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The return of inflation: what are its causes and will it persist?

by F. De Sloover, J. Jonckheere and A. Stevens



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A view from the euro area and the United States

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Introduction

In many ways, the past two years have been exceptional. This is definitely true from an economic point of view: when the health crisis erupted in early 2020, governments reacted quickly and forcefully to contain the spread of the virus while also supporting the economy as much as possible to avoid long-term damage. This tough fiscal reaction was combined with a strong monetary policy response to avoid ripple effects into financial markets and to keep up credit provision throughout the economy at historically low interest rates. These measures ensured a steady recovery of demand when economies reopened after the lockdowns. As time went on, buoyant demand was confronted with supply hampered by production disruptions and logistical and transport bottlenecks leading to long delivery times and upward pressure on prices. Moreover, in some markets, supply-demand mismatches were further amplified by other, idiosyncratic factors, such as weather-related shocks. When Russia invaded Ukraine in February 2022, some energy and commodity prices got a further boost, particularly those for which Ukraine and Russia are major exporters. Since mid-2021, these rising prices have given central bankers in several parts of the world a new challenge: whereas they had been mostly concerned about excessively low inflation in the aftermath of the financial crisis of 2008, they were suddenly challenged by the emergence of a large and sudden spike in inflation rates. How to deal with this?

To what extent higher inflation will persist is an essential question for central banks with a price stability mandate, as they modulate their policy responses to the nature of the inflationary shock and the cyclical stance of the economy. If inflation is assessed to be temporary, patience is required in order not to jeopardise the recovery. Conversely, a less accommodative policy is warranted when inflation is reckoned to be more permanent and inflation expectations are at risk of becoming unanchored.

Determining the exact nature of inflationary pressures is not always straightforward. Temporary shocks can become more persistent over time. For example, even if the demand shock following the pandemic is slowly returning to normal, some supply disruptions or fears surrounding them may take longer to remove, particularly

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those related to the current conflict in Ukraine. Another concern is that, when labour markets become tight, second-round effects may emerge that trigger an upward wage-price spiral. In addition, other structural factors, beyond the scope of this article, could also be at play, such as deglobalisation, the transition towards greener energy and frictions related to the reallocation of labour between sectors, that are exerting upward pressure on some prices. Finally, global shocks interact with country-specific factors (labour market characteristics and institutions, the monetary and budgetary policy response to the crisis, etc.).

This article takes a look at recent trends in inflation in the United States and the euro area, identifying the main causes and seeking to assess how persistent the recent inflation spike will be. Wherever appropriate, the article will also specifically zoom in on the Belgian situation and compare it to that in the euro area as a whole. The last part of the article also discusses recent monetary policy decisions taken in the US and the euro area against the background of the current inflationary peak.

1. Inflation in a historical perspective

Comparing the actual inflation numbers with historical data that go back up to 2000, recent figures have reached absolute all-time records. In the euro area, total HICP inflation was as much as 7.4% in March 2022, which is the highest level since the start of the HICP index (1996). In the US, CPI inflation rose to 8.5%; the highest figure since December 1981. These extreme price increases are largely caused by soaring energy prices. The energy inflation rate hit 44.4% in the euro area in March, and 32% in the US. These figures are even higher than the 2005 or 2008 peaks.

Nevertheless, they are not only exceptional for the energy component of inflation; core inflation (i.e. inflation without energy and food) has also reached records. That has been the case in the euro area and in the US, but in the latter this was stronger. In the US, core inflation has reached 6.5% in March 2022; in the euro area it was a more moderate 2.9%. Food prices have also been accelerating strongly, although they have not (yet?) reached the levels observed in 2001 or 2008 in the euro area: they increased by 5% in March, against the peak of 6.1% in July 2008. In the US¹, food inflation levels (8.8% in March 2022) have overtaken those of 2008 (6.3% in October 2008).

In Belgium, (energy) inflation is substantially higher than in the euro area. The headline inflation rate amounted to 9.3% in March 2022, and the energy inflation rate was no less than 64.8%². The main cause is that Belgian energy inflation is more sensitive to changes in wholesale energy prices, for several reasons. For instance, the very low excise duties on heating oil in Belgium lead to a more substantial pass-through of crude oil prices to consumer prices. Also, the share of variable contracts for electricity and gas in Belgium is larger than on average in the euro area. Despite the higher persistency of the Belgian core inflation since 2012, it has been more or less in line with that of the euro area recently (3.1% in March). Even though Belgian developments will be touched upon if relevant, the remainder of this article will focus on the United States and the euro area. Belgium is actually often under the same economic context as the euro area, even though it obviously has some of its own characteristics.

All sub-components of headline inflation (energy, food and core inflation) have been on an upward path in both regions, but their contributions are different in the US than in the euro area. While strong core inflation

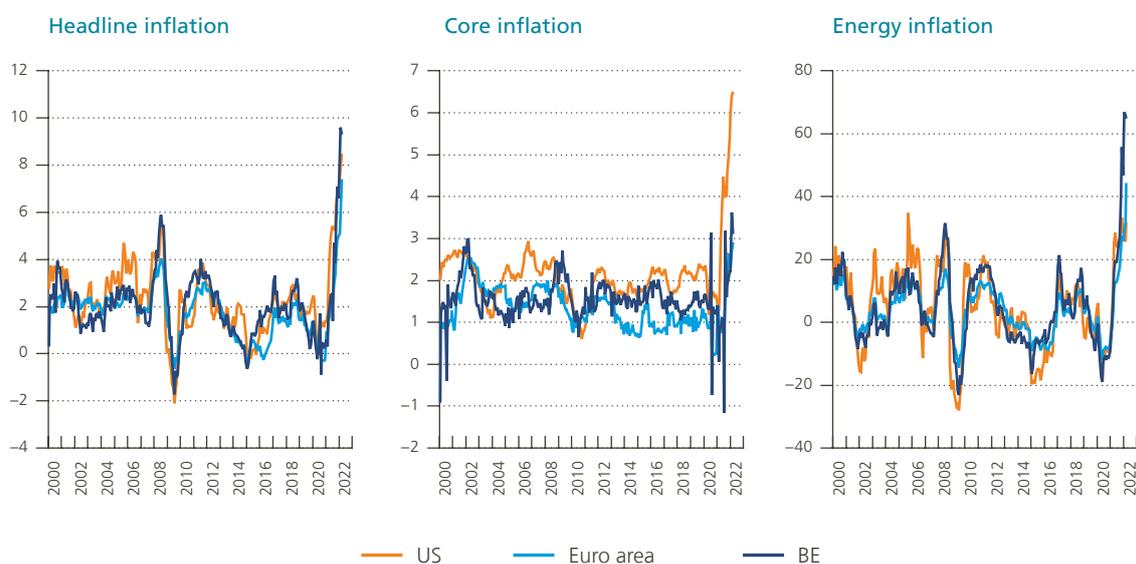
1 The concept “food inflation” according to Eurostat (euro area) is somewhat different from that of the BLS (US). For instance, for the euro area, alcoholic beverages and tobacco products are considered to be part of the total food aggregate, but “food away from home” is not (the latter falls under restaurants and bars). In the US, alcoholic beverages and tobacco products are not part of the food aggregate, but “food away from home” is.

2 In February, these inflation numbers were even higher (headline inflation was 9.5% and energy inflation was 65.9%), but the March figures are affected downwards by the VAT decline on electricity from 21% to 6%. At constant taxes, inflation would have accelerated in March with respect to February.

Chart 1

Inflation rates in the US, euro area and Belgium

(year-on-year changes of the index, in %)



Sources: BLS, Eurostat.

in the US is the main driver of the high headline inflation rate (it accounts for about 5 percentage points of the inflation figure of 8.5 % in March), high energy inflation in the euro area is still the main culprit (accounting for about two thirds of the 7.4 % inflation rate in March). All of this will be explained in detail in the sections below.

2. Causes of the recent acceleration in inflation

The causes of the recent explosion of inflation, that had already started in 2021, are multiple and many are linked to the pandemic that has raged since the beginning of 2020. For one thing, consumer demand and, consequently, prices of some goods and services dropped in 2020 due to the COVID-19 crisis, but most of them had recovered by 2021. Last year, demand also picked up to the extent that supply could not meet the higher demand, because of production disruptions and logistical bottlenecks. Moreover, in early 2022, the war in Ukraine further boosted the continuing price acceleration. This chapter sheds some light on the many factors that interplay and are still causing the current inflation explosion.

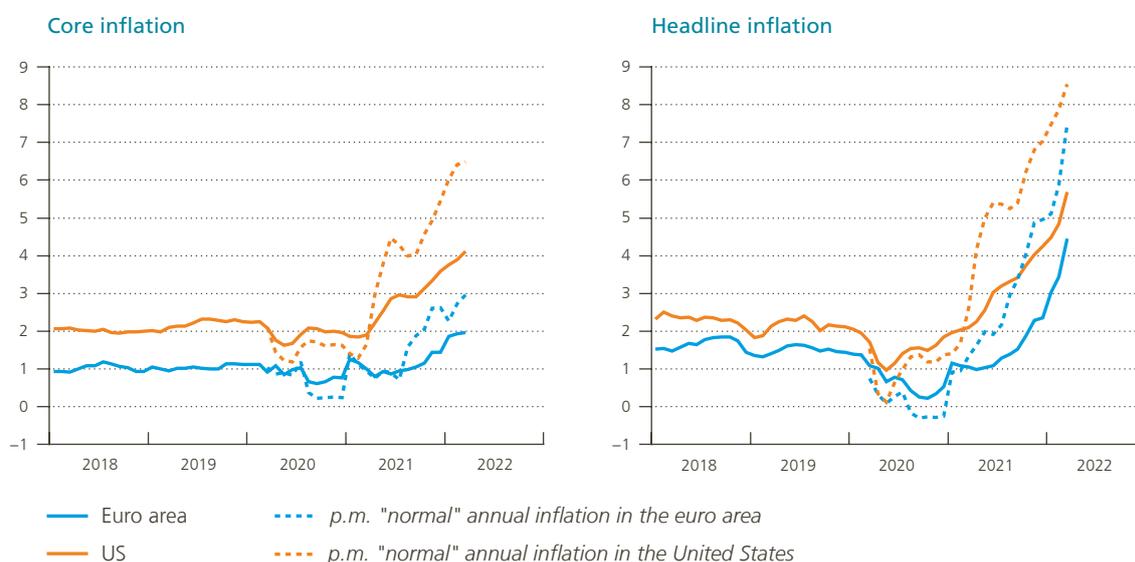
2.1 Base effects from the collapse of economic activity in 2020

Inflation numbers in 2021 were suffering from strong upward base effects as a consequence of the collapse in prices for many commodities in 2020. Given that year-on-year inflation represents the increase in price for the current month, compared with the price in the same month a year ago, and that prices were generally low in 2020 due to the COVID-19 pandemic, year-on-year inflation in 2021 was pushed up mechanically. For instance, as oil prices returned to pre-crisis levels in the spring of 2021, the low price levels in 2020 automatically fuelled year-on-year energy inflation in 2021. Filtering these effects out of headline inflation numbers would result in

Chart 2

The lower annualised two-year inflation rates in the US and the euro area as of 2021 illustrate the base effect

(change in the index compared with two years ago, divided by two, in %)



Sources: BLS, Eurostat, own calculations.

more moderate, albeit still sharply rising year-on-year growth rates. Based on a rough estimate¹, the base effect accounted for about a quarter of total energy inflation in 2021 in the euro area, and a fifth of the energy inflation in the US.

It is not only energy inflation that has been influenced by base effects; core inflation was also characterised by slow price increases in 2020. If the 2021 price level were to be compared with that of the pre-crisis year 2019, rather than the low-inflation year 2020, and the resulting price increase were to be annualised (i.e. divided by two), then US CPI core inflation would only amount to 2.7% in 2021, instead of the official figure of 3.6%. For the euro area, the same exercise would lead to a “two-year annualised” core inflation rate of 1.1% instead of the official 1.5% in 2021.

2.2 The recovery of and shift in demand ...

Besides these base effects related to the rebound of prices after their collapse in 2020, other factors were at play in pushing up inflation in 2021. The first one was the recovery of demand when economic activity resumed in the second half of 2020 and, more particularly, in 2021. On both sides of the Atlantic, total private consumption expenditure had shrunk enormously in the first two quarters of 2020 and then enjoyed a rebound. In the euro area, demand was hit a second time in the last quarter of 2020 and the first quarter of 2021, when new

¹ This estimate is based on the assumption that the “pre-pandemic price level” is the energy price level of February 2020. As energy prices had more or less returned to their pre-pandemic levels in the US and the euro area in January 2021, we have set the energy index constant at the level of January 2021 for the months February 2021 to December 2021. In this way, we calculate the fictitious energy inflation rate (= that only contains the base effect, but no further price increases) for the year 2021 and compare it with the true energy inflation rate for 2021 (that contains both base effects and the further price rises).

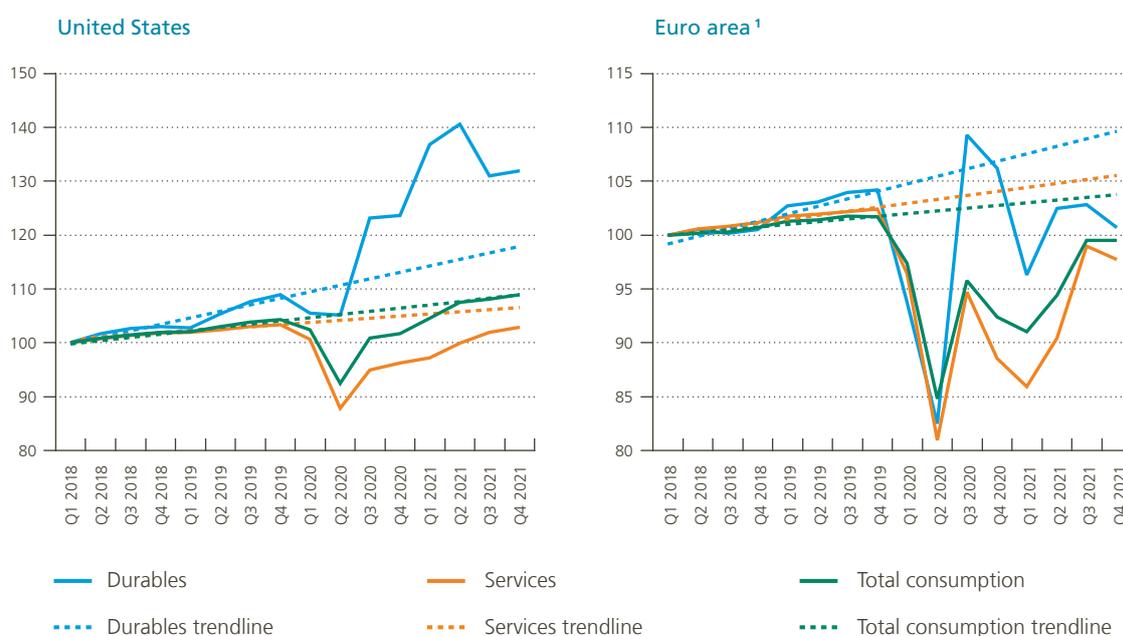
coronavirus waves resulted in renewed restrictions and drove up uncertainty, while vaccination rates were still particularly low.

The composition of demand has also changed, both in the United States and the euro area, with a stronger preference for – particularly durable – goods and less for services. Of course, part of this demand shift was “forced”, as several services were temporarily unavailable or, at least, subject to restrictions because of the pandemic. The re-opening of economies naturally did lead to a recovery of the demand for services again, but the pandemic and ensuing lockdowns mainly stimulated demand for goods that helped people to work, relax and study at home. A telling example is the strong increase in demand for telecommunication devices and equipment. Nevertheless, this demand shift was much more visible in the United States, where demand for durable goods already exceeded its end-2019 level by May 2020 and continued to grow strongly afterwards, even exceeding its pre-pandemic trend. In the euro area, demand for durable goods also surpassed its end of 2019 level by the third quarter of 2020, but quickly fell back again and did not fully recover afterwards.

Chart 3

Evolution of real total consumption and of consumption of durable goods and services in the US and the euro area

(chain-linked volumes, indices, 2018Q1 = 100)



Sources: Eurostat, US BEA.

1 Aggregates for the euro area were constructed by approximation based on volumes in chain-linked prices. Due to unavailability, the aggregate for services in the euro area does not include data for Belgium, Greece, Spain, Lithuania, Portugal, Slovenia and Slovakia.

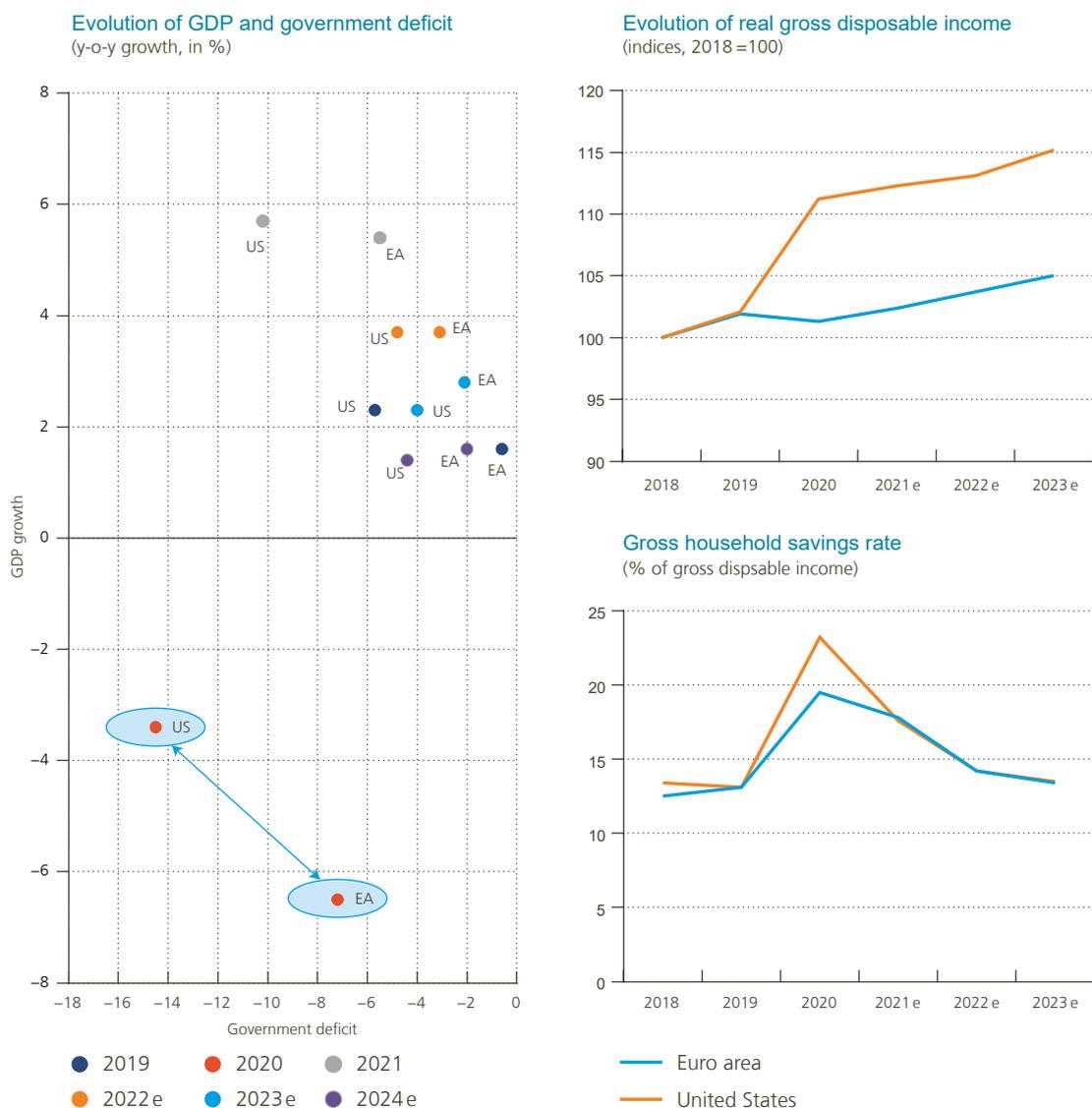
Part of the divergence in consumption patterns between the US and euro area can be attributed to the different fiscal policy response to the pandemic in both areas. The government deficit in relation to GDP growth can serve as a simple indication of the differing size of this stimulus (see chart 4). The advantage of this measure is that it not only focuses on discretionary fiscal stimulus decided by governments in response to the crisis, but also takes account of the impact of automatic stabilisers. It therefore provides a better basis for comparing countries' efforts, as these automatic stabilisers are more important for euro area countries, which have a much wider social safety net and generally larger government size.

Based on a comparison of government deficits and GDP growth, the US seems to have done much more to respond to the crisis (the US ran a budget deficit of 14.5 % of GDP in 2020, compared to a deficit of just 7.2 % of GDP in the euro area) in spite of its economy being much less affected (GDP was down by only 3.4 % in the US in 2020, compared to 6.5 % in the euro area). But it is important to bear in mind that the causality runs both ways: the larger US stimulus attained its goal by almost immediately pushing up demand more than in the euro area (particularly for durable goods), leaving total GDP less affected by the crisis.

It is not only size that matters; it is also important to point out that the fiscal measures have differed widely in qualitative terms. For one thing, some of the measures taken by the US government were chosen precisely to compensate for the lack of an extensive social safety net (such as the expansion of eligibility for unemployment

Chart 4

The differences in consumption between the United States and the euro area can be partly explained by the different fiscal impulses in response to the pandemic



Sources: EC, ECB, Eurostat, IMF, own calculations.

assistance and the temporary supplements to unemployment benefits¹). Moreover, fiscal measures were generally much more targeted in the euro area than in the United States: some measures taken in the US were barely differentiated according to income and whether households were effectively hit by the crisis or not, while most measures in the euro area were specifically targeted at households severely affected by the crisis. For instance, in the euro area, furlough schemes were extended in duration, and self-employed and temporary workers were included in them, while in the US, almost 85 % of households were entitled to the lump-sum Economic Impact Payments², regardless of their employment situation. These Economic Impact Payments thus led to a larger spike in income for lower-income (and typically lower-liquidity) households with a higher propensity to consume.

Together, the bigger size and less targeted nature of the fiscal measures in the US led to a significantly higher growth of aggregate real gross disposable income of households compared to the euro area: whereas real disposable income more or less stabilised in the euro area in 2020 (the fiscal measures thus did manage to avoid the possible negative consequences of a significant drop in disposable income), it grew by an astonishing 9 % in the US.

The marginal propensity to consume (MPC) out of this sudden increase in disposable income in the US was probably quite high. Evidence based on microdata estimates the average MPC between 25 (Baker *et al.*, 2020) and 46 % (Karger and Rajan, 2021)³. But there is large heterogeneity in the estimated MPCs according to the income level and liquidity balances of the household. Stimulus recipients who live payday to payday, for example, spent 60 % of the stimulus payment within two weeks, while recipients who save much of their monthly income spent only 24 % according to Karger and Rajan (2021). A study based on the consumer expenditure survey obtains much lower, but still significant, spending responses from the Economic Impact Payments: the aggregate response is estimated to be between 5 and 10 % (Erhard *et al.*, 2022). The spending response not only differed between households with higher and lower income and liquidity levels, but also between the periods of disbursement (April 2020-December 2020 / January 2021-March 2021), as the economic context had already changed in the meantime (Chetty *et al.*, 2021).

Tauber and Van Zandweghe (2021) examine what this rise in disposable income implies for the specific consumption of durable goods. According to their analysis, about half of the increase in the consumption of durable goods in the US can be explained by the rise in disposable household income spurred by the fiscal measures in response to the pandemic. The other half of the increase is due to a change in consumer preferences, potentially related to the aforementioned “forced” changes due to the lockdowns and coronavirus restrictions.

Of course, the rise in income was not entirely consumed; part of it was saved, invested or used to pay off debt. As shown in the right-hand lower panel of chart 4, the stimulus payments to support US households certainly also drove up their gross savings rate, to over 23 % of real gross disposable income in 2020. The monthly personal savings rate data moreover show three clear spikes in 2020 and 2021 that coincide with the payment of the three rounds of Economic Impact Payments to American households. However, by January 2022, the US personal saving rate had already returned to pre-crisis levels. Nevertheless, the gross savings rate also rose to almost 20 % in the euro area in 2020, in spite of the lack of a large aggregate increase in disposable income there, which can partly explain the more modest rebound in consumption in the euro area as well.

Considering the nature and distinctive features of the COVID-19 crisis, it is important to also bear in mind that consumer spending opportunities were severely constrained during the year 2020 (for example, far fewer possibilities to use contact-intensive services), which, together with precautionary motives and the high

1 The \$ 600-per-week supplement massively increased the value of unemployment benefits in the US between April and July 2020: 76 % of workers eligible for unemployment benefits had statutory replacement rates above 100 % during this period. The median jobless worker received benefits equal to 145 % of pre-job loss wages (see Ganong *et al.*, 2020).

2 US taxpayers qualified for the full amount of Economic Impact Payment if they had adjusted gross income of up to \$ 75 000 for singles and married people filing a separate return, up to \$ 112 500 for heads of household, and up to \$ 150 000 for married couples filing joint returns and surviving spouses. Payment amounts were reduced for eligible individuals with adjusted gross incomes above those levels. More information on the Economic Impact Payments can be found here: [Economic Impact Payments | U.S. Department of the Treasury](#)

3 There are several recent studies analysing the consumer spending response to the coronavirus Economic Impact Payments in the United States. Examples are: Cox *et al.* (2020), Farrell *et al.* (2020) and Sahn (2021).

uncertainty around the evolution of the pandemic, led or even “forced” households to save at very high levels in both regions in 2020 and 2021 and to focus their consumption on goods.

Besides the differences in the targeting and size of fiscal measures, the US was generally also characterised by less strict coronavirus restrictions and less school and workplace closures than in the euro area during the first part of the crisis¹, which affected mobility² and activity less. Chatelais (2021) estimated that differences in the degree of containment measures, along with the structure of the economy (particularly the importance of the tourism sector, also see Ferretti, 2021, and the difference in technological development), account for as much as 80 % of the 2020 GDP growth differential between the US and the euro area, with only the remaining 20 % accounted for by the different levels of fiscal support. Nevertheless, given the focus of the US fiscal packages, it seems likely that their impact was relatively larger on household consumption than on the broader measure of GDP.

2.3 ... was confronted with production disruptions and logistical bottlenecks leading to supply-demand mismatches

But the strong rebound in demand was not met by supply. Supply could not be scaled up rapidly enough in the wake of the pandemic and its consequences, in particular ensuing isolation and containment measures, which hampered production and caused logistical bottlenecks. These production disruptions and bottlenecks were caused by various factors and created increasing supply-demand mismatches throughout the year 2021 that drove prices up.

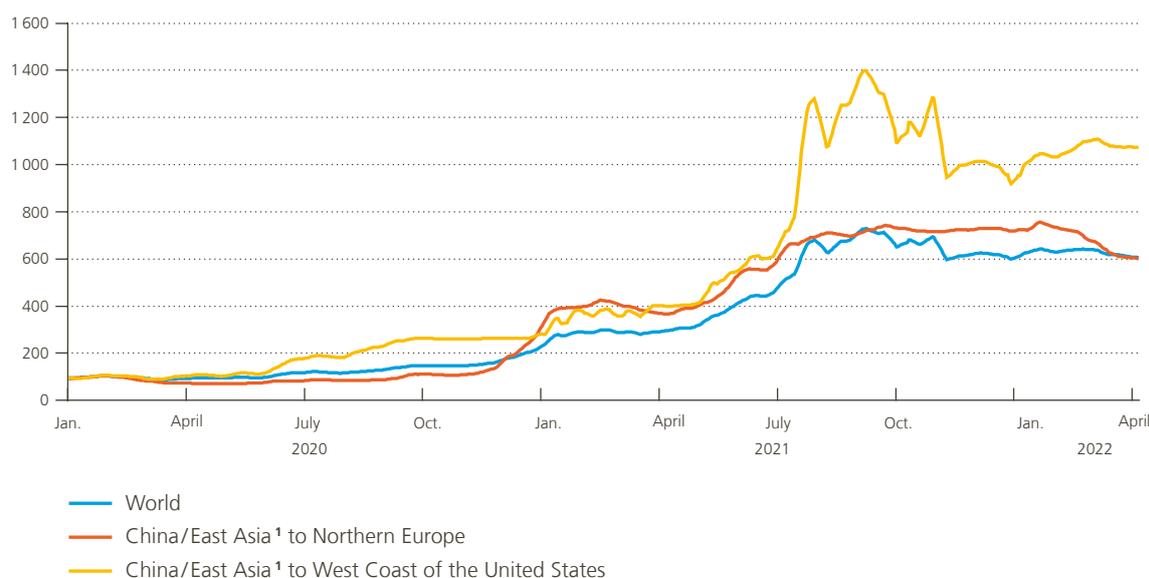
1 Based on the COVID Stringency Index from our World in Data, which in turn is based on Angrist *et al.* (2021).

2 According to the Google Mobility Index.

Chart 5

Sea freight costs have exploded as a consequence of the pandemic

(freightos Baltic indices, January 2020 = 100, 7-day moving average)



Source: Refinitiv.

1 China / East Asia includes the ports of Shanghai, Ningbo, Yantian, Hong Kong, Kaohsiung, Pusan, Kobe, Vung Tau and Singapore.

One of the most obvious reasons for production disruptions were plant closures and output reductions because of quarantined staff. Recent research by the IMF (Celasun *et al.*, 2022) indicates that these factors could explain around 40 % of the supply problems that arose in 2021. In this context, it is important to bear in mind that the “lockdowns” caused by the pandemic were not a one-off, highly synchronised phenomenon but there were large heterogeneities in the timing, intensity, and length of them between and within countries. Accordingly, the lockdowns and broader COVID restrictions have been a more or less “permanent state” since March 2020 that have also produced lagged effects on supply along the entire global value chain.

On top of this, international shipping has been seriously disrupted. According to Cerdeiro *et al.* (2022), the duration of port delays increased by roughly 25 % by December 2021 compared to pre-COVID times¹. Several factors again play a role in explaining this disruption. One of them is that the pandemic had changed the global allocation of containers (they had been shipped to places with fewer trade links to provide medical and personal protection equipment, for example). So, when demand recovered, there was a shortage of containers in certain locations. Container traffic on the route from China and East Asia to the West coast of the US was particularly affected by disruptions. The measures taken to respond to (new) waves of coronavirus infections had a strong impact there: some Chinese ports were forced to close down for several days due to COVID restrictions (the zero-COVID policy of the Chinese authorities) and several US ports were suffering from severe staff shortages due to quarantined and/or sick employees. Idiosyncratic factors such as the blockage of the Suez Canal further exacerbated global shipping bottlenecks. As a result, while global sea freight costs had been relatively stable for many years, they started to rise around the turn of 2020-2021, with an additional spike from the summer 2021 onwards.

Furthermore, supply bottlenecks were aggravated even more by the attempts of producers to build up inventories to protect themselves from these supply restrictions. This precautionary hoarding or “bullwhip effects” (Rees and Rungcharoenkitkul, 2021) only served to exacerbate shortages, particularly in more upstream industries that are part of global value chains.

These various disruptions also caused shortages in some key intermediate goods that spilled over to the rest of the production chain. Testimony to this is the shortage in semiconductors, which trickled down to the production of cars and consumer electronics, *inter alia*. Consequently, suppliers’ delivery times and manufacturers’ backlogs of work rose strongly across the economy, in particular in the US and the euro area².

All these supply problems contributed to the growing mismatch between demand and supply, which in turn gradually pushed up (industrial) producer prices. Producer price inflation in the US grew by an average 17 % year-on-year throughout 2021; in the euro area, the price hike was about 10 %. In Belgium, producer price inflation in industry was also stronger, weighing in at an average of 17 % over 2021. Celasun *et al.* (2022) estimate that, globally, about half of the increase in producer price inflation would not have taken place in the absence of supply shocks, while the other half is mostly due to the strong recovery of demand. Part of this increase in producer prices fed through to consumer price inflation. However, this transmission is very heterogenous across countries and hinges on a lot of factors, for example on the importance of goods in the CPI consumer basket and the change in retailer margins.

As supply was slowly returning to normal in early 2022, price pressures eased somewhat. Russia invading Ukraine at the end of February, however, has renewed concerns about logistical bottlenecks, this time mainly caused by uncertainty about the supply of certain commodities and energy sources. As discussed in more detail below,

1 Around two-thirds of these additional port delays were attributable to ships waiting longer at anchor before entering the port, and one-third was caused by slower cargo processing at the berths.

2 While production backlogs also built up in China and Japan, they remained lower than in the West. This difference can be explained by the fact that value chains in the US and Europe are more fragmented than in Asia (where they are organised more at regional level) and industries in Asia are generally located more upstream in the global production chains. The share of foreign value added in their manufacturing output is significantly lower than in the US or Europe. Japanese firms had also already built more resilience into their value chains (e.g. larger stocks of semiconductors) after the disastrous 2011 earthquakes.

Ukraine and Russia are, for instance, key suppliers of raw materials that are critical to chip manufacturing (neon, palladium, nickel, copper, etc.) as well as of certain food commodities like wheat and corn. The sanctions taken in response to the conflict by the US and EU also forced or encouraged certain producers to look for alternative suppliers. Moreover, the war has led to rising insurance premia for vessels destined to berth in the Black Sea region, which could further exacerbate the already high costs of maritime transport (FAO, 2022). In addition to the war in Ukraine, new lockdowns in China since March 2022, caused by the latest COVID-19 outbreak there, add to concerns that global supply problems could worsen again, particularly in the car and tech industry. As a consequence, even though pandemic-related effects seemed to have eased somewhat in the beginning of 2022, supply-demand mismatches remained unresolved in many parts of the production chain by the middle of April, which is likely to further fuel inflation in the near term.

2.4 At the same time, energy prices have been soaring ...

Energy prices have been on the rise since autumn 2020. As discussed before, part of this increase was due to base effects with prices recovering from their COVID-19 lows in early 2020. However, energy prices not only recovered, but continued to rise sharply, especially since the second half of 2021. While coronavirus-related supply-demand mismatches certainly played a role (e.g. through the postponement of maintenance work to gas and coal facilities from 2020 to 2021 which limited supply in 2021 just as demand soared), additional price rises were mainly caused by a range of other factors that coalesced into a perfect storm: a long, cold winter in 2020-2021 in the United States and North-East Asia, so that stocks were largely exhausted and frozen wells impeded production; periods of drought that limited hydroelectric production in Brazil, Turkey and California; below-average wind creating less wind-generated electricity in southern Europe; the effects of Hurricane Ida in the United States; etc.

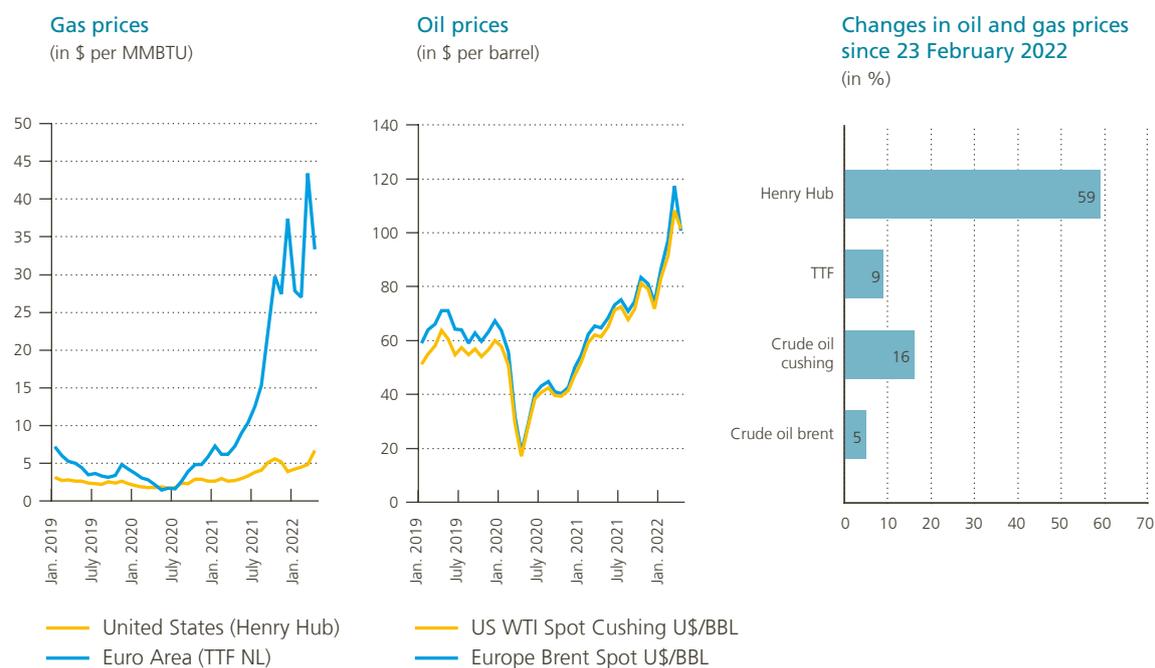
All these factors limited supply and the potential for additional production was hampered by a lack of investment in new oil and gas supplies in the years preceding the coronavirus crisis. The low market prices in that period, particularly in 2014-2015, had rendered such investment unattractive. Moreover, anecdotal evidence shows that the scheduled green transition made investors even more hesitant to put their money into “brown energies” and made the financing of investment projects in these industries more complicated.

Finally, a few factors of a more political nature also played a role in Europe in 2021. First, Russia was already unwilling to significantly step up gas deliveries to the region to make up for a shortfall in supplies from other regions, most likely motivated by the intrinsic desire to ratchet up pressure around the commission of the Nordstream 2 gas pipeline. Moreover, the increase in the price of emission rights under the EU’s Emissions Trading Scheme, which continued as planned, also exerted upward pressure on energy prices in Europe. Furthermore, since February 2022, the Ukrainian war has only exacerbated pressure on energy markets, especially in Europe. Several European countries are still highly dependent on Russia for gas, coal and oil supplies and even though the European Commission and the EU’s heads of State and government have agreed to phase out their energy dependence as soon as possible, there is no quick fix. In the meantime, and at least for as long as it continues, the war in Ukraine will continue to exert upward pressure on (energy) prices. The exact magnitude of the effect remains surrounded by significant uncertainty, as it does not only depend on the possible duration of the war, but also on any additional policy responses still to be taken.

Since the start of the pandemic, gas price rises in the US have been much more modest than in the euro area, as the Americans have a large domestic stock of gas (including shale gas production) and have generally been less dependent on Russian supplies. Nevertheless, since the outbreak of the war in Ukraine, US gas prices have also been pushed upwards by higher uncertainty in the world markets. Moreover, oil price rises have had a stronger impact on energy inflation in the US than in the euro area, which can be explained notably by the generally much lower excise duties on motor fuels in the US, which tends to generate a swifter transmission from wholesale oil prices to consumer prices. Also, the heavier weight of motor fuels and heating oil in US energy inflation makes it more vulnerable to fluctuations in oil prices.

Chart 6

A perfect storm for energy prices that was fuelled by the war in Ukraine



Source: Refinitiv.

Note: the cut-off date for the right panel was 15 April 2022.

2.5 ... and other commodity prices have also been rising, especially since the outbreak of the war in Ukraine

Other commodities have also suffered from the aforementioned supply-demand imbalances since the start of the pandemic, in some cases combined with the effects of longer-term trends such as the green transition. Prices of metals, for example, continued to steadily grow throughout 2021, while construction timber was subject to three consecutive price rallies that year and exhibited unusually volatile price developments.

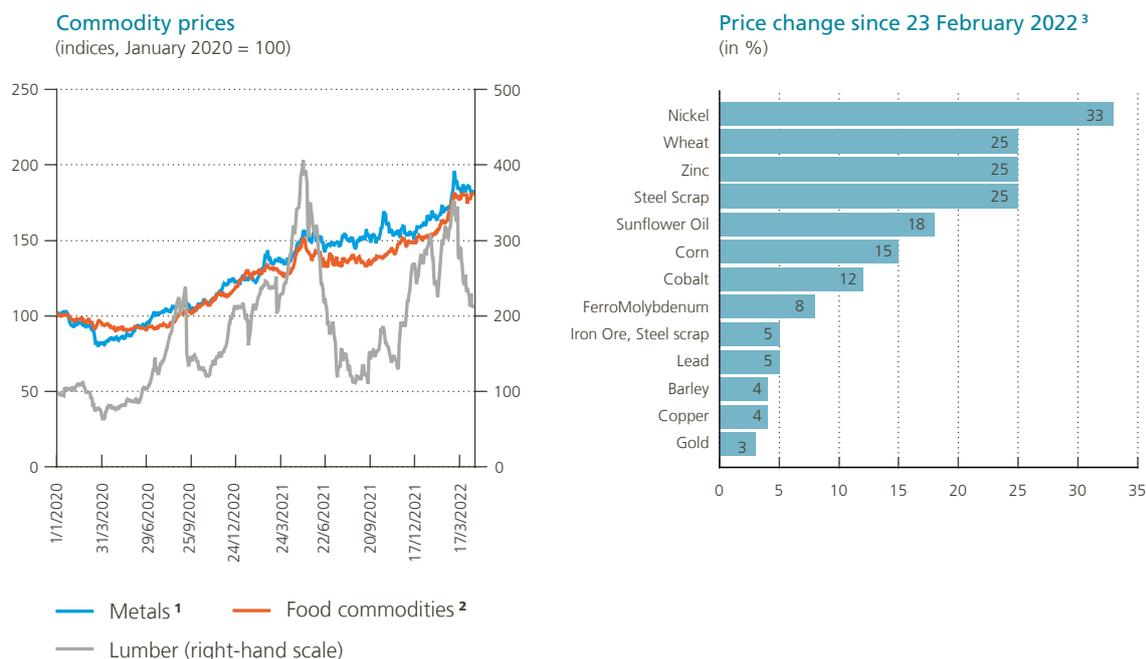
While some of the price pressures originating from the pandemic had slowly subsided by the beginning of 2022, the war in Ukraine has pushed inflation strongly up again for certain commodities, particularly those for which Russia and Ukraine are major producers and exporters. In the non-food segment, Russia is a major supplier of certain metals (such as iron ore, nickel, palladium and aluminium), but also of different types of fertilisers (together with Belarus). It also provides around 17% of all world imports of uranium. The current conflict in Ukraine could consequently turn out to constitute upward pressure on these prices for longer than expected.

In general, food commodity prices had on aggregate risen throughout the entire year 2021, except for a brief decline during the summer. Since February, the conflict between Russia and Ukraine has only added more fuel to the fire: Russia and Ukraine are large exporters of certain agricultural commodities, in particular sunflower oil, wheat, barley and corn. Ukraine and Russia together account for around 69% of sunflower seed oil and 25% of global wheat exports and Ukraine accounts for 13% of corn exports¹. Depending on how long the war lasts, whether it actually damages crops, whether harvests will be able to be reaped and whether or not it significantly damages activity at

¹ OEC data for 2019: [Corn \(HS: 1005\) Product Trade, Exporters and Importers](#) | OEC – The Observatory of Economic Complexity.

Chart 7

The rise in commodity prices has been exacerbated further since the outbreak of the Ukraine war



Source: Refinitiv.

1 The metals index consists of a weighted average of the following metals (in order of importance): aluminium, copper, zinc, lead, nickel and tin.

2 The food commodities index is a weighted average of cereals (maize, wheat, rice and barley), oilseeds and oils (soyabean meal, soyabeans, palm oil, sunflower oil, coconut oil and soyabean oil) and tropical beverages and sugar (coffee, cocoa, sugar and tea).

3 The cut-off date for the right panel was 15 April 2022.

Black Sea ports for a long time (where most of these exports leave for international trade), prices of these and other agricultural commodities could remain or come under more or less strain in the near future. Depending on how fertiliser production and exports out of Russia develop, the war could even lead to problems in food production in several other countries (FAO, 2022) during the 2022-2023 marketing season and in this way lead to further pressure on food prices in the coming year. FAO simulations show a possible additional price rise for international food prices by 8 to 22 % as the global supply gap left by Russia and Ukraine will only be partially offset by other producers.

2.6 And all of this fed through to consumer prices

The previous sections described the multiple conditions that have interplayed and led to an exceptional increase in (consumer) prices. First, the particularly low price levels in 2020 (pandemic-related) and the back-to-pre-crisis price levels as of the spring of 2021 generated mechanically high inflation in 2021 (base effects). After the worst of the pandemic slipped behind us, demand slowly recovered and shifted towards more goods, but was confronted with production disruptions and logistical bottlenecks that curbed supply. The re-opening of economies also led to a recovery in demand for services, while they were clearly also affected by rising input prices and, above all, a shortage of labour, particularly in those services involving close contact with customers.

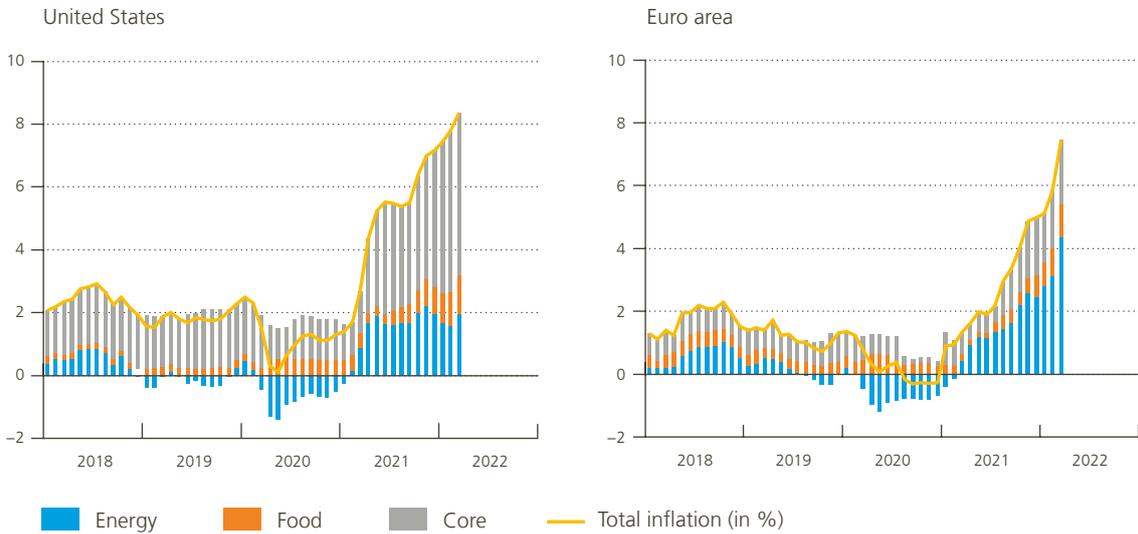
In the first few weeks of 2022, it seemed like the supply bottlenecks were easing a little, but since Russia invaded Ukraine on 24 February, upward price pressures have re-emerged. The war has pushed up energy and other commodity prices even further since its outbreak and has caused additional supply problems.

Chart 8

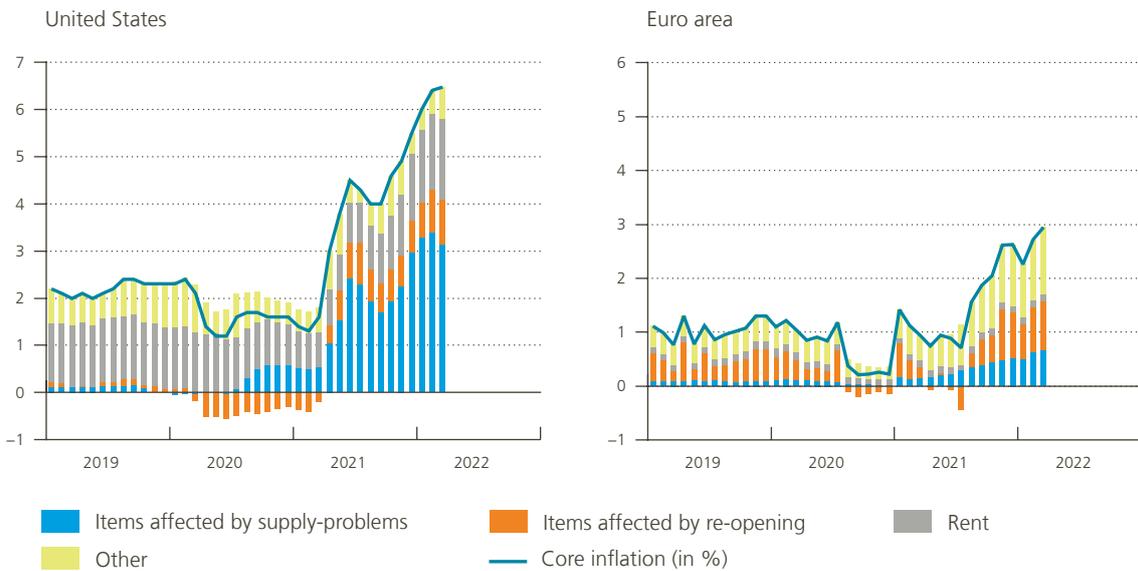
Breakdown of the headline and core inflation rate in the US and the euro area

(contributions in percentage points; inflation rates are year-on-year changes of the index in %)

Headline inflation



Core inflation



Sources: BLS, ECB, Eurostat, own calculations.

1 Data for this chart are provided by ECB staff members, as it comes from the ECB's Economic Bulletin from January 2022 (Koester *et al.*, 2022). We have updated the chart for this article. Items affected by supply-problems comprise new motor cars, second-hand motor cars, spare parts and accessories for personal transport equipment, and household furnishings and equipment (including electronics). Items affected by the reopening of the economy comprise clothing and footwear, recreation and culture, recreation services, hotels/motels, and domestic and international flight prices. Rents comprise actual rents paid by tenants – and for the United States also imputed rents for owner-occupied housing (which is why the contribution of that component is larger).

All these factors have passed through to the various components of consumer price indices (energy, food, and core inflation). In the euro area, the main contributor to headline inflation is energy, whereas in the US, the main culprit is core inflation. An important difference lies in the different consumption baskets: for instance, the weight of the category energy in the total consumption basket is larger in the euro area than in the US. By contrast, the weight of core inflation is larger in the US consumption basket than in the euro area and, on top of that, the US core inflation rate has been increasing more rapidly than in the euro area. The factors pushing up gas prices in particular have affected the euro area more, for example as a consequence of the uncertainty around gas supply that had already started in 2021 with the debate about the Nordstream 2 pipeline. The situation has worsened even more drastically with the war in Ukraine. As the US is less dependent on Russian gas, gas prices have remained more subdued there. Still, the inflation rate of motor fuels is larger in the US than in the euro area, which leads to a total US energy inflation of a similar magnitude as in the euro area.

Core inflation can be broken down into a category with items mostly affected by supply disruptions and bottlenecks (such as used and new cars, household equipment), a category mainly affected by the re-opening of the economy (mostly services, such as restaurants and bars, travelling), rent and other items (Koester *et al.*, 2022). In both the US and the euro area, the two former elements have driven up core inflation since 2021. In the euro area, the inflation generated by the re-opening of the economy has played quite a bigger role than in the US, probably related to the tougher coronavirus restrictions¹. However, in the US, the rise in core inflation has been much higher than in the euro area, notably driven by items affected by supply problems. These include mostly (semi-)durable goods; categories for which demand has been boosted strongly (and has surpassed the expected level based on the pre-crisis trend, see section 2.2). Moreover, the tighter labour market in the US (see section 3.2) has been exerting upward pressure on wages, whereas in the euro area, wage cost pressures have remained relatively subdued up to now (Koester *et al.*, 2022).

3. How persistent is the current inflation spike?

3.1 Upward price pressures are likely to remain strong in the short term

Inflationary pressures are likely to remain strong in the short term. One major source of high inflation in the coming year will be energy prices. As mentioned above, these prices have been rising since the spring of 2021, a trend that has been accelerated further by the outbreak of the war in Ukraine. As an illustration, chart 9 provides a rough estimate of the impact of the recent and expected increases in gas and oil prices on energy inflation in the euro area and the US respectively. The exercise exploits the fact that, expressed in year-on-year growth rates, Dutch Title Transfer Facility (TTF) gas prices (i.e. the reference for European natural gas prices) have a good historical fit with euro area HICP inflation for household consumption of electricity, gas and heating, while West Texas Intermediate (WTI) crude oil prices (i.e. the US oil price benchmark) relate well to CPI inflation of motor fuels and heating oil in the US². By extending these gas and oil price series with their market forecasts embedded in futures prices, a rough assessment can be made of the expected evolution of energy inflation on both sides of the Atlantic in the coming year.

Based on this simple forecasting framework, European gas prices should continue to exert upward pressure on energy inflation until mid-2023, largely because of the ongoing war in Ukraine creating uncertainty in energy supply. Looking at the situation in the United States, the upward pressure on US energy inflation coming from oil prices would fade away a bit faster, probably already by the end of the first quarter of 2023. Obviously, these predictions are very partial. For one thing, they do not take into account the measures taken by some governments to compensate consumers for a part of their rising energy costs. Moreover, energy prices in the

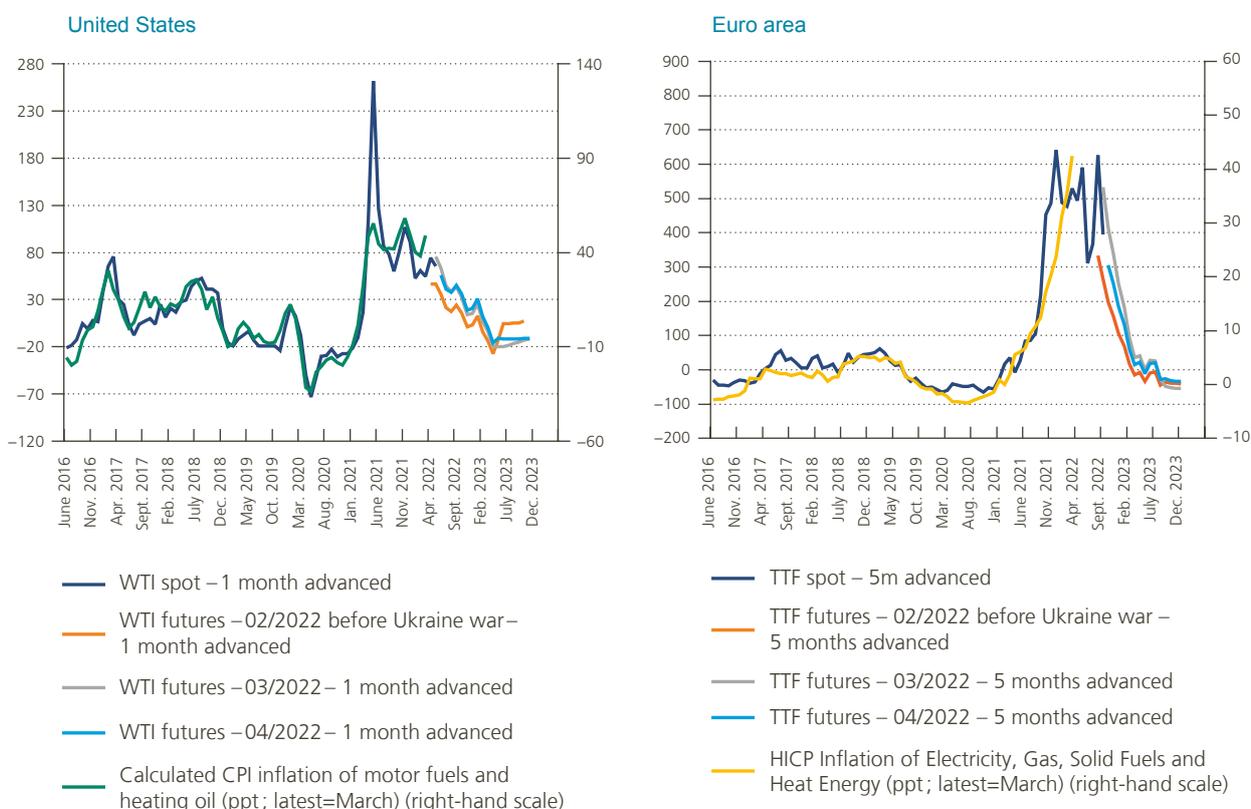
¹ For instance, restaurants and bars, hairdressers, etc. drove up their prices charged to customers after lockdowns, in order to compensate for previous losses as well as for the additional health-related precautionary measures (social distancing rules, masks, alcohol gels, etc.).

² Logically, the transmission takes some time. The best fit for the euro area is obtained when gas prices are five months advanced. In the US, the transmission is faster: crude oil prices already affect retail motor fuel and heating oil prices after one month.

Chart 9

Energy inflation expectations in the euro area and the US

(year-on-year percentage changes, monthly averages of daily prices)



Sources: BLS, ECB, Refinitiv.

euro area and the US are not only driven by the evolution of wholesale gas and oil prices respectively. That said, the enormous rise of natural gas prices is mainly a European story, while the transmission of oil prices to energy inflation is much stronger in the US compared to the euro area, thus making it obvious to focus mainly on oil prices in the US and gas prices in the euro area¹. It should also be borne in mind that the analysis is subject to high uncertainty as it is based on market expectations that can change rapidly, as evidenced most recently by the outbreak of the Russia/Ukraine war and the consequent strong upward movement in futures for oil and gas prices between February and March 2022.

In addition to energy prices, other factors that contributed to inflation in 2021 can also be expected to continue to support inflation this year. For instance, while recent survey indicators suggest that supply bottlenecks had passed their peak in the first quarter of 2022, they may continue having an impact on inflation in the coming months as they may take some time to completely unwind. In fact, according to survey data, following the global financial crisis, it took about a year for the effect of supply bottlenecks to fade out after their peak (Beckmann *et al.*, 2021). Moreover, the pandemic continues to cast its shadow on bottlenecks, as recent lockdowns in China and their impact on global value chains illustrate². Some sustained upward price pressures

1 The relative stronger transmission of oil prices to energy inflation in the US compared to the euro area is due to the fact that motor fuels account for a larger share of the consumption basket in the US and excise duties are much higher in the euro area (thus blurring the direct price transmission).

2 A renewed peak in supply chain woes cannot be ruled out. In fact, business surveys show that supply problems increased slightly again in March, with companies linking this to the war in Ukraine as well as delays from China following the latest COVID outbreak and lockdowns there (see, e.g., S&P Global, 2022a/b).

might also be expected from firms increasingly trying to pass on their higher input costs to consumer prices, as evidenced in recent surveys by S&P Global among firms on both sides of the Atlantic (see, for example, S&P Global, 2022a/b).

While all of these factors will probably keep inflation high in the short run, they are temporary in principle. Even if these factors were to push prices up permanently, their impact on inflation, which is typically measured by the change in prices from the corresponding month of the preceding year, should gradually fade out. Professional forecasters expect this fading-out to begin soon across both sides of the Atlantic. In fact, according to their short-term inflation expectations, inflation in the US and the euro area should peak in the first and second quarter of 2022, respectively, and then gradually return to the targets set by the Federal Reserve and the ECB (see chart 11, discussed further below). Today's record-high inflation figures are thus unlikely to persist in the medium to longer term.

3.2 And part of the high inflation may persist through second-round effects on wages and inflation expectations

The key question is by how much inflation will eventually fall in the long term. Indeed, even if inflationary pressures are in principle temporary, they can still become more permanent through so-called second-round effects. These can be triggered if higher inflation feeds into higher wage demands and rising inflation expectations. The longer inflation remains high, the more likely it is that workers and unions will start to ask for higher wages to preserve their purchasing power. Higher wages, however, mean higher costs for firms, which may decide to partly pass these on in their selling prices, thus triggering a second round of price rises. When higher wages and prices keep pushing each other up, this is called an upward wage-price spiral. The direct result of such a spiral is a more prolonged upsurge in inflation. In principle, however, even such second-round effects should eventually fade, given the temporary nature of the initial price increase. That is, unless persistently high inflation starts to feed into higher inflation expectations in the longer term. In that case, high inflation will not only persist for longer, but will also take on a more permanent character.

Second-round effects are generally a cause of concern, as they may not only fuel inflation but also set the conditions for inflation to spiral out of control. A well-known example is that of the Great Inflation of the 1970s and early 1980s in the US and other Western economies, when a combination of high oil prices and loose monetary policy, coupled with rising wage demands, led to ever higher expected price increases. But the current economic environment is different. In fact, after a long period of subdued inflation, limited second-round effects that induce a certain 'stickiness' of the current high inflation may even prove to be welcome. More specifically, over the past decade, inflation in both the US and the euro area has on average persistently been below their respective central banks' inflation targets – now set at 2% on both sides of the Atlantic, but defined as "below but close to" 2% by the ECB before its strategy review in July 2021. As a result, firms and households decoupled their inflation expectations to below target rates. Therefore, some sustained increase in inflation and associated uptick in inflation expectations may help the Fed and the ECB to bring inflation expectations back to target and thus achieve their inflation goals in a timelier manner.

Consequently, while there is a case for central banks temporarily letting inflation overshoot their targets to trigger moderate second-round effects and help anchor longer-term inflation expectations, such an approach requires a delicate balancing act. Too stubborn a rise in inflation above its target could generate excessively large second-round effects, which could then swing the pendulum to the other side, leading to a further upsurge in inflation and inflation expectations overshooting the target. In this case, instead of helping to re-anchor inflation expectations to target, second-round effects would lead to high inflation becoming entrenched, thus actually switching the sign of the de-anchoring.

The chances of second-round effects materialising depend to a large extent on labour market tightness. After all, the harder it is for firms to fill their vacancies, the more workers and trade unions will feel emboldened to step

up their wage claims when faced with rising prices. Therefore, in what follows, we first chart recent labour market dynamics before assessing their potential to trigger second-round effects and whether that is going to help anchor or rather persistently raise inflation expectations in the future.

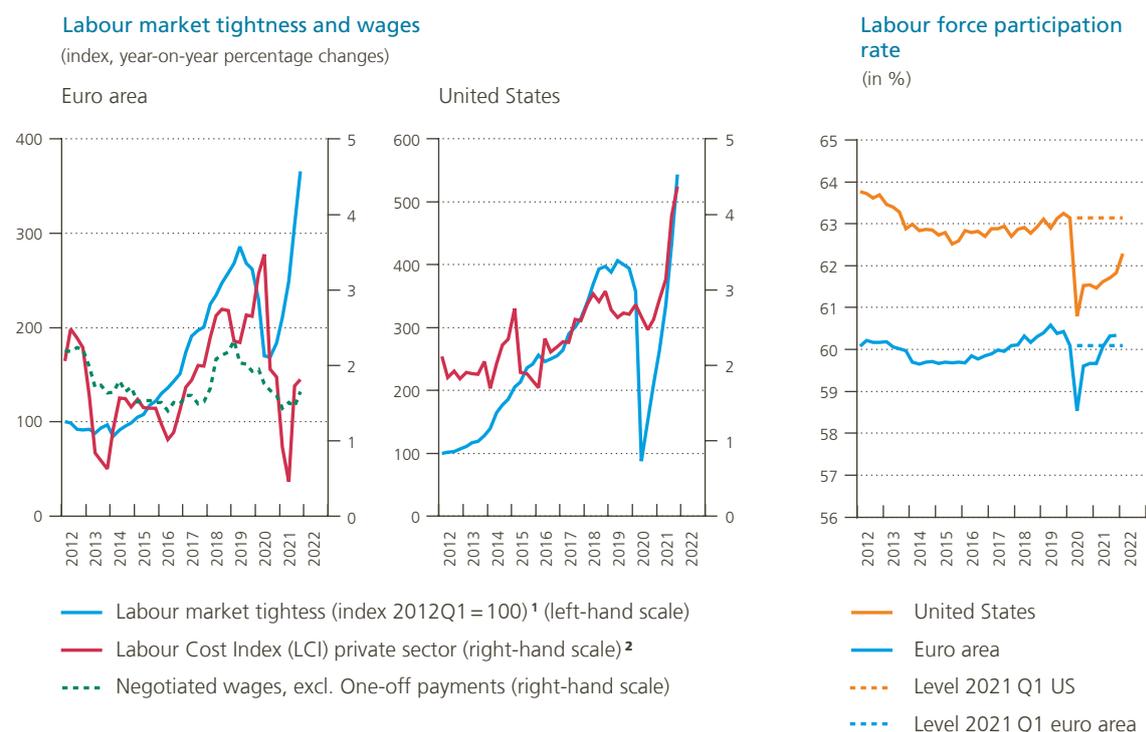
Increasing labour shortages (are set to) increase wage pressures

As the US and euro area economies recovered from the coronavirus shock, their labour markets have become significantly tighter. The number of job openings has been rising steadily and unemployment continues to fall. Hence, the number of vacancies per person unemployed has risen to record levels across both sides of the Atlantic. In the US, this growing labour tightness is clearly already accompanied by rising wages: the labour cost index points to annual wage growth of around 4.4% in the last quarter of 2021, compared to only around 2.5% before the crisis. This contrasts sharply with the euro area, where wage pressures have so far remained quite subdued. However, the recent evolution of the labour cost index is more difficult to interpret here, as it is distorted by crisis measures¹. That being said, wage growth in the euro area seems at best to have returned to its pre-crisis level: i.e. annual growth of about 2.5%. Moreover, wage growth rates derived from measures

¹ The large-scale adoption of job retention schemes in the euro area in the immediate aftermath of the COVID-19 pandemic outbreak distorted conventional wage indicators, including the labour cost index. For instance, hours spent on furlough do not count as hours actually worked. As a result, hours worked fell during the 2020 spring lockdowns, which, rather counter-intuitively, pushed hourly labour costs up. As the economy recovered and more hours were worked again, the reverse effect occurred, leading to a sharp reversal in the year-on-year growth rates of hourly wage costs in Q2 of 2021.

Chart 10

Labour market and wage developments



Sources: BLS, ECB, Eurostat.

¹ Labour market tightness is measured as vacancies over unemployment. For the euro area, the aggregate number of vacancies is not available; data from a number of countries such as Italy and Austria are missing. Countries for which no vacancies are available were also excluded from the unemployment figures. The euro area labour market tightness is thus an approximation.

² Labour costs are defined as core expenditure borne by employers for the purpose of employing staff. They include wages and salaries as well as employer costs for employee benefits. For the US, the index covers workers in the private nonfarm economy (except those in private households) and workers in the public sector (except the federal government).

of negotiated wages – which have been less affected by government support schemes – remain so far below pre-crisis levels, although these are also on the rise.

The apparent decoupling between labour market tightness and wages in the euro area might seem puzzling. However, this observation is likely flawed and the result of two specific factors that make the labour market appear tighter than it really is. First, job-retention schemes have been much more adopted in the euro area during the pandemic crisis than in the US. But workers on furlough are not classified as unemployed in official statistics, meaning that, on average, the euro area unemployment rate painted too rosy a picture of the labour market situation during the pandemic and recovery. Second, on both sides of the Atlantic, many people left the labour market at the beginning of the crisis¹, which led to a sharp drop in labour market participation. However, while in the euro area, many dropouts returned quickly, in the US, the pandemic lowered labour force participation on a more structural basis, due for instance to elevated health concerns, a surge in early retirements and reduced incentives to work (Domash and Summers, 2022). This difference means that, in contrast to the US, vacancies in the euro area have so far been filled relatively more easily and quickly, thus containing actual labour shortages and preventing widespread wage rises.

While these developments explain why wage developments in the euro area lag behind those in the United States, there is every reason to assume that in the euro area the labour market has by now also largely run out of spare capacity. First, people who now remain in a job retention scheme may be more difficult to reintegrate into the labour market. This is because these are often people who work in sectors more structurally affected by the pandemic and who need to reorient themselves to get employed again. Moreover, in the closing quarter of 2021, the labour market participation rate in the euro area had already returned to its pre-pandemic level, which means that job vacancies will now be harder to fill with temporary job leavers returning. All this suggests that, with further increases in labour demand, wage growth in the euro area may soon be heading upwards as well.

OECD forecasts from the end of last year (OECD, 2021) support this view of accelerating wages. More specifically, the OECD estimates that wages in the euro area will rise by about 3.5 % on average per year over the next two years. This clearly implies an acceleration compared to the average growth of roughly 2.5 % per year recorded before the crisis. Despite this acceleration, wage pressures are expected to remain more moderate than in the US, where wages are expected to rise by 4.4 % per year over the next two years. That said, average wage numbers in the euro area mask some important differences in wage dynamics between countries (see the box 1 below for the Belgian case).

¹ For instance, some workers close to the retirement age who were still at work before the pandemic decided to leave the labour market earlier as a consequence of the pandemic.

Automatic wage indexation leads to faster wage adjustments in Belgium

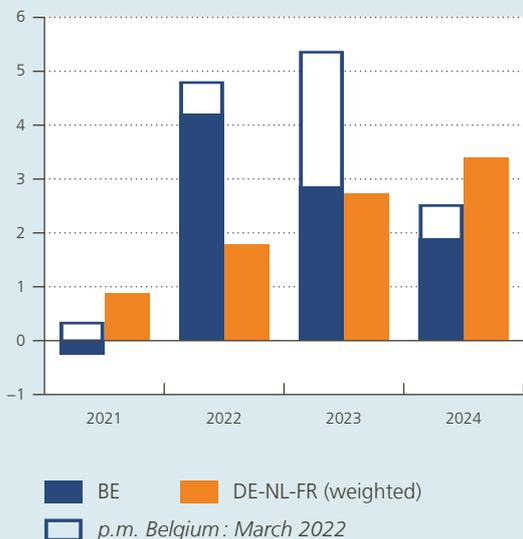
Inflation passes through to wages automatically in Belgium through a wage indexation system based on the health index¹. In the private sector, the pass-through happens on average with some time lag, as different indexation mechanisms apply depending on the joint committee (once a year, every quarter, based on a threshold index being exceeded, etc.) while, in the public sector, wages rise two months after a threshold index is passed by a 2% increment. Given that electricity, gas and heating oil are included in the health index, the benchmark for indexation is currently rising strongly.

This implies that wage costs are rising significantly in Belgium. In December 2021, the increase was projected to be 4.2% in Belgium, mainly on account of the indexation component, against 1.8% on average in our neighbouring countries. In these countries, social partners have to negotiate nominal

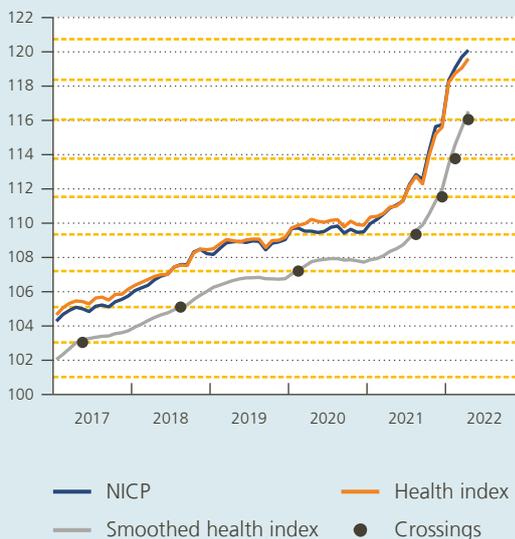
¹ The health index is calculated from Belgium's national consumer price index excluding alcoholic beverages, tobacco products and motor fuels.

Wages will go up faster in Belgium than in our three main neighbouring countries

December 2021 Eurosystem staff projections of hourly wage costs in the private sector in Belgium and its three main neighbouring countries



Pivotal index has been crossed multiple times recently in Belgium



Sources: ECB, INA, NBB, Statbel.



wage growth which means that inflation pass-through takes more time. Consequently, wage growth in the neighbouring countries is expected to peak only towards 2024 (i.e. the end of the forecast period). According to an exceptional forecasting exercise that the NBB conducted in March 2022 in order to take into account the effects of the Russian invasion in Ukraine, wage costs in Belgium should increase even more than foreseen in December, due to higher-than-expected inflation rates. For instance, they should further accelerate to 5.4% in 2023. Wage costs will most likely be revised upwards in the neighbouring countries as well, but an updated assessment was not yet available at the time of publication of this article. In any case, inflation should be further affected upwards by so-called second-round effects of the inflation-rate-adjusted wage costs in all countries, but this mechanism is particularly fast in Belgium.

Although the automatic wage indexation provides a good protection of household purchasing power, it could pose a risk to Belgium's competitiveness in the short term. The risk of a more permanent and uncontrolled upward wage-price spiral is curbed by two factors. First, the (wage) cost pressures are typically partially absorbed by firms' profit margins. Consequently, wage costs fluctuate much more than (core) inflation does. Second, the 1996 Law on Competitiveness and Employment is designed to prevent Belgian wage costs from derailing from those in the three main neighbouring countries. The amendment to the Law in 2017 added a correction term to the calculation of the maximum available wage margin which limits the margin for real wage rises in Belgium should a wage gap with the three neighbouring countries remain or open up. This clause should ensure that the potential loss of competitiveness in 2022 in terms of hourly labour costs will be compensated over the period 2023-2024 through a limitation of the available room for real wage rises in Belgium.

And modest second-round effects are likely: contributing to a welcome re-anchoring in the euro area, while risking excessively stubborn inflation dynamics in the US

The potential for these strengthening wage dynamics to bring about second-round effects critically depends on developments in labour productivity. If wages rise 5% but productivity also improves by 5%, then firms can afford to pay higher wages without needing to pass on the cost increases to consumers. In other words, rising wages risk triggering a second round of price increases mainly if they are not accompanied by matching productivity gains. A rough benchmark of the expected pass-through from wage to price inflation can thus be obtained by subtracting trend productivity growth from nominal wage growth (i.e. the change in so-called unit labour costs). According to this benchmark, the projected pick-up in wage growth could keep inflation above the 2% target in both the US and the euro area over the next two years, with unit labour cost growth of up to 2.5% and 3.1% respectively¹. However, it is important to bear in mind that these figures likely present maximum pass-through effects, as (wage) cost pressures are typically absorbed partially by firms' profit margins.

¹ These benchmark figures are based on the simplifying assumption that productivity growth remains constant at its average levels observed since 2010, i.e., about 1% for the euro area and 1.3% for the US. Together with expected annual wage growth of 3.5% in the euro area and 4.4% in the US, this therefore implies an increase in unit labour costs of 2.5% and 3.1% respectively.

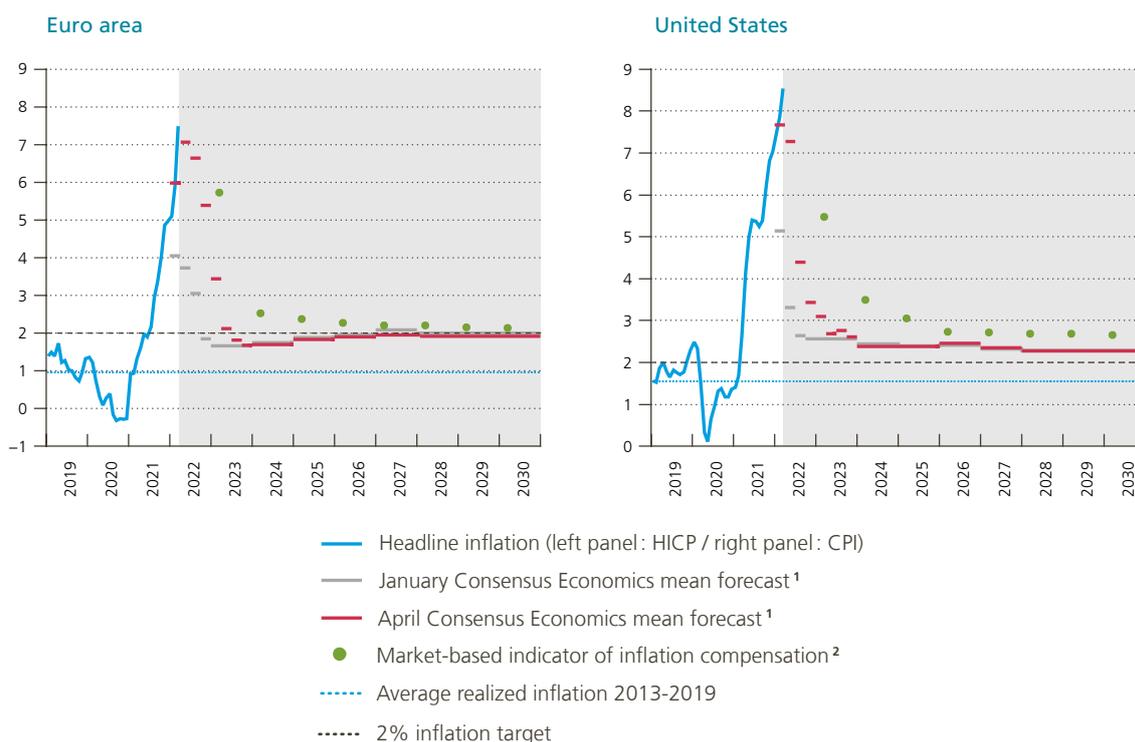
Currently expected wage developments may therefore contribute to modest second-round effects, but they could be big enough to keep inflation above target in the near term. That picture is corroborated by market-based and survey-based measures of inflation expectations, which show inflation remaining elevated across both sides of the Atlantic this year and next. Looking further ahead, second-round effects are expected to exert a more permanent impact on inflation as well, albeit more so for the US than for the euro area. More specifically, inflation in the euro area is expected to fall gradually back to 2% in the medium to long term, well above the pre-crisis trend of only 1%. In the US, inflation is even expected to settle at a level exceeding the 2% target. On a positive note, the war in Ukraine so far does not seem to have increased the risk of persistently higher inflation, as the additional short-term inflationary pressures from the war are not mirrored in higher longer-term inflation expectations.

All in all, this evidence suggests that high inflation is becoming entrenched in the US and thus likely to settle above the 2% target in the medium to long term. In contrast, in the euro area, evidence still tends to point to a welcome re-anchoring effect, making inflation more likely to remain close to the inflation target in the longer run.

Chart 11

Survey- and market-based measures of inflation expectations

(year-on-year percentage changes)



Sources: ECB, BLS, Consensus Economics, Bloomberg.

1 The January (April) inflation outlook from Consensus Economics shows quarterly inflation forecasts for 2022 (and 2023) and annual inflation forecasts for the remaining period. The cut-off dates for the April forecast are 11 April and 14 April for the short-term quarterly and longer-term annual projections, respectively. In the January forecast, the cut-off date for the annual inflation projections beyond 2024 is 10 January, while the quarterly and annual projections for 2023 and 2024 were updated with the monthly consensus update of 7 February to best reflect the situation before the Russian invasion of Ukraine on 24 February.

2 The path of market-based indicators of inflation compensation is based on the one-year spot inflation-linked swap (ILS) rate and the one-year forward ILS rates one to seven years ahead. The figures shown are averages for March 2022.

3.3 Monetary policy has reacted accordingly

The rapid surge in inflation since mid-2021 has confronted central banks of both the US (Fed) and the euro area (ECB) with a new challenge: whereas they had been mostly concerned about “too low inflation” in the past decade, they now need to weigh up the risk of ever-faster inflation increases if they keep their monetary policy too loose for too long against the risk of choking the recovery if they normalise their policy too quickly.

By the end of last year, the economic recovery was judged to be sufficiently advanced for monetary support to be withdrawn gradually. However, the different inflation and business cycle context has led the Fed to “take its foot off the gas” faster and more decisively than the ECB. As discussed before, not only were inflationary pressures higher in the US than in the euro area, but this also implied a bigger risk of longer-term inflation expectations getting stuck at too high levels. Accordingly, while the Fed decided in December to completely phase out its net asset purchases by March 2022 (meaning that it would only buy securities to replace maturing debt), the ECB at the time opted for a more gradual approach, slowing down the monthly growth of its balance sheet from around € 70 billion to € 20 billion over a time span of three quarters, without setting an exact end date for growth to be halted entirely¹.

Since the turn of the year, inflation fears have only gained momentum, particularly because of Russia’s invasion of Ukraine, which is driving up commodity prices sharply and intensifying some supply chain problems again. While these price pressures thus primarily represent a supply shock, typically calling for a wait-and-see approach to monetary policy, they also carry a significant risk of amplifying second-round effects, threatening to raise longer-term inflation expectations uncomfortably higher if monetary policy were to let inflation rise much further.

Against this background, both the Fed and the ECB accelerated their policy normalisation in March. The ECB’s main decision was to accelerate the reduction of its bond-buying plans, with monthly net purchases set to fall from € 40 billion in April to € 30 billion in May and € 20 billion in June. Moreover, if medium-term inflation expectations do not moderate, purchases would be stopped in the third quarter altogether. This leaves the door open for a first interest rate hike later this year. But there is still a lot of uncertainty about the timing of this rate rise, as it was stated that any change to rates would be “gradual” and come “some time” after asset purchases end, while ECB’s President Christine Lagarde said that could mean months or even just a week later. No new policy decisions were taken at the April meeting, but the ECB said that the incoming data since its last meeting reinforced its expectations of ending net asset purchases in the third quarter.

As the risks of persistently higher inflation expectations and higher inflation becoming entrenched remain higher in the US, the Fed continues to be ahead of the ECB in the normalisation process. In March, the Fed not only followed up on its earlier announcement and raised its key interest rate by 25 basis points to between 0.25 % and 0.50 % for the first time in three years, but it also signalled it would raise rates further to 1.9 % by end-2022 and 2.8 % by end-2023. This amounts to another six interest rate rises later this year and three or four next year if rates were adjusted by 25 basis points each time. But many Fed officials are also open to more aggressive rate hikes of half a percentage point this year – a tool not used in more than two decades – as shown, for instance, in the minutes of the March policy meeting (FOMC, 2022). As a final major announcement, the Fed expressed its intention to start unwinding its balance sheet at one of its next meetings. According to the minutes (FOMC, 2022), a reduction of \$ 95 billion per month is being considered (at the time of writing, the May Fed meeting has not yet taken place).

A more thorough discussion of the progress towards monetary policy normalisation among the major central banks is forthcoming in another Economic Review article.

¹ More specifically, in November 2021, the Fed announced that it would reduce its net purchases of Treasury securities from \$ 80 billion to \$ 70 billion and agency mortgage debt securities from \$ 40 billion to \$ 35 billion. At its December meeting, it decided to double the pace of tapering, bringing the monthly reduction to \$ 20 billion and \$ 10 billion respectively, thus implying zero net asset purchases by the end of March. In the euro area, the ECB decided in December 2021 to gradually phase out its net purchases from the purchase programme established after the outbreak of the coronavirus crisis (i.e. the Pandemic Asset Purchase Programme or PEPP) by the end of March 2022. However, so as not to shock financial markets, it was decided at the same time to partly compensate for this by temporarily scaling up the monthly purchases under the older purchase programme from € 20 billion at the end of 2021 to € 40 billion and € 30 billion in the second and third quarters of 2022, respectively, before returning to € 20 billion from October 2022 onwards.

Conclusions

Inflation rates have recently peaked in both the US and euro area at levels which have not been recorded in several decades. This article aims to shed light on the causes of these enormous price rises and seeks to assess how persistent they will be. It also zooms in on the Belgian situation, whenever appropriate, and touches on the recent monetary policy decisions taken in the US and the euro area against the background of the current inflationary peak.

The causes of the recent explosion of prices are multiple and many are linked to the emergence of the pandemic since the beginning of 2020. First, inflation numbers in 2021 were suffering from strong upward 'base effects' as a consequence of the collapse in many prices in 2020. As prices returned to pre-crisis levels in the spring of 2021, the low price levels in 2020 mechanically pushed up annual inflation in 2021. A second factor is related to the strong rebound and shift in demand after economies reopened and covid restrictions were relaxed. This is of course also partly linked to the fiscal stimulus provided by governments during the COVID-crisis. The fiscal measures to support incomes of households and enterprises avoided long-term scarring effects in the economy and provoked a strong recovery of activity. Buoyant demand was, however, confronted with production disruptions and logistical bottlenecks that curbed supply. Part of those supply problems were caused by covid measures (lockdowns, closures of plants, quarantines of personnel...), but idiosyncratic factors and precautionary inventory build-ups (so called 'bullwhip' effects) also played a role. Supply-demand mismatches affected energy prices as well, along with several other weather-related factors, lack of investment, postponed maintenance work, a rise in carbon prices and geopolitical tensions. In the first few weeks of 2022, it seemed as if the supply bottlenecks were easing, but since Russia invaded Ukraine on 24 February, upward price pressures have re-emerged. The war has pushed up energy and other commodity prices even further since its outbreak and has caused additional supply problems and volatility in energy markets.

All these factors have passed through to the various components of consumer price indices (energy, food, and core inflation). While in the euro area, the main contributor to headline inflation is energy; in the US, the main culprit is core inflation. Energy inflation has had about the same magnitude in both the US and the euro area, but its weight in the consumption basket is larger in the euro area than in the US. By contrast, core inflation has been increasing a lot faster in the US and has a larger weight in the US consumption basket.

The key question for monetary policy makers is whether part of the current inflation spike will persist. For high inflation to stick around, it first needs to increase wages which in turn may prompt a second round of price increases. If these second-round effects then trigger an upward wage-price spiral and feed into higher inflation expectations, particularly for the longer term, the high inflation may take on a more permanent character. So far, evidence suggests that the risks of persistently higher inflation are modest for the euro area but higher for the US.

The recovery of the economies of the United States and the euro area after the COVID shock has clearly tightened labour markets. But while in the US this tightness has already been accompanied by rising wages, wage pressures in the euro area have so far remained relatively subdued. This difference mainly reflects a dissimilar evolution of labour force participation during the crisis in both economies. On both sides of the Atlantic, many people left the labour market at the beginning of the crisis. However, in the euro area those 'dropouts' returned more quickly than in the US, meaning that vacancies in the euro area could be filled relatively faster thus preventing higher wage demands. Nevertheless, meanwhile, labour market participation in the euro area has returned to its pre-pandemic level, which may make it harder to fill vacancies in the near future. Consistent with that evolution, and in combination with the current high inflation rates, forecasts suggest wage growth is set to accelerate this year and next in the euro area as well. In Belgium, the automatic wage indexation system will cause wages to increase faster than on average in the euro area.

While rising wages increase the risk of second-round effects, inflation expectations data suggest this is likely to contribute to elevated inflation mainly in the short run. Still, some more permanent impact on inflation is expected as well. However, while in the US this implies that inflation may exceed the inflation target of 2 % for a prolonged period, expectations in the euro area are so far limited to a welcome convergence of inflation towards the target, after having been too low for too long. This different risk assessment also explains why in response to the inflation spike the Fed is unwinding its (still) accommodative monetary policy faster than the ECB.

Bibliography

- Angrist N., E. Cameron-Blake, R. Goldszmidt, T. Hale, L. Hallas, B. Kira, S. Majumdar, A. Petherick, T. Phillips, H. Tatlow and S. Webster (2021), *A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)*, Nature Human Behaviour, <https://doi.org/10.1038/s41562-021-01079-8>.
- Baker S., R.A. Farrokhnia, S. Meyer, M. Pagel and C. Yannelis (2020), *Income, Liquidity, and the Consumption Response to the 2020 Economic Stimulus Payments*, Becker Friedman Institute Working Paper, September.
- Beckmann, J., K.-J. Gern, P. Hauber, N. Jannsen and U. Stolzenburg (2021), *Rising Inflation: Transitory or Cause for Concern?* Publication for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, September.
- Celasun O., N.-J. Hansen, A. Mineshima, M. Spector and J. Zhou (2022), *Supply Bottlenecks: Where, Why, How Much, and What Next?*, IMF Working Paper, 22/31, February.
- Cerdeiro D.A., A. Komaromi and Y. Liu (2022), *Supply Chains and Port Congestion Around the World*, IMF Working Paper, 2022/059, March.
- Chatelais N. (2021), *Covid-19 and divergence in GDP declines between Europe and the United States*, Banque de France Eco Notepad, post no 229, September.
- Chetty R., J. N. Friedman, and M. Stepner (2021), *Effects of January 2021 Stimulus Payments on Consumer Spending*, Summary Memorandum of Opportunity Insights Tracker, January.
- Cox N., E. Deadman, D. Farrell, F. Greig, P. Ganong, P. Noel, J. Vavra and A. Wong (2020), *Initial Impacts of the Pandemic on Consumer Behavior: Evidence from Linked Income, Spending and Savings Data*, *Brookings Papers on Economic Activity*, Covid-19 and the Economy, 35-69.
- Domash A. and L.H. Summers (2022), *How tight are U.S. labor markets?*, NBER Working Paper 29739, February.
- Erhard L., D. Johnson, J.A. Parker and J. Schild (2022), *Household Spending Responses to the Economic Impact Payments of 2020: Evidence from the Consumer Expenditure Survey*, NBER Working Paper 29648, January.
- FAO (2022), *The Importance of Ukraine and the Russian Federation for global agricultural markets and the risks associated with the current conflict*, Information Note, March.
- Farrell D., P. Ganong, F. Greig, M. Liebeskind, P. Noel, D. Sullivan and J. Vavra, (2020), *The unemployment benefit boost: Trends in spending and saving when the \$ 600 supplement ended*, JPMorgan Chase Institute Policy Brief.
- Ferretti G.M.M. (2021), *The Travel Shock*, Hutchins Center Working Paper, 74, August.
- FOMC (2022), *Minutes of the Federal Open Market Committee March 15-16, 2020*, March.
- Ganong P., P. Noel and J. Vavra (2020), *US Unemployment Insurance Replacement Rates During the Pandemic*, *Journal of Public Economics*, 191, 104273.

Karger E. and A. Rajan (2021), [Heterogeneity in the Marginal Propensity to Consume: Evidence from Covid-19 Stimulus Payments](#), Working Paper of the Federal Reserve Bank of Chicago, 2020-15, Revised in February 2021.

Koester G., S.C. Ricarte and R. Gomez-Salvador (2022), [Recent inflation developments in the United States and the euro area – an update](#), Box in the Economic Bulletin of the European Central Bank, Issue 1/2022.

NBB (2022), [Belgian Prime News 94](#), January.

OECD (2021), Economic Outlook 110, December, <https://doi.org/10.1787/39740bed-en>.

Rees D. and P. Rungcharoenkitkul (2021), [Bottlenecks: causes and macroeconomic implications](#), BIS Bulletin, 48, November.

Sahm C. R. (2021), [Robust evidence for \\$ 1400 checks: Relief for families and recovery for all](#), Jain Family Institute Policy Brief, February.

S&P Global (2022a), [S&P Global Flash Eurozone PMI March-2022](#), March.

S&P Global (2022b), [S&P Global Flash US PMI March-2022](#), March.

Tauber K. and W. Van Zandweghe (2021), [Why Has Durable Goods Spending Been So Strong during the COVID-19 Pandemic?](#), Economic Commentary Cleveland Fed, July.

Conventional signs

€	euro
\$	US dollar
e.g.	<i>exempli gratia</i> (for example)
etc.	<i>et cetera</i>
i.e.	<i>id est</i> (that is)
p.m.	<i>pro memoria</i>

List of abbreviations

Countries or regions

BE	Belgium
DE	Germany
FR	France
NL	Netherlands
EA	Euro area
EU	European Union
US	United States

Abbreviations

BEA	U.S. Bureau of Economic Analysis
BLS	U.S. Bureau of Labor Statistics
CPI	Consumer Price Index
ECB	European Central Bank
FAO	Food and Agriculture Organization of the United Nations
FOMC	Federal Open Market Committee
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
IMF	International Monetary Fund
INA	Institute for National Accounts
LCI	Labour Cost Index
MMBTU	Metric Million British Thermal Unit
MPC	Marginal Propensity to Consume
NBB	National Bank of Belgium
NICP	National index of consumer prices

OEC	The Observatory of Economic Complexity
OECD	Organisation for Economic Cooperation and Development
PEPP	Pandemic Asset Purchase Programme
S&P	Standard and Poor's
Statbel	Belgian Statistical Office
TTF	Title Transfer Facility
USD/BBL	US dollar per barrel
WTI	West Texas Intermediate

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