

IN-DEPTH ANALYSIS

Requested by the ECON committee

Monetary Dialogue Papers, September 2021



# Rise in Inflation: Much Ado About Nothing?

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# Rise in Inflation: Much Ado About Nothing?

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Monetary Dialogue Papers  
September 2021

## **Abstract**

Euro area inflation reached 3% in August, a rapid increase from August 2020 when it was -0.3%. As the inflation rate now outpaces the ECB's medium-term target of 2%, could it become a concern for the central bank? After showing that the health crisis was unprecedented in its nature and sectoral characteristics, we study the determinants of inflation in the short term and then discuss various elements that could influence the trajectory of future inflation and mitigate inflation fears.

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This document was requested by the European Parliament's committee on Economic and Monetary Affairs (ECON).

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## LIST OF ABBREVIATIONS

<b>CBO</b>	Congressional Budget Office
<b>ECB</b>	European Central Bank
<b>EP</b>	European Parliament
<b>EU</b>	European Union
<b>GDP</b>	Gross domestic product
<b>GFC</b>	Global financial crisis
<b>HICP</b>	Harmonised index of consumer prices
<b>NGEU</b>	Next Generation EU
<b>US</b>	United States
<b>VAT</b>	Value-added tax

## EXECUTIVE SUMMARY

- **Recent inflation dynamics are linked to developments in the health crisis.** The health crisis is unprecedented in terms of its scale, its sectoral characteristics and its nature, which presents both the characteristics of a negative supply and demand shock.
- **The current recovery is accompanied by inflationary pressure.** Inflation is at 3% in August 2021 and is now above the European Central Bank (ECB)'s target. This dynamic could worry the ECB.
- **The short-term elements that explain inflation are: the rise in energy prices and the tensions on supply chains.**
- **The factors that could influence inflation in the medium term are numerous.** Some factors seem to be under control, others are more uncertain.
- A look at the recent data suggests that the upswing of inflation would be mainly related to energy prices, changes in value-added tax (VAT) tax rates and a recovery following the most dramatic yearly recession.
- At a disaggregated level, it seems that for most of goods, prices are often below the December 2019 level while prices for some services are higher.
- **The demand shock from European fiscal stimuli and labour market pressures should be small.** Fiscal policy has resembled extended automatic stabilisers rather than fiscal stimulus *per se*. The second-round effects of wages on inflation should be small because of the flattening of the Philips curve.
- **Inflationary pressures due to agents' dissaving behaviour could show a more uncertain path.** A surge in demand could fuel future price increases, especially if the difficulties of supply to adjust persist.
- **All in all, recent inflation developments remain below the price dynamics expected had the ECB's inflation target been met in the past.**



## 1. INTRODUCTION

The COVID-19 pandemic has triggered an unprecedented world economic crisis. In 2020, gross domestic product (GDP) has fallen by 6.7% in the euro area. From March 2020, the spread of the virus has led governments to impose restrictions on economic activity in most European countries, but people also chose voluntarily to reduce their mobility because of fear of contagion, as emphasised for the US by Goolsbee and Syverson (2021). It has led to a sharp fall in private consumption in 2020-Q2: -12.7% for the euro area, but the slump was close to -20% in Spain and -12% in Italy and France, while it reached 11% in Germany. After an economic rebound during the summer 2020 – GDP rose by 12.6% in the euro area –, the health situation deteriorated again at the end of the year but in a less synchronised manner. While France and Italy were in recession again, German growth remained positive but decreased in the first quarter of 2021. Even if economic activity is still under the threat of new variants, the development of vaccination enables to mitigate their spread suggesting a sustainable recovery. In 2021-Q2, GDP grew by 2.2%, and was still characterised by heterogeneity among countries, which also mirrors that countries that were more severely hit now benefit from higher growth rates.

The recession was not only exceptional by its size but also by its characteristics with some sectors much more severely hurt than others, notably services involving physical interactions such as transport, leisure, restaurants and accommodation. For those services, some constraints remain, but may be expected to be progressively lifted. While most of euro area countries have not yet fully recovered from their losses, the question arises as to the impact of the crisis on prices. Inflation has reached 3% in August (Figure 1), a rapid increase since the end of 2020 when it was -0.3%. The rise is partly related to energy prices, in particular oil, which has soared from USD 26 per barrel in April 2020 to USD 70 in August 2021. However, the nature of the shock may also affect the outlook for inflation. It has indeed a demand and a supply side component that are both entailing different consequences for prices. A negative supply shock would indeed increase inflation while a negative demand shock would lead to a reduction of inflation. Besides, the price dynamics will also depend on the long-lasting supply effect of the crisis as well as on the demand dynamics in 2022. Governments have indeed taken measures to support households' revenues during the crisis through the setup of partial activity. Since consumption was largely constrained, it resulted in over-savings. In 2020, the savings rate in the euro area increased by 6.7 points. Even if it is hard to precisely estimate the amount of the additional savings resulting from the COVID-19 crisis, the accumulation of financial assets might provide resources to be spent by the end of the year and in 2022; we may expect that private consumption would remain buoyant. Such a surge in demand could fuel future increase in prices. In the short term, shortages for some products could also trigger supply side difficulties to meet this additional demand as emphasised recently with semiconductors.

This paper discusses recent inflation developments in the euro area. As the inflation rate now outpaces the ECB's medium-term target at 2%, it may become a concern for the central bank. After showing that the health crisis was unprecedented in its nature and sectoral characteristics, we study the determinants of inflation in the short term and then discuss various elements that could influence the trajectory of future inflation.

Figure 1: Monthly variations in the harmonised index of consumer prices, euro area (annualised percent)



Source: Eurostat.

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## 2. PARTICULARITY OF THE COVID-19 CRISIS: SUPPLY AND DEMAND SHOCK

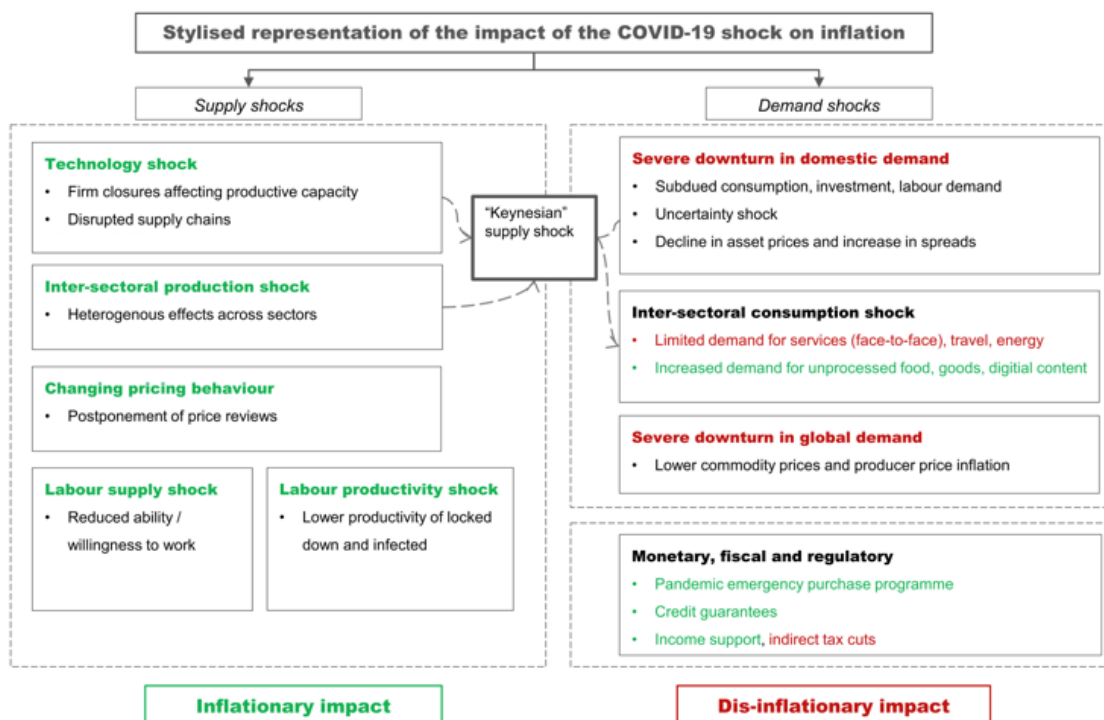
The COVID-19 pandemic resulted in a shock that differs from "an ordinary shock" in its composition and magnitude. Most economists agree that the shock has characteristics that resemble both a supply and a demand shock. A negative supply shock occurs when the economy's capacity to produce goods and services at a given price decreases, while a negative demand shock occurs when consumers' willingness or ability to purchase goods or services at a given price decreases.

The response of inflation to the health crisis and to the various measures adopted by governments has taken place through different channels.

In the first phase of the crisis, a supply shock appeared as a result of lockdown measures and successive firm closures to prevent the spread of the virus, partially interrupting production and disrupting supply chains. In this context, prices and activity varied in opposite direction and led to inflationary pressure. The labour market was also affected. Many sectors have been forced to suspend their activity in order to respect the social distancing measures (restaurants, cultural places...). Not all employees were able to work-at-home, which may have reduced the labour supply for people infected by the virus or forced to stay at home because schools were closed. The extent to which work could be done remotely thus influenced the decline in activity. Empirical studies have indeed shown that the ability to telework varies very strongly across sectors and workers (Barrot et al., 2020; Papanikolaou and Schmidt, 2020). Thus, the effect of the supply shock due to COVID-19 was stronger in sectors where telework was more difficult to implement.

Subsequently, the lockdown and the uncertainty about the evolution of the pandemic led households to reduce their consumption, thereby generating a demand shock. Some sectors have been particularly affected by the decline in demand, such as the tourism, energy and services sectors, while at the same time, other sectors such as unprocessed food, goods or digital content have seen demand increase without supply adjustment, which is creating inflationary pressure on prices. Table 1 summarises the different shocks that have impacted inflation during the COVID-19 pandemic.

Table 1: Supply and demand shocks during COVID-19 crisis



Source: Bobeica, Hartwig and Nickel (2021).

The identification of supply and demand shocks is important for understanding price dynamics. However, the assessment of the supply or demand shock in the context of the COVID-19 crisis is special because unlike an ordinary crisis where the depression in economic activity is widespread and all prices move in tandem, the COVID-19 crisis affected output and prices differently across sectors. The assessment of an aggregate supply or demand shock as suggested in the basic macroeconomic model (AS-AD) may be misleading in an application to the COVID-19 crisis and must at least be complemented by a sectoral analysis to be interpreted.

A growing number of empirical studies are being conducted in this direction, using disaggregated data to characterise the supply and demand shocks and thus determine the potential medium-term implications for the economy and provide recommendations for public policy. They find that both supply and demand dropped after the COVID-19 shock.

Using a disaggregated index of personal consumption expenditures for the United States, Sheremirov (2021) shows a positive relationship between prices and quantities at the beginning of the pandemic followed by a negative relationship in the later period, arguing for a demand shock followed by a supply shock. The recent price increase in the United States would therefore be justified by an insufficient supply linked to disruptions in the supply chain. This is particularly true for certain sectors such as the automotive industry, thus confirming its temporary nature. The question of identifying shocks also arises in the labour market. A study by Brianca et al. (2020) is conducted for the United States, using data on hours worked and wages to estimate labour demand and supply shocks. The study is conducted for the aggregate economy and for various sectors. They find that labour supply shocks account for a larger share of the decline in hours, although both shocks are notable. Overall, in the United States, empirical studies have shown that both supply and demand play an important role.

It is reasonable to assume that the same is true for the euro area, since the nature of the shock was practically identical worldwide.

A study conducted for France by Dauvin & Sampognaro (2021) identifies supply and demand shocks and evaluates their effects on value added. The identification of shocks is done using survey data, which provides information on the perception of firms on the shocks suffered since April 2020. They find that administrative closures alone explain 12 points of the decline in activity, while school closures and other supply problems (including supply problems) each explain 5 points of the decline in value added at the worst moment of the crisis. The final demand shock explains 11 percentage points of the decline in GDP observed during the worst phase of the containment.

Understanding the nature of the crisis is important for developing an inflation outlook. If the crisis is caused by a negative supply shock, inflationary pressures will appear. On the other hand, if the crisis is explained by a negative demand shock, deflationary pressures will appear as long as countries have not recovered from the crisis. While in the first phase of the COVID-19 crisis, general inflation was falling, which testifies in favour of a negative demand shock, there were nevertheless sectoral specificities where the demand shock seemed to be rather positive without supply being able to adjust directly, thus creating upward pressure on prices in these sectors. Thus, inflation in the euro area in the short term has been quite uneven across sectors. The ongoing recovery is accompanied by a rise in the general price level, explained by higher energy prices and disruptions in supply chains. This argues for a negative supply shock in the second part of the crisis. However, these supply effects are mostly temporary and should fade away after a few quarters.

### 3. RECENT DEVELOPMENT IN INFLATION: MUCH ADO ABOUT NOTHING?

In August 2021, the inflation rate in the euro jumped to 3%, thus exceeding the 2% target of the ECB, a situation which had not happened since the second semester of 2018. Yet, the objective does not suppose that inflation should always stand at 2%, but that it should be reached over the medium term, as reminded by ECB President Christine Lagarde during the 9 September 2021 press conference following the Governing Council's latest monetary decisions. It is therefore crucial not to focus on a single monthly figure but to analyse price dynamics over several quarters. As shown in Figure 2, inflation has been below 2% most of the time since 2012. The question is therefore to assess whether the recent jump is a transitory phenomenon or if it signals a risk of lasting inflation pressure. To provide some insights on this issue, it may first be useful to analyse the components of inflation during the recent period.

#### 3.1. Global trend in the inflation in the euro area and in euro area countries

The headline inflation rate often exhibits important volatility due to certain components, notably energy and food prices. The recent upswing of oil prices has mechanically driven headline inflation upward. After a sharp decrease from March 2020 to the end of the year, the energy index has bounced back and, in August 2021, the year-over-year index for energy prices grew by more than 15%.

The core inflation index enables to assess inflation excluding the most volatile components. The diagnosis is then less alarming since inflation is significantly lower, at 1.6% (Figure 2). It must yet be noticed that a surge also occurred in August since the year-over-year growth has increased by 0.7 points.

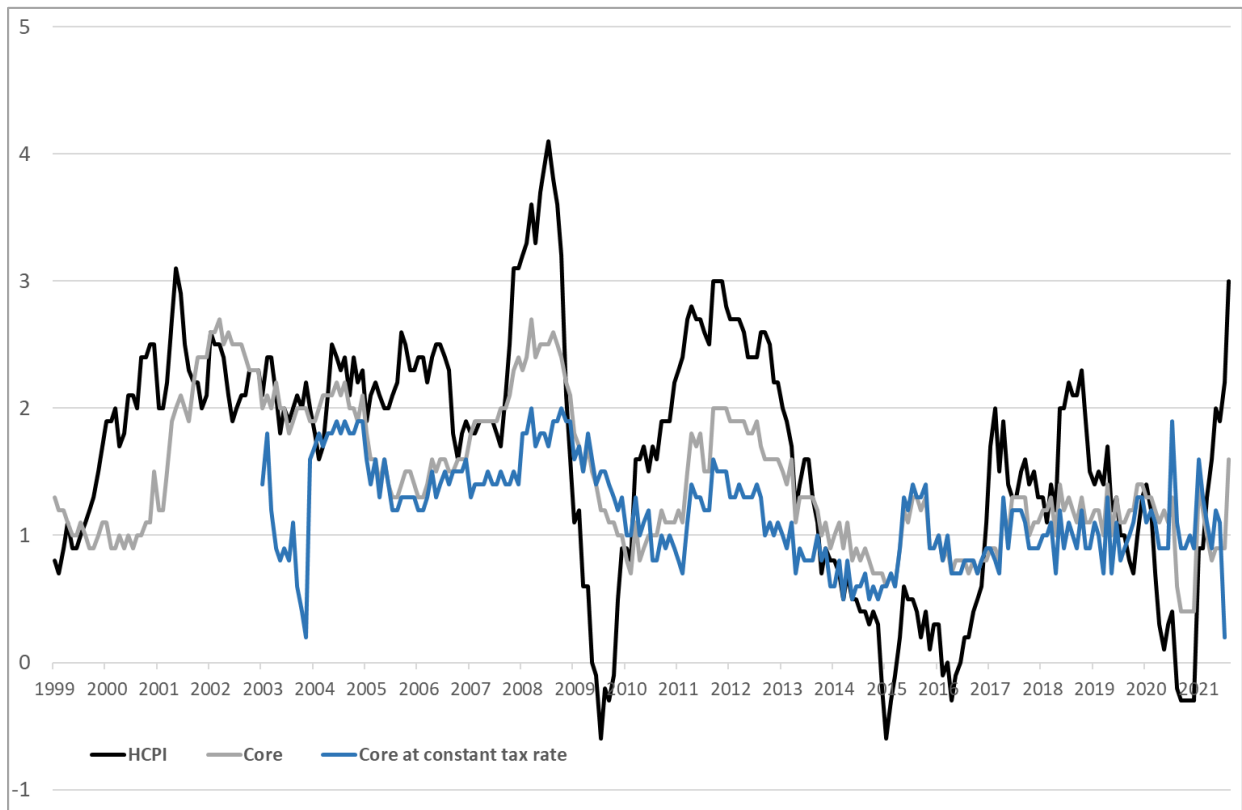
Here again, some exceptional circumstances partly explain this upswing. Germany had temporarily reduced the VAT rate in July 2020. The reduction was only applicable until January 2021. The effect of these policy decisions clearly contributes to the dynamics of inflation in Germany since summer 2020. It amplified the decrease of prices during the second semester and now contributes to fuelling inflation, explaining why it has recently reached 3.4%. Eurostat provides estimations of constant tax rate inflation rates, which may provide a better insight on the scale effects of these changes in the VAT rate. In Germany, the adjusted inflation rate stood at 0.8% in June 2020 and now reaches 1.3% (in July 2021). There may still be some base effect and it is consequently hard to precisely gauge the underlying inflation trend. It may certainly have increased but less than highlighted by the most recent figures.

As Germany represents a significant part of the euro area, this policy decision also reflects in the consumer price index for the euro area. According to Eurostat, adjusted core inflation would have decreased in July<sup>1</sup>. Here again, the picture of inflation may be blurred by base effects. However, these features suggest that we should remain cautious before claiming that inflation is back in the euro area.

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<sup>1</sup> The corrected inflation index does not only reflect the effect of the German tax cut and hike.

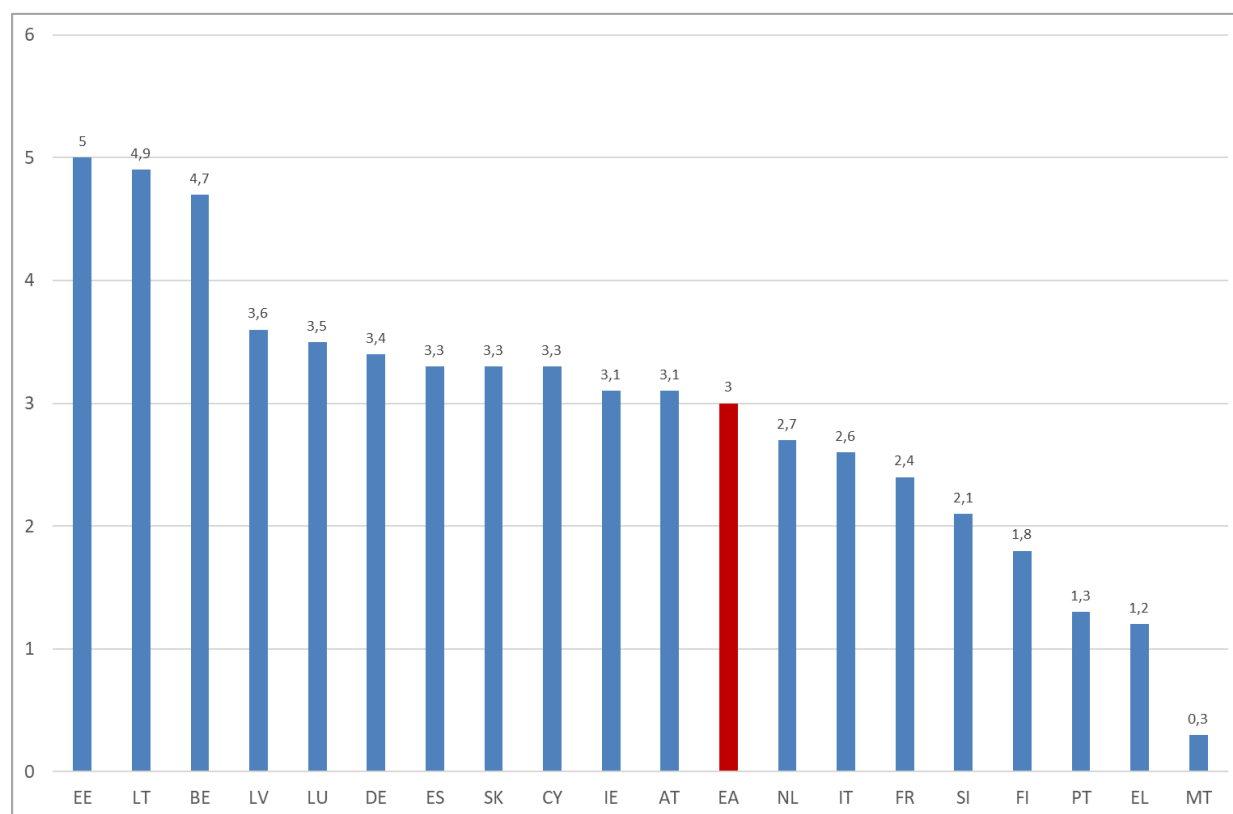
Figure 2: Inflation in the euro area (annualised percent)



Source: Eurostat.

Regarding the situation among euro area countries, we observe some significant heterogeneity reflecting policy decisions, as emphasised for instance for Germany, the weight of energy prices in the price index and the underlying dynamics of inflation. In August, the highest inflation is observed for Estonia with an inflation rate at 5% while it stands at 0.3% for Malta (Figure 3). Beyond exceptional and volatile factors, those differences do not reflect the severity of the crisis. While in 2021Q2, the Spanish GDP is 6.8% lower than its 2019Q4 level, inflation is much higher than in France where the crisis has been less severe (GDP is 3.2% lower than its 2019Q4 level). Despite a common trend related to oil prices, there is no clear signal of an inflation risk in all euro area countries. Even if countries have all been hit by the health crisis, the composition of the demand and supply shocks differ according to their industrial specialisation and to their exposure to the pandemic.

Figure 3: Inflation in euro area countries in August 2021 (annualised percent)



Source: Eurostat.

### 3.2. Inflation in the euro area at a disaggregated level

As emphasised in the previous section, the crisis is characterised by demand and supply shocks and by a strong heterogeneity across sectors. The aggregate price index may consequently capture those differences suggesting that a focus on disaggregated prices would also provide some insights into the short-term risk for inflation. To that end, we focus on a group of 40 goods and services. We may disentangle between three periods since the beginning of 2020. During the first semester, including the peak of the crisis when world GDP plummeted, inflation increased moderately in the euro area. The second semester of 2020 was characterised by the strong rebound of activity during the summer followed by a new wave of the pandemic triggering a new but milder recession. However, this period was characterised by a decrease of the inflation rate. Finally, since the beginning of the year 2021 inflation resumed.

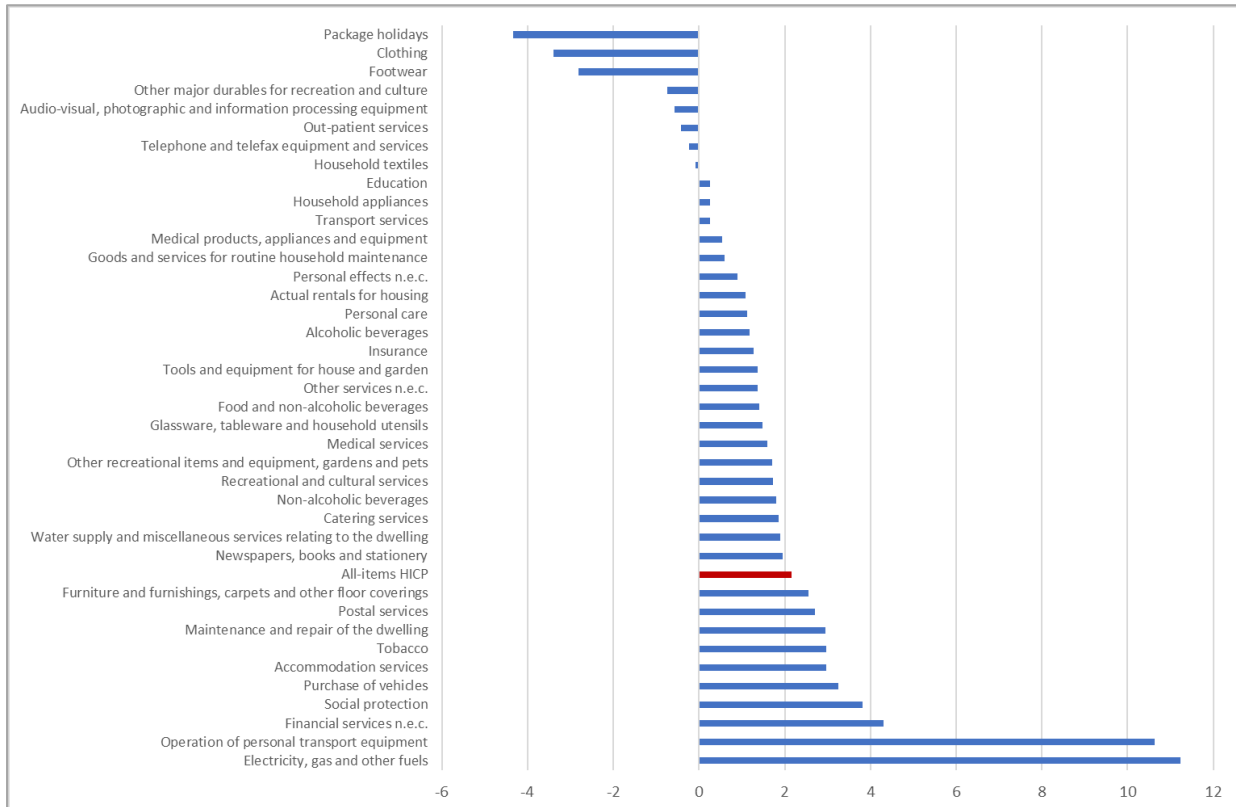
Within industrial and service sectors, we observe a strong heterogeneity. For instance, the year-over-year food price increased in 2020-S1 (semester 1) and then progressively slowed down. Price for electricity, gas and other fuels declined in 2020-S1 and -S2 (measured year-over-year) and went up in 2021-S1. Among goods, the price of clothing and footwear decreased in all semesters while price of major durables goods for recreation and culture went up. While accommodation and catering services were strongly constrained and among the most hit sectors, we also observe differences. Prices increased year-over-year for accommodation services in 2020-S1 and then declined but they increased during those three semesters for catering.

Regarding the July 2021 figures, the most important price increases are observed for electricity, gas and other fuels, operation of transport equipment whose prices rose by more than 10% year-over-year, which are related to energy prices (Figure 4). In financial services and social services, we also notice that



prices have increased by 4.3% and 3.8% respectively. This increase may not be linked to energy prices. Conversely, prices for package holidays, clothing or other durables goods for recreation and culture have decreased.

Figure 4: Inflation at a disaggregated level in July 2021 (annualised percent)

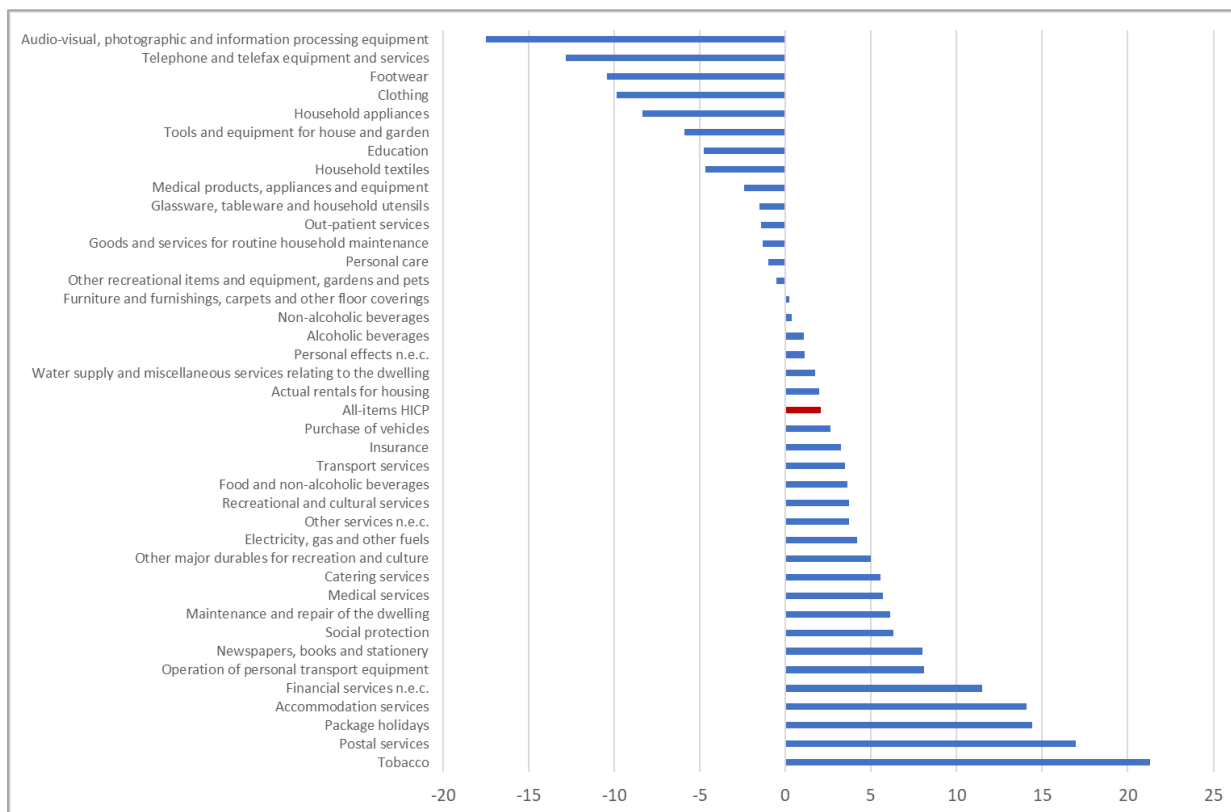


Source: Eurostat.

Considering these different stages of the crisis since its outbreak with price dynamics exhibiting periods of decrease and periods of increase, it may be useful to focus on the global change in prices since 2019-Q4 to highlight the sectors in which we observe the highest *price level* increase and decrease. Figure 5 shows that for instance, the administrated price for tobacco is 21.3% higher in July 2021 than in December 2019. Looking at the price increase since December 2019 mitigates the effect of energy prices, since the price for electricity, gas, and other fuels or for transport services increased by only 4.2% and 3.5% in that period, respectively. The most important price increase is observed for postal services, package holidays, accommodation services and financial services. There are several goods and services for which prices are below their pre-crisis level. This is notably the case for some durables goods such as audio-visual, photographic and information processing equipment, telephone and telefax equipment and services and non-durable goods (clothing and footwear).

From this disaggregated short-term perspective, it seems that price of goods has increased more moderately and are often below the pre-crisis level, with a notable exception for vehicles. Overall, the harmonised price index is only 2.6% higher than in December 2019.

Figure 5: Price increases and decreases at a disaggregated level since December 2019 (annualised percent)



Source: Eurostat.

At first sight, a look at the recent data suggests that the upswing of inflation would be mainly related to energy prices, changes in VAT tax rates and a recovery following the most dramatic yearly recession. At a disaggregated level, it seems that for most of goods, prices are often below the December 2019 level while prices for some services are higher.

## 4. INFLATION RISKS IN THE MEDIUM TO LONG TERM

The sudden rise in inflation proceeds from a long list of determinants, some of which may have longer-lasting effects on the euro area and the US economy. In the latter case, the impact on the euro area would only be indirect. However, recent US forecasts cast doubt on the duration of the surge in inflation.

Actually, in his remarks during the latest Jackson Hole Symposium this August, the Chairman of the Board of Governors of the Federal Reserve System, Mr Jerome Powell, has exposed the main inflation drivers in the US and given arguments against rising inflation risks in the US economy in the mid to long term. First, he pointed out that a limited number of products are responsible for the recent surge in inflation, notably energy prices. He also showed that spending on durable goods has recently soared, but not spending on services. Meanwhile, durable goods inflation has significantly increased and considerably more than services inflation. He continued by showing that since the mid-1990s, durable goods inflation has been negative, at an average of -2%, and he therefore forecasts that the recent surge may only be temporary, durable goods inflation turning back to its historical average after the surge of demand. Evidence of moderate wage increases in the US supports his view. As for inflation expectations, they actually move up but they remain at moderate levels, close to 2 or 3% annually at a 5 to 10-year horizon, and reverse earlier declines.

A parallel can be made with the situation of the euro area.

### 4.1. Shortages of final and intermediate goods

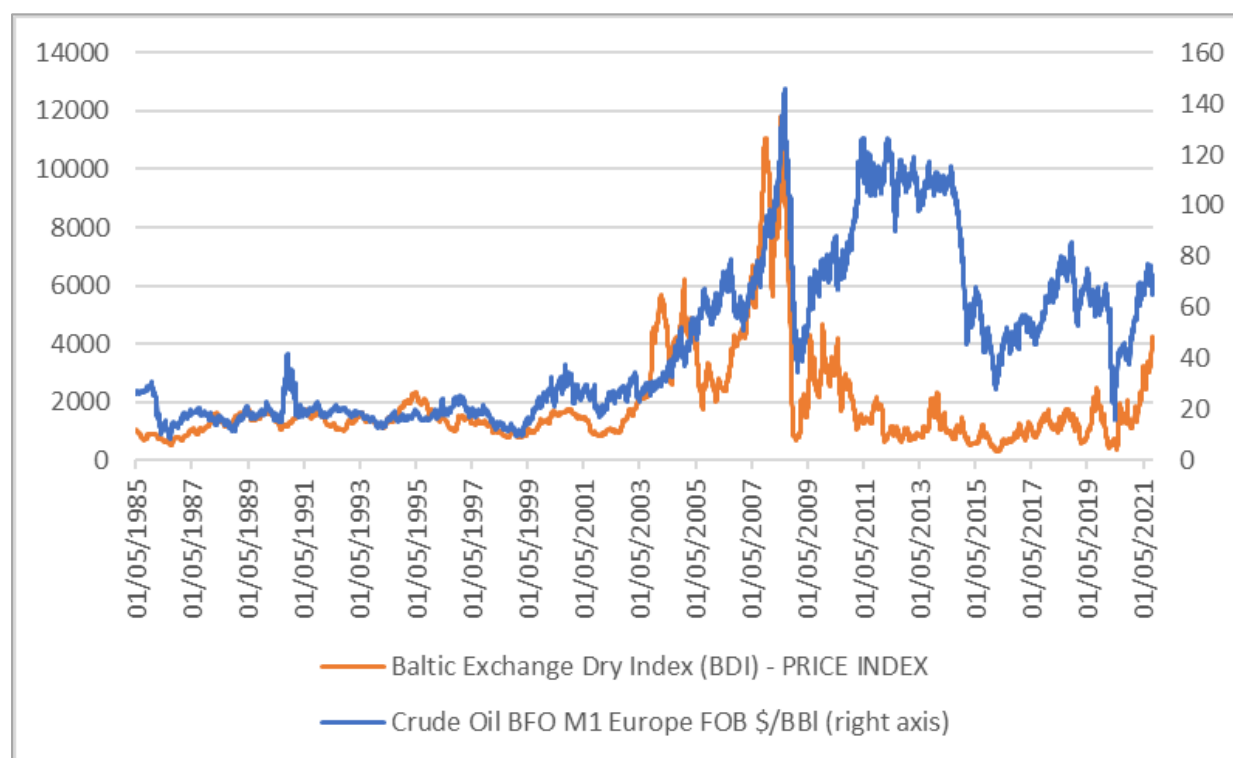
As already reported in section 2, the COVID-19 has generated disruptions in supply chains that have affected supply capacities and slowed down production. This point has been emblematically highlighted in the case of the German car industry, falling short of chips supply and being therefore partly paralysed. Part of this production slowdown may be attributed to congestion in shipping transportation, as exemplified by the recent surge in the cost of maritime freight. The latter can thus explain the increase in the price of some durable goods and raw materials. As Figure 6 shows, the Baltic Exchange Dry Index has doubled between March and August 2021, but it seems to have reached a peak, since it has been decreasing at the end of August.

In historical perspective though, the recent rise remains largely below the peak that occurred during the global financial crisis (GFC) of 2007-2009. Quite interestingly, it compares with the subsequent rise in the index that occurred during the recovery from the GFC. As reported in Figure 6, the sharp increase in the Baltic index after 2009 was relatively short-lived<sup>2</sup>.

Another important element arises from Figure 6. Except between 2011 and 2014 when there seems to have been a disconnection between the cost of shipping transportation and the price of oil, both have been highly correlated in the past, as already reported (see e.g. Hummels, 2007). On the entire sample, the correlation has been 0.33. Between 1985 and 2009, the correlation was very strong at 0.83. Since 2015, it is equal to 0.53. If correlation remains in the future, shipping costs forecasts can be approximated by oil price forecasts. In this respect, it is interesting to notice that the US Energy Information Administration (in its Short-Term Energy Outlook of September 2021) expects a decline in the Brent and WTI oil prices of 3.7% and 5.1% respectively in 2022 (compared to 2021).

<sup>2</sup> Some responsibility in the inflation surge also lies in shipping companies that are not able to adjust their supplying capacities to demand during recovery phases.

Figure 6: Cost of shipping transportation (cereals, coal, ore) and oil price  
(May 1985 – August 2021)



Source: Thomson Reuters.

## 4.2. Demand shocks ahead?

While the former inflation driver was mostly driven by the supply side, there are obviously inflation drivers on the demand side. Actually, the large fiscal stimuli prepared by the Biden administration since January 2021 have made some fear a return to high inflation (Blanchard, 2021; Summers, 2021). Ball et al. (2021) give a different view: if the unemployment rate declined to 1.5% in 2023 in the US (it is still at 6% by the end of August 2021), they forecast that (median) inflation would grow to 2.5 or 3% as long as inflation expectations remain anchored. This would remain within the limits of the average inflation targeting set by the Federal Reserve.

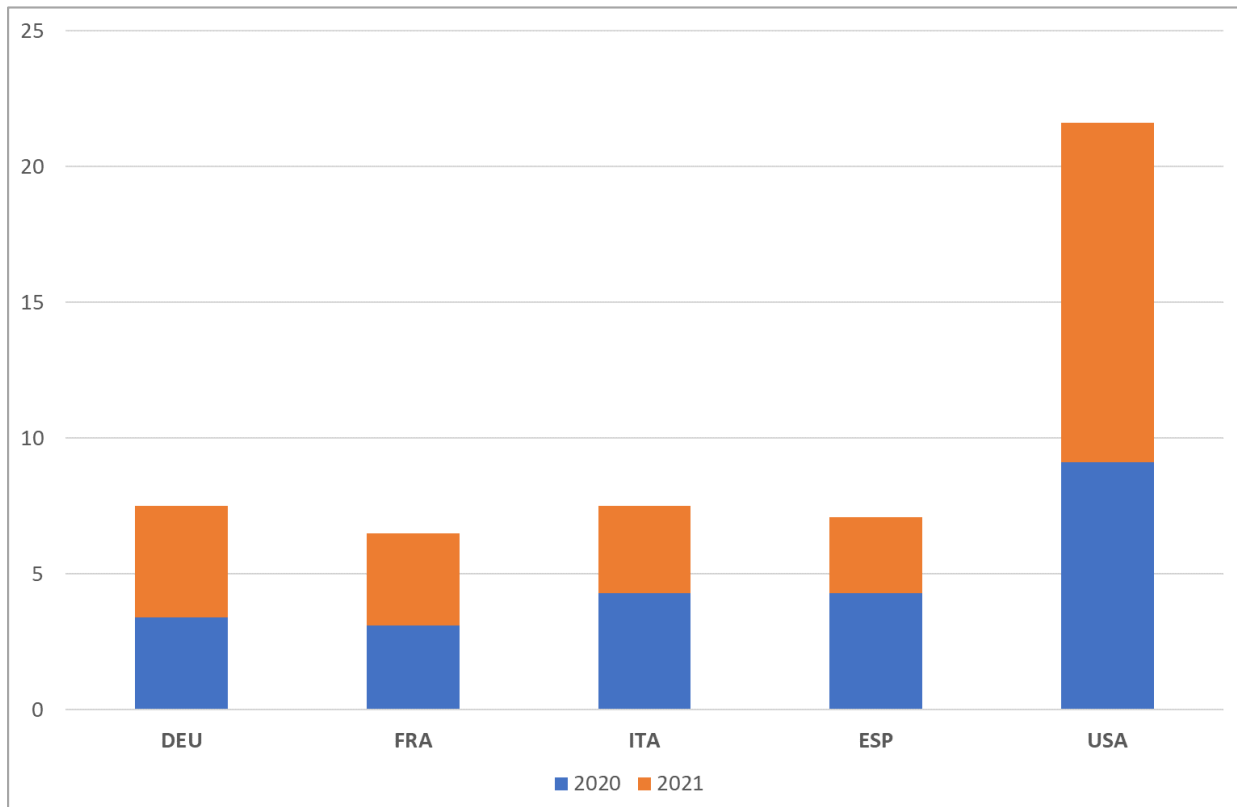
What about the euro area? Fiscal shocks since the COVID-19 crisis have been smaller than in the US (Figure 7). The cumulated fiscal measures implemented by the federal government in the US amount to 21.6% of US GDP<sup>3</sup>. Compared to the US fiscal stimulus, European fiscal measures are much more limited and represent for instance 6.5% of GDP in France and 7.5% of GDP in Italy and Germany. Higher public deficits have for their most part been oriented to the dampening of the supply and demand shocks arising from the public management of the pandemic (lockdowns, firm closures, supply disruptions, etc.). In this respect, they were more like extended automatic stabilisers than fiscal stimuli *per se*. For this reason, multiplier effects attributed to these policies are usually low (Gourinchas et al., 2021). Consequently, a risk of inflation due to fiscal policies is rather limited in the euro area. Moreover, and according to the Congressional Budget Office (CBO), the output gap of the US would become positive by the end of 2021, whereas it is still expected to remain negative in the euro area (OFCE

<sup>3</sup> This estimation only accounts for voted measures in March-April 2020, December 2020 and for the American Rescue Plan of Joe Biden in March 2021.

forecasts).

The major policy change that has occurred in the euro area since the pandemic is the creation and unfolding of Next Generation EU (NGEU). Enacted in 2020, it involves higher public spending from 2021 onwards. It is important to note that disbursements are highly predictable. The impact of NGEU on euro area inflation is rather unlikely. Not only has it not produced a substantial shift in inflation expectations so far (see below), it also involves a parallel shift of demand and potential output that should not produce a disequilibrium on the goods and services markets.

Figure 7: Cumulated fiscal measures voted by governments (in % of GDP)



Source: OFCE calculations from national sources.

Besides public finances, uncertainty remains as to the dissaving behaviour of European households. While the pandemic has been followed by sharp increases in savings, mainly from middle and top-income earners that could not consume goods and services during lockdown periods, the recovery has brought a return of consumption. There, a composition effect may arise. Consumption services, like tourism, may have decreased since the recovery because mobility limitations have remained within the European borders and also outside Europe and because uncertainty as to the intensity of the epidemic has remained high. This fettered consumption may be counter-balanced by sharper demand for restaurants, bars and durable goods. In this case, the inflation surge may last at least until consumption patterns return to their pre-crisis levels.

### 4.3. Labour shortages and wage increase?

The impact of a demand shock on inflation relates to the feature of the Phillips curve. In this respect, it also relates to the tensions on the labour market. The Phillips curve links inflation (or wage inflation) to unemployment negatively in the short to medium run. The historical curve states that the lower unemployment, the higher the inflation rate, and vice versa, but non-linearly: the cost of reducing unemployment in terms of inflation decreases with the level of unemployment. Consequently, after

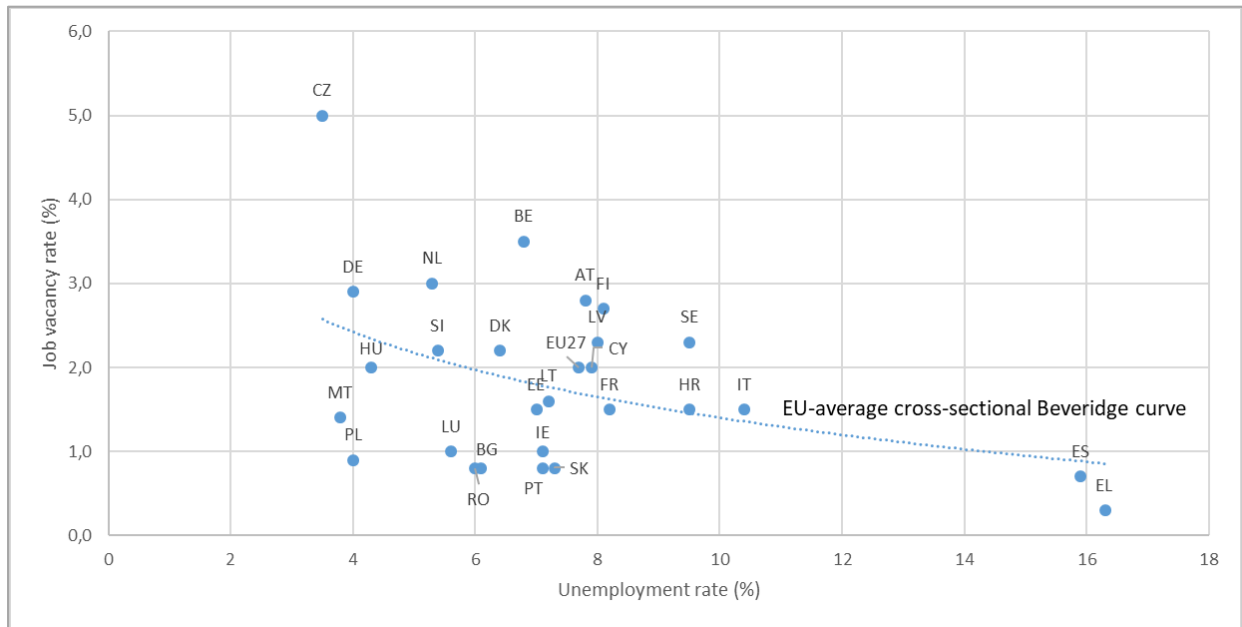
unemployment has already started to decrease, a further decline of unemployment is expected to generate higher inflation than at the beginning of the recovery.

We argued in the former subsection that the risk of inflation due to a demand shock was rather limited. This conclusion also draws on the current feature of the Phillips curve in the euro area. Recent estimates show that the inflation-unemployment trade-off remains significant but that the slope of the relationship has flattened (Bobeica et al., 2021). Consequently, the inflation cost of a reduction in unemployment is low. The flattening of the Phillips curve has many explanations, from international competition to lower trade union coverage that have both reduced nominal wage increases. Thus, second-round effects of inflation (to nominal wages) are quite unlikely.

Evidence of labour shortages in the European Union is widespread since the recovery from the pandemic (Eurofound, 2021). This phenomenon is not new: the average job vacancy rate in the EU in the first quarter of 2021 remains 0.3 percentage point below its level at the end of 2018. Labour shortages did not raise fears of inflation then.

Figure 8 depicts the relationship between job vacancy and unemployment rates in 2021. Countries with low unemployment rate tend to show (relatively) large job vacancy rate. The recovery generates higher labour demand than supply; hence, it induces more job vacancies. This relationship is known as the Beveridge curve. The EU27 Beveridge curve shows the diversity of EU Member States, some with high unemployment/low job vacancy rates (e.g. Greece, Spain) and some with low unemployment rate/(relatively) high job vacancy rate (e.g. Germany, Netherlands). All in all, there is also much deviation across EU Member States above and below the average EU Beveridge curve. The average job vacancy rate also hides inter-sectoral discrepancies, with the construction, information/communication and healthcare sectors driving up the average. These discrepancies across countries and across sectors should reduce the incidence of labour shortages as a substantial driver of aggregate inflation in the euro area. Actually, wage inflation may be limited to some sectors – those with high labour demand – and to newcomers (to attract new talents). At the macroeconomic level, it should not feed inflation substantially.

Figure 8: Beveridge points, EU27, 2021 Q1



Sources: Eurostat & CSO Ireland, authors' computations.

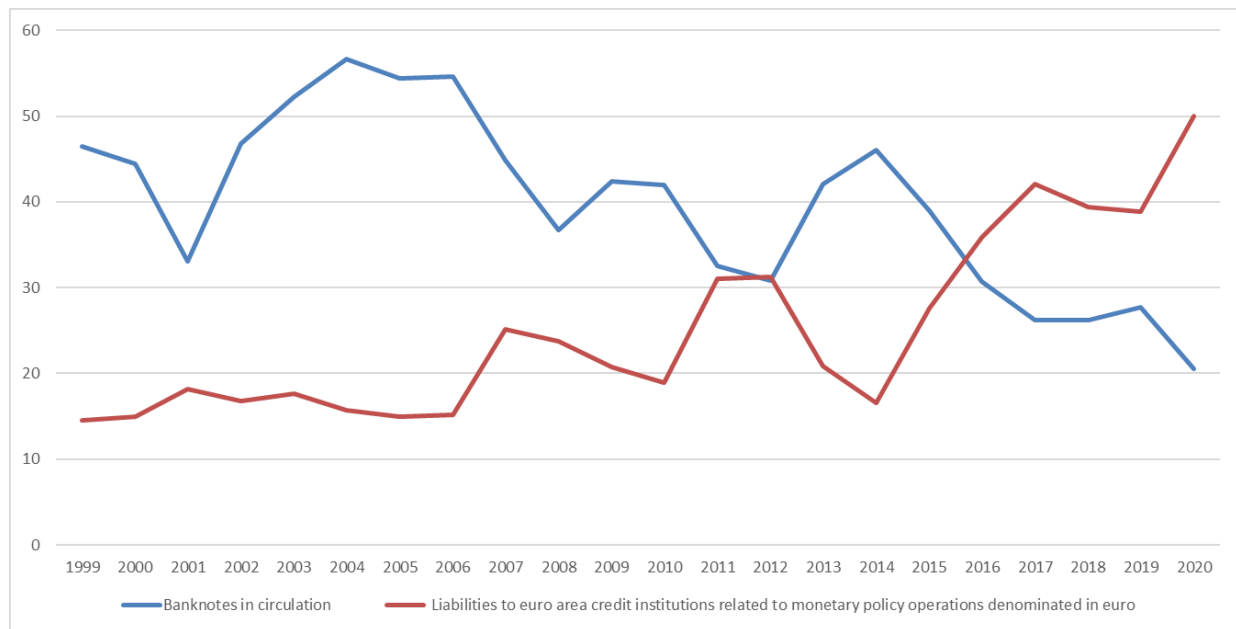
Note: Data for Denmark and France are not strictly comparable to other countries (despite similar data sources).

#### 4.4. Is inflation always a monetary phenomenon?

There has been a long tradition among the advocates of the quantity theory of money to relate inflation to rising monetary aggregates like banknotes in circulation. Meanwhile, ECB monetary policies have been very expansionary since the GFC and there can be some confusion between these policies and inflation prospects. Confusion diminishes after decomposing the ECB's liabilities. Figure 9 shows the respective shares of banknotes and liabilities to euro area credit institutions in the ECB's balance sheet. Since 2015 and the start of quantitative easing in the euro area, the share of banknotes has declined steeply while banks have constituted larger reserves at the ECB.

A lower share of banknotes when monetary policy is very active may still hide an acceleration. While total ECB's liabilities increased by 50% between 2019 and 2020 (end of the year), banknotes in circulation increased much less, but still twice their former rates at 11%. This acceleration may fuel inflation according to the quantity theory of money but at the moment, inflation expectations in the euro area remain subdued. The ECB's Survey of Professional Forecasters for the third quarter of 2021 shows that inflation expectations have been revised upward significantly but that they remain below 2% at a 5-year horizon. This is consistent with expectations for real GDP growth at 1.4% on the same horizon, after a sharp but short-lived recovery anticipated in 2021 and 2022.

Figure 9: Composition of the ECB's liabilities (in percent of total liabilities)



Source: ECB, authors' computations.

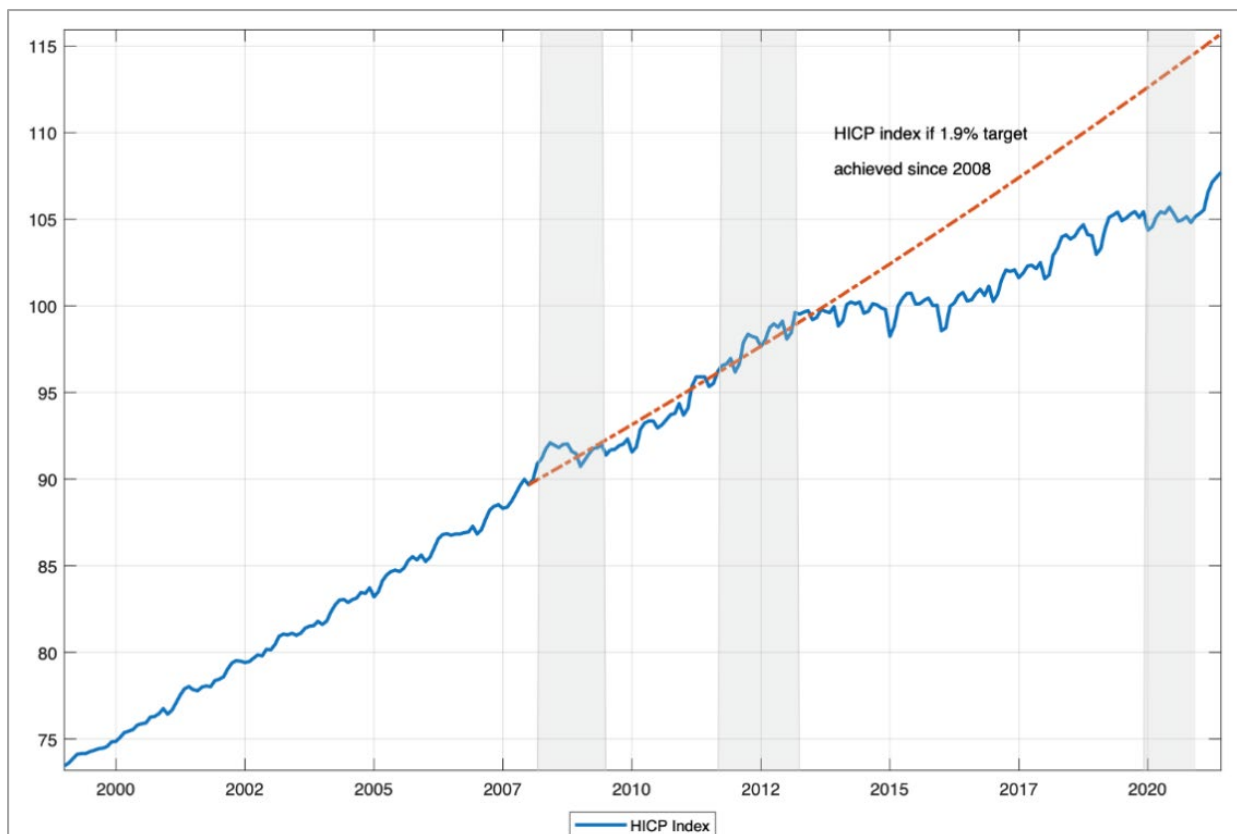


## 5. CONCLUSIONS

In this contribution, we have shown that euro area inflation in the short run was quite uneven across countries and across sectors. After negative supply and demand shocks due to the pandemic and its policy management, supply disruptions and a boom of postponed consumption have accompanied the ongoing recovery, hence a surge in inflation. Overall, the inflation rate seems under control, as exemplified by subdued inflation expectations.

To conclude with the topic, it is worth acknowledging that recent inflation does still fall short of expected price dynamics had the ECB's inflation target been achieved in the past. Figure 10 shows the harmonised index of consumer prices since 1999. While the index has risen more or less by (close to) 2% between 1999 and 2007, the index has departed from this trend since 2008. By the end of August 2021, the actual harmonised index of consumer prices in the euro area was 8% below the price index that would have been consistent with the achievement of the ECB's (old) inflation target.

Figure 10: HICP price level in the euro area and the expected price level if an annual inflation rate of 1.9% had been achieved in the euro area since 2008



Sources: Eurostat and Reichlin et al. (2021)'s calculations.

Note: Shaded areas correspond to recessions as dated by the CEPR.

Following this substantial departure from the inflation target in retrospect, a strategy of price level targeting could have been contemplated by the ECB (see e.g. Andrade et al., 2021). It would mean accepting larger inflation until the price level achieves its target. Once it would be the case, a strategy of inflation targeting could start back.

It is noteworthy that although the Federal Reserve has not yet embarked on a price level targeting strategy *per se*, it has developed an average inflation targeting strategy without a pre-determined horizon that may produce the same outcomes as price level targeting. Actually, the Fed will tolerate

long term deviations of inflation from the target and help drive inflation expectations up in the long run.

In contrast, in its review of the monetary policy strategy, the ECB has only communicated on possible transitory periods of inflation deviations from the target. While the ECB will now draw on the "symmetry of the inflation target (...) around 2 percent", where "transitory periods in which inflation is moderately above target" will be tolerated, it continues highlighting how short these deviations may be: "The Governing Council confirms the medium-term orientation of its monetary policy strategy. This allows for inevitable short-term deviations of inflation from the target". How sufficient will be this strategy to fix the deviations between inflation expectations by professional forecasters and the inflation target at 2%? Only time will tell.

## REFERENCES

- Andrade, P., Gali, J., Le Bihan, H., Matheron, J. (2021). "Should the ECB Adjust its Strategy in the Face of a Lower R\*?", CEPR Discussion Paper No. DP16042, April.
- Ball, L., Gopinath, G., Leigh, D., Mishra, P., Spilimbergo, A. (2021). "US inflation: Set for take-off?", VoxEU, 07 May 2021.
- Barrot, J.-N., Grassi, B., Sauvagnat, J. (2020). "Sectoral effects of social distancing", Covid Economics, Vetted and Real-Time Papers, No 3, Centre for Economic Policy Research, 10 April 2020, pp. 85-102.
- Blanchard, O. (2021). "In defense of concerns over the \$1.9 trillion relief plan", Peterson Institute for International Economics Realtime Economic Issues Watch, 18 February.
- Bobeica, E., Hartwig, B., Nickel, C. (2021). "The euro area Phillips curve: Damaged but not dead", VoxEU, 20 August.
- Brinca, P., Duarte, J. B., Faria-e-Castro, M. (2020). "Measuring Labor Supply and Demand Shocks during COVID-19", Working Paper 2020-011, Federal Reserve Bank of St. Louis, St. Louis, Missouri, October 2020.
- Dauvin, M., Sampognaro, R. (2021). "Dans les coulisses du confinement: Modélisation de chocs simultanés d'offre et de demande. Une application au confinement du mois d'avril 2020 en France", Working Paper 05/2021, Sciences Po-OFCE.
- Eurofound. (2021). "Tackling labour shortages in EU Member States", Publications Office of the European Union, Luxembourg.
- Goolsbee, A., Syverson, C. (2021). Fear, lockdown, and diversion: Comparing drivers of pandemic economic decline 2020. *Journal of Public Economics*, 193, 104311.
- Gourinchas, P. O., Kalemli-Özcan, S., Penciakova, V., Sander, N. (2021). "Fiscal Policy in the Age of COVID: Does it 'Get in all of the Cracks?'", paper presented at the Jackson Hole Symposium, August.
- Hummels, D. (2007). "Transportation costs and international trade in the second era of globalization", *Journal of Economic perspectives*, 21(3), 131-154.
- Papanikolaou, D., Schmidt, L.D.W. (2020). "Working Remotely and the Supply-side Impact of Covid-19", NBER Working Paper No 27330, National Bureau of Economic Research, June 2020
- Reichlin, L., Adam, K., McKibbin, W.J., McMahon, M., Reis, R., Ricco, G., Weder di Mauro, B. (2021). "The ECB strategy: The 2021 review and its future", VoxEU, 01 September 2021.
- Sheremirov, V. (2021). "The drivers of inflation dynamics during the pandemic: (Early) Evidence from disaggregated consumption data", Current Policy Perspectives 92827, Federal Reserve Bank of Boston.
- Summers, L. H. (2021). "The Biden stimulus is admirably ambitious. But it brings some big risks, too", Opinion, The Washington Post, 4 February.

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Euro area inflation reached 3% in August, a rapid increase from August 2020 when it was -0.3%. As the inflation rate now outpaces the ECB's medium-term target of 2%, could it become a concern for the central bank? After showing that the health crisis was unprecedented in its nature and sectoral characteristics, we study the determinants of inflation in the short term and then discuss various elements that could influence the trajectory of future inflation and mitigate inflation fears.

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