned to target despite the fact that the job vacancy ratio remains higher than in the pre-pandemic period, casting doubt on the idea that the labor market was the source of inflationary pressures and that labor market loosening was a necessary condition to achieve disinflation (Fig. 4).

3.2. Supply-side factors

Given the lack of evidence of excess demand, attention must turn to the supply side. Indeed, supply-side factors appear to have played a much more significant role in the rise and fall of the inflation rate in the Euro Area’s economy. At first, price increases arose in specific inputs: namely, energy products, which saw a sharp increase in prices from the beginning of 2021 and during 2022, and, to a lesser extent, industrial goods and transport costs. Inflation appears to have been concentrated in key inputs before spreading throughout the economy. In contrast, in the service sector, the inflation rate increased only modestly and very gradually, before starting to decrease in late 2023 (Fig. 5).

The substantial increase in the prices of key inputs emerged as most economies started to ease COVID-19 lockdowns. Economic activities were gradually restarted but there were still significant disruptions in global supply chains, leading to a mismatch between demand and supply. The role of supply-side constraints and bottlenecks as the main

In billion euros (constant prices)

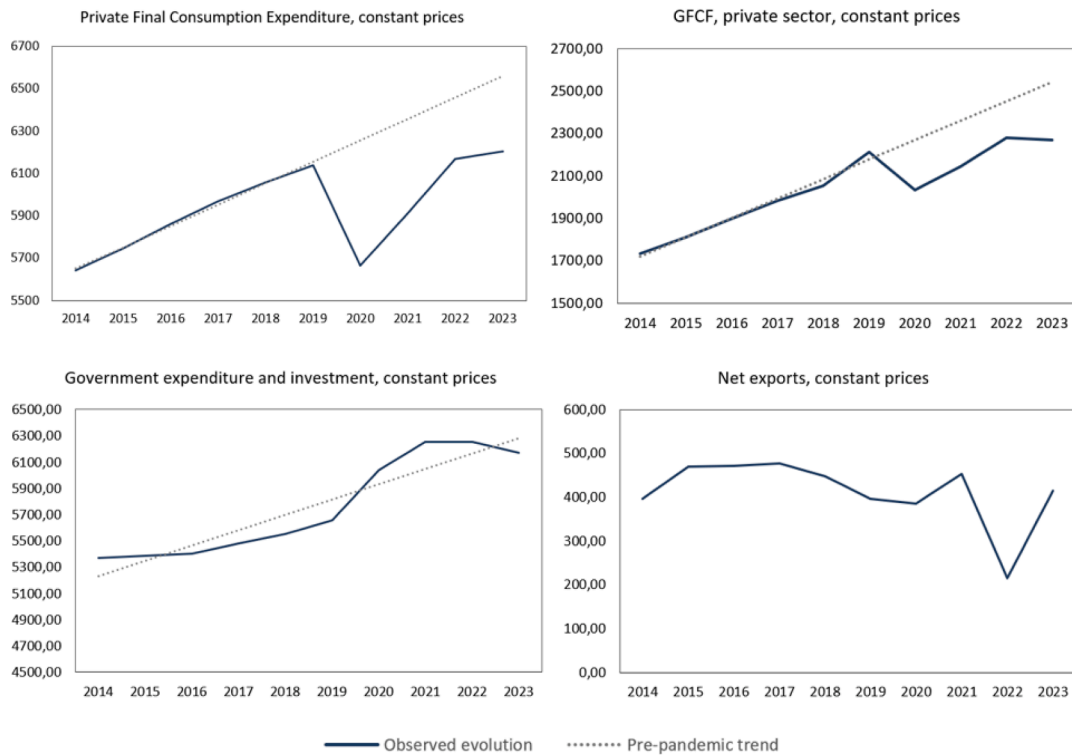


Fig. 2. Consumption, investment, government expenditure and net exports in the Euro Area in the last decade (2014–2023). Source: AMECO (European Commission) and authors' own calculations

In percentage

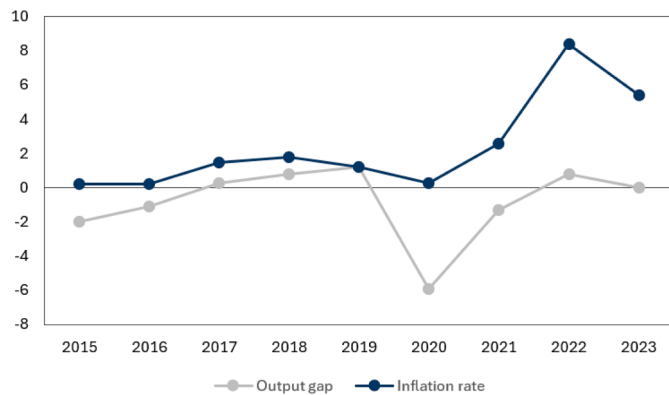


Fig. 3. Inflation rate and the output gap in the Euro Area (2015–2023). Source: AMECO (European Commission)

drivers of inflation in the Euro Area has been documented by several empirical studies (see, for example, Acharya et al. 2023, Bañbura et al. 2023, as well as Arce et al. 2024, mentioned above). These pressures started to mount in 2021 and were then dramatically amplified by the onset of the war in Ukraine in the beginning of 2022, which spurred a sharp increase in energy and food prices.

Energy products contributed directly to more than half of the increase in the Euro Area's CPI over the course of 2021 and the first half of 2022. The sharp increase in energy prices started to reverse by the end of 2022 and the contribution of energy prices to total inflation became negative during 2023 and the first quarter of 2024. It is important to note that this trend only considers the direct contribution of energy

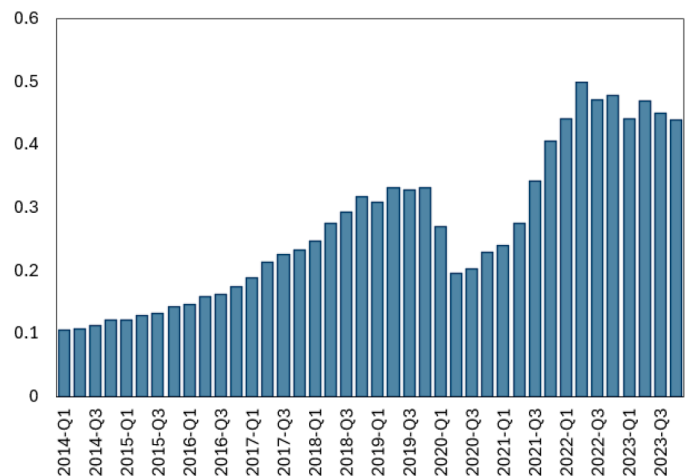


Fig. 4. Job vacancy ratio in the Euro Area (2014 Q1–2023 Q4).

Note: France, Italy and Malta were excluded from this calculation due to lack of data available Source: Eurostat and authors' own calculations

prices to the evolution of the CPI, due to its weight in average household consumption. However, it is reasonable to expect that both the initial increase and the subsequent reduction of energy inflation had a significant impact on the remaining prices in the economy, since energy products are a key input in most production processes. In other words, the total effect of the fall in energy prices upon inflation is likely to have been even more negative in this period than indicated by the data shown in Fig. 6.

Thus, the data suggest that supply constraints were the main drivers of the inflationary spike in 2021–2022 and that they have also played

In percentage

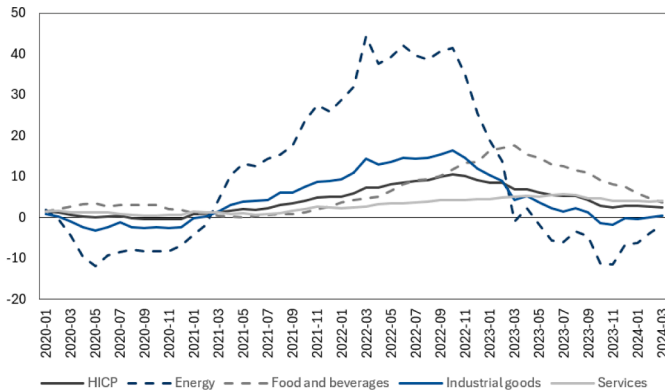


Fig. 5. Inflation in selected categories (2020 Q1–2023 Q4).

Source: Eurostat

In percentage

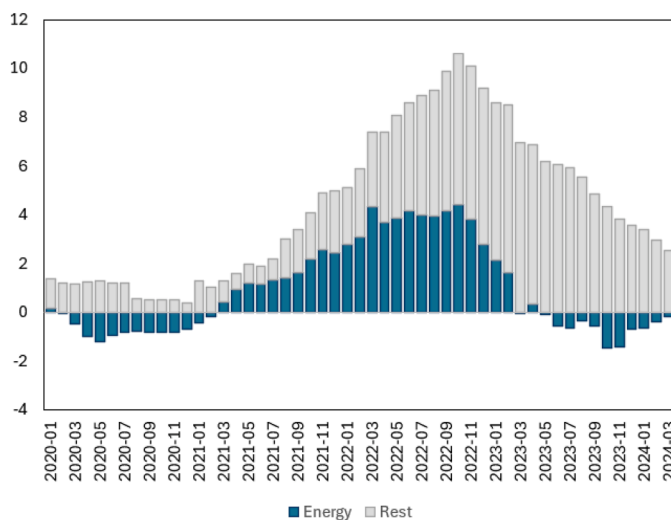


Fig. 6. Contribution of energy prices to the total inflation rate (2020 Q1–2023 Q4).

Source: Eurostat

the leading role in the disinflation that took place after mid-2023 and in 2024. Significant price increases in specific sectors – which Weber et al. (2024) define as “systemically significant” – spread to the rest of the economy through sectoral forward linkages, resulting in an increase in the inflation rate. The mitigation of supply-side disruptions in those sectors seems to have driven the downward trajectory of the inflation rate from the fourth quarter of 2022 onwards.

3.3. Wage growth and distributional conflict: roaring or boring twenties?

Containing wage growth has been the foremost aim of monetary policy in the last two years. In mid-2022, as the ECB began to increase interest rates, the main argument in favour of monetary tightening was that the risks of a de-anchoring of expectations among price and wage-setters were rising and the central bank should tackle these in order to avoid a wage-price spiral (Schnabel, 2022). In the beginning of 2023, the accounts of the ECB’s Governing Council included 52 mentions of the word “wage”, whereas terms such as “profit” or “markup” appeared only once. Wage growth was framed as a key explanation for the persistence of inflation (Schnabel, 2023). By March 2024, with the

inflation rate nearing the 2 % target, Christine Lagarde still stated that “[inflationary] pressures largely reflect robust wage growth as the catch-up process continues, as well as a tight labor market that has so far been resilient to a slowing economy” (Lagarde, 2024).

Despite the emphasis on wage growth in ECB’s communications, in the period between 2021 and 2023, real wages in the Euro Area declined while productivity increased. These trends imply a decrease in the wage share – i.e. a shift in the functional distribution of income in favour of capital. In fact, by the end of 2023, real wages were still below the pre-pandemic level.^c

This trend must be analyzed in a historical perspective. Over the last two decades, real wage growth has consistently lagged behind productivity growth in the Euro Area. This means that there has been a shift in the functional distribution of income away from labor and towards capital, as imposed by the adaptations of the accumulation process in the context of the long phase of mediocre growth (Freeman and Louçã, 2001; Louçã, 2021).

The increasing gap between wages and productivity is a symptom of weakened labor bargaining power over the last decades. The sharp decline in unionization rates and collective bargaining coverage across European countries have significantly reduced the ability of workers to demand wage increases: in the 1960s and 1970s, trade union density ranged from 30 % in Germany and 40 % in Belgium, the Netherlands and Spain to 60 % in Austria and more than 70 % in Portugal, but has gradually declined in the last decades, nearing or sinking below 25 % in most countries (with the exception of Belgium). This has been accompanied by a decline in wage shares across Western Europe countries (Guschanski and Onaran, 2021).

The decline in unionization shares has taken place alongside a general decrease in collective bargaining coverage and an increase in temporary and precarious forms of employment, whilst wage indexation mechanisms were mostly abandoned in favor of flexibility. All these factors contributed to the shift in the functional distribution of income towards capital (Franzini and Pianta, 2016). This helps to explain why the unemployment rate is not an adequate indicator of labor market tightness and why the Phillips curve has become flatter: even if unemployment was reduced during 2014–2019 and remained relatively low after the pandemic, the bargaining power of workers remains low in historical perspective.

It is worth pointing out that this process has been effectively promoted by European institutions, particularly in the countries that were forced to adopt labor market deregulatory reforms during the interventions by the Troika (the triad composed of the European Commission, the ECB and the International Monetary Fund) in the context of the Eurozone crisis of the early 2010s (Keune, 2015).

The flattening of the Phillips curve in advanced capitalist economies is part of a long-term trend which has been in place since the 1980s (Galbraith, 1997). Summa and Braga (2020) provide empirical evidence that the Phillips curve has effectively flattened in Western European economies, while Boissay et al. (2022) note that “the correlation between wage growth and inflation has declined over recent decades and is currently near historical lows” (ibid., pp. 3). This is consistent with the hypothesis that the Great Moderation experienced in the four decades before the pandemic was mostly driven by falling import prices (attributable to globalization) and the structural weakening of organized labor, which undermined workers’ bargaining power and led to wage stagnation (Perry and Clyne, 2016; Ratner and Sim, 2022). This can also explain why wage growth has decoupled from productivity growth in most industrialized countries.

^c Real compensation per employee (Fig. 7) is calculated by the European Commission using the GDP deflator to account for the evolution of the general price level. However, if we use the HICP (which is a better indicator of the cost of living), the loss of purchasing power for workers is even greater than shown in Fig. 7.

Index: 1995 = 100



Fig. 7. Real wages and productivity in the Euro Area since 1995.

Source: AMECO

While wage growth was moderate, the 2021–2023 inflationary episode has been accompanied by a significant increase in corporate profits, in line with the heterodox view (e.g.: [Weber and Wasner 2023](#)). [Storm \(2023\)](#) analyzes data for the US economy in the 2020–2022 period and shows that firms' markups have risen. For the Euro Area, [Matamoros \(2024\)](#) provides some evidence of increases in average markups in 2022 in the most advanced economies, while [Arquié and Thie \(2023\)](#) find similar evidence by looking at firm-level data in France.

4. Inflation and monetary policy: fragile foundations and distributive implications

Monetary policy in the 2021–2024 period continued to rely on NCM foundations. The ECB's decision to increase interest rates in response to the inflationary bout is based on the framework of the Phillips curve-augmented IS-LM model. Even if the central bank acknowledged that supply shocks were the most significant driver of initial price pressures in the Euro Area ([Lagarde, 2022](#)), it quickly followed the US Federal Reserve's turn to monetary tightening, the argument being that there were risks of inflation expectations becoming unanchored and that the central bank's mandate to maintain price stability implied raising interest rates in order to curb aggregate demand and employment. NCM foundations in central banks seem to have resisted the severe threat that unconventional monetary policies implemented before and during the COVID-19 crisis posed to this framework ([Louçã et al., 2021](#)).

The academic literature within the conventional NCM approach follows a similar line of reasoning. [Arce et al. \(2024\)](#), who replicate the seminal paper by [Blanchard and Bernanke \(2023\)](#) to determine the drivers of inflation in the Euro Area, acknowledge that “the main drivers of inflation in the euro area have been supply-side shocks”, but they still argue that “stronger second-round effects could be a potential source of upside risks to euro area inflation if the model parameters revert to their pre-pandemic values, which could maintain price inflation significantly above target” (ibid, pp. 21/27), supporting the idea that there is still the risk of a wage-price spiral and that central bank intervention is justified, in line with other NCM authors ([Reis, 2023](#); [Blanchard and Bernanke, 2024](#)). This reflects the policies that central banks have pursued since the 1970s in most industrialized countries. With the rise of central bank independence, monetary policy was devoted to maintaining price stability and the Taylor rule was developed to determine the optimal interest rate as a function of inflation and the output/unemployment gap ([Qanas and Sawyer, 2024](#)). In addition to the theoretical fragilities explored above, this approach is far from neutral from the distributive point of view.

4.1. Distributional issues between social groups

There are various channels through which monetary policy affects income distribution: changes in interest rates and asset purchases have a direct impact on debt payments and on the income of bond holders, as well as on asset prices; additionally, monetary policy also has an indirect effect on income distribution through its impact on output and employment levels. [Kappes \(2022\)](#) reviews several empirical studies and finds that monetary tightening tends to increase income inequality. On the one hand, raising interest rates means raising the income derived from holding financial assets – i.e., it increases the income of a typically wealthier rentier class. On the other hand, monetary tightening harms lower-income households as they are typically more indebted relative to their income. Additionally, it is worth noting that the aim of raising interest rates is to reduce aggregate demand in order to reduce inflationary pressures coming from an overheated economy. This is achieved by effectively restricting economic activity and increasing unemployment, which tends to disproportionately affect low-wage workers. [Rochon and Seccareccia \(2023\)](#) argue that “inflation targeting monetary policy [is] a *de facto* long-term incomes policy”.

The degree of exposure to interest rate changes is not homogeneous across the income distribution. [Tzamourani \(2021\)](#) explores the direct gains and losses incurred by Euro Area households due to interest rate fluctuations and finds that, on average, households at the bottom of the net wealth distribution are negatively affected by interest rate hikes, given the fact that this group has a greater debt-to-assets ratio. Conversely, wealthier households and homeowners tend to benefit from monetary tightening, as they own proportionally more assets and less liabilities.

Furthermore, empirical evidence suggests that most “excess savings” accumulated during the first two years since the onset of the pandemic were accrued by households in the highest income quintile – the top 20 % ([Battistini et al., 2023](#)). The top 20 % has accumulated almost half of all excess savings, whereas the remaining quintiles have collected significantly lower shares, and these savings have been allocated to loan repayments and financial asset acquisitions. As interest rate hikes benefit savers to the detriment of borrowers, the evidence suggests that monetary tightening is favoring higher-income households, who have greater capacity to both reduce their indebtedness and acquire interest-bearing assets.

4.2. Distributional issues between countries

It is useful to explore the heterogeneous impacts of monetary

tightening in Euro Area countries through the lens of a core-periphery perspective. Celi et al. (2018) provide a comprehensive analysis of the differences between Europe's core countries – led by Germany – and its Southern and Eastern peripheries – the former including Italy, Spain, Portugal and Greece and the latter comprising Eastern European countries, based on different degrees of sophistication of their productive structures. In the two decades of European monetary integration, core countries have been characterized by higher levels of GDP per capita, lower unemployment, robust productive structures and greater shares of high value-added industries in their economies, while Southern periphery countries have generally weaker productive structures, a lower degree of sophistication and a larger share of low value-added activities which lost competitiveness in international markets following the adherence to the (overvalued) single currency and the integration of Asian and Eastern European countries in global trade. Core countries were able to adopt export-led growth strategies, whereas Southern periphery countries were pushed towards a debt-led path, fostering further divergence up to the pandemic (Grabner et al., 2020). The core-periphery nature of the Euro Area is of crucial importance to understand how shocks have asymmetric impacts on the different countries.

The 2020s inflationary bout had different impacts on different Euro Area countries. To some extent, the energy shock seems to have affected countries in ways that go beyond the core-periphery divide: Germany (core), Italy (Southern periphery) and Eastern European countries were the ones which were most affected by rising energy prices, due to their dependence on fossil fuel imports from Russia and the structure of their economies, with larger shares of energy-intensive industries than the rest of the Euro Area (Celi et al., 2022). However, the impact of monetary tightening by the ECB has also been experienced differently in the Euro Area core and periphery. There are at least two channels through which monetary policy affects countries differently: (1) different debt-to-GDP ratios; and (2) different shares of flexible-rate mortgages.

The first channel is related to the level of public indebtedness. Monetary tightening has a greater impact on countries with higher debt-to-GDP ratios via increased debt financing costs. Even though Southern periphery countries attempted to reduce their debt ratios both before and after the pandemic, this group is still generally more exposed to changes in financing conditions than most countries in the Euro Area core. In 2023, Italy, Spain, Portugal and Greece were among the six most indebted countries in the monetary union, alongside France and Belgium, and significantly above countries such as Germany, the Netherlands or Austria. This means that, in general, the core countries are on more favorable conditions than the Southern periphery ones when it comes to financing public services and promoting public investment (Martins and Ferreira, 2023).

The second channel concerns household indebtedness. Interest rate hikes have different impacts on households' disposable income by affecting mortgage servicing costs. This impact differs across Euro Area countries due to differences in the share of flexible-rate mortgages and in the degree of pass-through to rates of outstanding mortgages. Beyer et al. (2024) analyze changes in annual mortgage service costs resulting from the current ECB policies and find that there is strong heterogeneity across the Euro Area: households in countries such as Portugal, Estonia or Spain faced increased interest costs of close to or more than 1 % of their country's GDP, while those in countries Germany, France, Belgium or Netherlands experienced increased mortgage costs of less than 0.2 % of GDP. These findings suggest that households in core countries were generally less exposed to the direct impact of monetary tightening than those in some Southern and Eastern European countries, meaning ECB policy decisions have different impacts on disposable income across the Euro Area. In addition to households' financial distress, this could also have implications for the evolution of non-performing loans in countries where the impact of interest rate hikes is more pronounced (Botta et al., 2024).

5. Conclusions

The rise and fall of inflation in the 2021–2024 period sparked a fierce debate in the Economics discipline. Two main camps emerged in this debate: team permanent, based on New Keynesian theory, which argued that the inflationary spike was the result of excess demand and called for interest rate hikes to avoid persistent effects associated with an overheated labor market, and team transitory, including heterodox economists from different theoretical strands, which argued that inflation was driven by supply bottlenecks which were temporary and would not justify an abrupt turn to monetary tightening.

A close analysis of the available data for the Euro Area economy reveals the inconsistencies of the New Keynesian perspective put forward by economists in “team permanent”. The rise of inflation was not associated with excess demand or so-called labor market tightness, as aggregate consumption and investment remained largely below the pre-pandemic trend and wage growth remained subdued in 2021–2022. In addition, the fall of inflation from mid-2023 to early 2024 has not been driven by cooling down the labor market, as unemployment levels remained considerably low during this period. This suggests that the actual roots of the inflationary bout lied elsewhere: namely, on the supply constraints and bottlenecks that emerged in the context of the economic recovery from the pandemic.

Even if the New Keynesian perspective is hardly backed by empirical evidence, it has been the basis for the ECB's turn to monetary tightening in the 2022–2024 period, with asymmetric impacts on different social groups and different countries. Firstly, interest rate hikes tend to have a disproportionate negative impact on low-income households, which typically have greater debt-to-income ratios when compared to wealthier households. This impact is greater in Euro Area peripheral countries with larger shares of households with flexible-rate mortgages and higher degrees of pass-through to rates of outstanding mortgages. Thirdly, the impact of monetary tightening on public debt service costs is greater for countries with higher debt-to-GDP ratios, putting peripheral countries within the monetary union at a disadvantage. Briefly put, a wrong diagnosis on the origins of inflation laid the foundations for a policy response which disproportionately harms vulnerable households and countries in the Euro Area.

Since supply shocks are likely to become more frequent in the future, due to the potentially disruptive impacts of climate change and geopolitical issues, there is a pressing need to rethink the policy response to inflation in the Euro Area. Instead of relying on the blunt instrument of interest rates to curb inflation at the expense of economic activity and employment, the focus should shift towards preventing significant price shocks stemming from sectoral supply constraints, both by investing to improve domestic productive capacity in these sectors and by designing measure to curb the pricing power of large firms.

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CRedit authorship contribution statement

Vicente Ferreira: Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Alexandre Abreu:** Writing – review & editing, Validation, Conceptualization. **Francisco Louça:** Writing – review & editing, Validation.

Data availability

Data will be made available on request.

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