

Inflation explained: What lies behind and what is ahead?

SUMMARY

Understanding inflation dynamics requires an understanding of the underlying concept and how it is measured. Inflation is defined as a process of continuously rising prices and falling purchasing power. In other words, a general and broad-based increase in the price of goods and services over an extended period. The main objective of central banks is to keep prices stable, to preserve the integrity and purchasing power of people's money.

The most common inflation indicator measures the average change in the price of a basket of consumer goods and services over time. The closest approximation of what people intuitively understand by the term inflation is the change in their cost of living. The Harmonised Indicator for Consumer Prices (HICP), against which the European Central Bank (ECB) assesses the achievement of its price stability objective, is based on this concept.

Strong inflation momentum for a broad set of goods and services in the consumer basket led to a record high inflation rate in June 2022, standing at 9.6 % in the EU and 8.6 % in the euro area, driven mainly by energy and food prices, which rose by 42 % and 8.9 % respectively. Inflation is expected to remain significantly above the euro area inflation target of 2 % for some time, due to continued geopolitical uncertainty and persistent supply bottlenecks.

In its monetary policy meeting on 21 July, the ECB raised interest rates for the first time in over a decade by 0.5 percentage points and unveiled a new Transmission Protection Instrument. The latter would help the ECB to counter unwarranted, disorderly market dynamics and to make secondary market purchases of securities under certain conditions, thus preventing financial fragmentation within the currency bloc. At its meeting, the ECB also suspended forward guidance on the size of future rate rises in the interest of more flexibility. In conclusion, the latest ECB decision reflects increased efforts to bring inflation back to the 2 % target through a front-loaded policy rate hike, while putting in place an additional tool to counter unwarranted fragmentation.

This is an update of a Briefing published in April 2022.



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What is inflation?

The inflation index is one of the most important economic indicators affecting all of us in our daily lives. Since we all need to buy and use a wide range of goods and services, we directly (implicitly) experience changes in prices on a daily basis. In a market economy, prices for goods and services can always change and, while some prices rise, others might fall or stay the same. When we talk about inflation, though, what we actually mean is the increase in price levels for goods (e.g. food) and services (e.g. the supply of electricity or gas). In other words, inflation is defined as a general or broad-based increase in the price of goods and services over an extended period.

Why does high inflation raise concern? In periods when prices increase significantly on a broad basis and purchasing power declines, wage-setting schemes can potentially trigger a [wage-price spiral](#). Such 'second-round' effects can occur if households and/or firms attempt to compensate for the loss of real income incurred under high inflation when setting wages and/or prices.¹ A substantial and long-lasting depletion of purchasing power through high inflation rates makes it more difficult for people and firms to plan to save and/or invest and may eventually lead to an impairment of trust and confidence in a currency.

A spiral in the opposite direction (deflation) may occur when prices fall over an extended period. While falling prices might sound good to a consumer, an ongoing and widespread fall in prices across the economy can defer consumer and business spending and investment decisions, creating a vicious cycle for the economy where output and prices are reciprocally driven downwards.

Why do we care about price stability? The consensus is that price stability both contributes to moderating the variability of output and employment in the short to medium term and contributes to the economy's growth and employment prospects in the longer term.² More specifically, price stability preserves the integrity and purchasing power of money. On an individual level, in an environment of stable prices, people can hold money for transactions and other purposes without having to worry that falling purchasing power will diminish the real value of their funds. Stable prices are equally important, allowing people to make long-term decisions, enter into long-term contracts, and engage in long-term planning, borrowing or lending for the future. Similarly, from a corporate perspective, price stability promotes efficiency and long-term growth by providing a monetary and financial environment in which sound economic decisions can be made, and where concerns about unpredictable fluctuations in the purchasing power of money are limited.

The aim of price stability is therefore to maintain a constant total value of a basket of goods, rather than fix each individual price for the numerous goods and services contained in that basket (see Section on 'How is inflation measured').

More generally, price stability reduces inflationary uncertainty and consequently helps to prevent changes in the general price level being misinterpreted, thus avoiding the misallocation of resources. For creditors, stable inflation rates will abate the demand for extra returns, or 'inflation risk premium', which would otherwise reduce the incentive to invest. Furthermore, price stability reduces the distortionary effects on taxation and social systems, as fiscal systems do not normally allow for the indexation of tax rates and social security contributions to the inflation rate.³

While it is clear that both very low and high inflation rates are undesirable, establishing the optimal level of inflation to ensure price stability is not trivial. Central banks all over the world have different objectives; those with a price stability objective target different levels of price increases. The European Central Bank (ECB) has recently reviewed its monetary policy strategy, which brought about a re-setting of its price stability target (primary objective).

The ECB's approach to inflation

The Governing Council, the main decision-making body of the ECB, considers that price stability 'is best maintained by aiming for two per cent inflation over the medium term'. This compares to a previous inflation goal of 'an inflation rate below but close to 2 %', which might seem semantically

negligible but has considerable implications.⁴ This constitutes a clear shift towards a symmetric 2 % target, for which there are two main arguments:⁵

- Firstly, the ECB steers inflation for the 19 euro area EU countries. With a lower average inflation target, some Member States would experience deflation with the consequences described above. This has been a particularly important feature since inflation in the euro area has averaged just 1.2 % since the global financial crisis of 2008- 2009. This period of protracted disinflation,⁶ in combination with various other structural changes, such as demographic trends in euro countries and a general decline in the natural interest rate,⁷ severely limited the ECB's capacity to ensure price stability close to the 'zero lower bound'.⁸
- Secondly, setting a moderately positive inflation target facilitates economic adjustment processes, which is done to preserve competitiveness. It enables a potentially desirable reduction in real wages – that is, inflation-adjusted wages. As nominal wages typically do not decline, any necessary adjustments could otherwise lead to higher unemployment.

What tools are available to ensure price stability? To understand the ECB's potential to act, the range of the Eurosystem's operational framework should be considered. On the one hand, the ECB can employ the lever of nominal interest rates (meaning the main refinancing operations,⁹ the deposit facility¹⁰ and the marginal lending facility¹¹ rates), which are used for the standard set of instruments including open market operations,¹² standing facilities,¹³ and the minimum reserve requirements¹⁴ for credit institutions. On the other hand, since nominal interest rates have come close to their effective lower bound, the ECB has implemented several [non-standard monetary policy measures](#), such as the asset purchase programme. Under this programme, the ECB has been buying a range of assets including government bonds, securities issued by EU supranational institutions, corporate bonds, asset-backed securities and covered bonds, at a pace ranging from €15 billion to €80 billion per month.

The Phillips curve

Inflation is a variable that interacts jointly with many other factors, including economic growth, employment, exchange rates, gross capital formation and many more. While the ECB has a lexicographic ordering of objectives, placing price stability above other objectives, this contrasts with the US Federal Reserve's multiple-objective mandate. Those objectives are maximum employment and stable prices at equal terms, often referred to as the 'Fed's dual mandate'. This mandate, with two goals on an equal footing, finds its theoretical origin – and one of the most influential economic concepts informing monetary policy – in a 1958 academic study by [A.W. Phillips](#). Using British data, Phillips showed that historically inflation had tended to be high in years in which unemployment was low. While this trade-off between inflation and unemployment has been supported by evidence, in particular for the US economy in the 1950-1960s, the relationship has weakened or disappeared entirely over time. A particular, two-pronged puzzle in this regard challenged economists and policy-makers in the EU. First, the 'missing disinflation' puzzle in the wake of the twin recessions of 2008 and 2011, and a 'missing inflation' puzzle more recently, as the economy has recovered in the years before the pandemic. Both parts of the puzzle are anomalies of how inflation should respond to the level of economic slack according to the conventional Phillips curve. The pandemic added further complexity to an assessment of the Phillips curve, informing monetary policy decisions.* However, there is evidence that Phillips curve-type mechanisms are still at play.**

* The unprecedented economic shock of the pandemic blurred the conventional Phillips curve relations (at the outset, supply shocks dominated, while during the recovery phase, the demand side dominated). An assessment of the Phillips curve during the pandemic and possible econometric solutions is discussed by E. Bobeica, B. Hartwig and C. Nickel in, [The euro area Phillips curve: Damaged but not dead](#), VoxEU.org, 20 August 2021.

** L. Ball and S. Mazumder, A Phillips curve for the euro area, ECB working paper series No 2354, January 2020, show that when core inflation is measured as the weighted median of industry inflation rates, then economic slack explains a larger share of euro area inflation.

A more subtle tool through which central banks influence the expectation of future levels of inflation is [forward guidance](#), a key element in achieving a certain increase in price levels. Monetary policy-makers recognise the importance of guiding expectations through communication.¹⁵ Alan Greenspan, chair of the US Federal Reserve in 1987-2006, introduced 'Fed-speak', that is, he resorted to making rather opaque and ambiguous policy statements following many central bank meetings. Today, most central bankers believe that clear communication of monetary policy helps to achieve their mandated goals, meaning communication on monetary policy has become a monetary policy tool in itself. In particular, when nominal policy rates are close to the [effective lower bound](#), evidence suggest that forward guidance has been an effective policy tool in influencing inflation expectations and economic activity.¹⁶

Safeguarding price stability is the main concern of central banks around the world, including the ECB. Most central banks have adopted versions of inflation targeting since the early 1990s, with different numerical targets, types of targets (symmetric, average, with bands), time horizons and ultimately various underlying measures of inflation.

Legal framework

The ECB is responsible for the monetary policy of the euro area, defined in the Treaty on European Union (TEU), the Treaty on the Functioning of the European Union (TFEU),¹⁷ and particularly in Protocol No 4 to TFEU,¹⁸ while the mandate set out in Article 127(1) TFEU applies to the central banks of **all Member States**. The TFEU is clear about the ECB's **primary objective** – price stability: **'The primary objective of the European System of Central Banks (hereinafter referred to as 'the ESCB') shall be to maintain price stability'**. However, the exact (quantitative) definition of price stability is to be defined by the ECB itself and is therefore not specified in the Treaties. To adapt its policy to broader macroeconomic trends (e.g. digitalisation, globalisation and demographic change), the ECB reviewed its [monetary policy strategy](#) in July 2021.¹⁹ The most significant innovation set out in the new strategy pertains to a re-phrasing of the primary objective, aiming for 2 % inflation over the medium term, meaning that the ECB considers negative and positive deviations from this target as equally undesirable.

The European Parliament plays a role in EU monetary policy by holding the ECB accountable to its primary goal of price stability.²⁰ Evidence suggests that EU politicians also attempt to hold the ECB accountable for a [broader set of issues](#). These particularly focus on labour market data, especially in times when labour market conditions in the respective Members' home country are worse, revealing a 'political' Phillips curve reaction function (see box above).

The key question central banks need to answer when it comes to inflation is: what are we trying to measure?

How is inflation measured?

Since inflation is defined as a process of continuously rising prices and falling value or purchasing power of money, inflation as experienced by consumers in their day-to-day living expenses is the logical unit of measurement if the goal is to maintain stable purchasing power (price stability mandate). The Consumer Price Index (CPI), measuring average changes for a basket of consumer goods and services over time, is therefore the most common inflation indicator.²¹ This approach is based on a cost-of-goods index, designed to monitor purchasing power or the expenditure required to purchase a basket of goods of fixed quality, in order to capture pure price changes rather than changes in the quality of goods. The cost-of-living index is a particular cost-of-goods index, which measures the amount that consumers need to spend to reach a certain utility level or standard of living over time. While both approaches derive from changes in the prices of goods and services, a complete cost-of-living index goes beyond a fixed consumer basket to take account of changes in governmental or environmental factors that affect consumers' wellbeing. In practice, a cost-of-living index is difficult to measure, because it is invariably based on assumptions (utility across

households), or on estimates or imputations (of non-market consumption items such as public health, education and public goods more generally). Nor is information about consumption structures available at an adequate frequency to allow weights to reflect actual utility levels.²²

The Harmonised Indicator for Consumer Prices (HICP)²³ measures price developments of a consumption basket for a representative group of people's actual consumption behaviour. For the EU and the euro area in particular, the HICP is the underlying indicator in assessing achievement of the price stability objective. The HICP is a cost-of-goods index, derived from national consumer price indices in the euro area that follow the same approach. The HICP is calculated based on a 'shopping basket' containing goods and services on which people typically spend their money, to capture a good picture of price changes in the euro area economy as a whole. The HICP is 'harmonised' because, while all countries have the same categories of goods and services in their baskets and use the same calculation methods, the composition of the HICP is designed on an individual country basis. Differences are accounted for by giving each product a certain 'weight' in the national shopping basket that reflects the product's share of households' spending in the country concerned. In other words, the weight for products more frequently purchased in country A, for instance olive oil, has a higher weight than in country B, where the use of butter is more common.

Only monetary transactions conducted directly by households are included in the HICP. This is important, since some services, such as healthcare and education, are often provided by the state and consequently will not feed into the inflation index. Imputed prices and transfers in kind, asset prices and interest rate developments are also excluded. The range of products and services covered by the HICP consumption basket is based on the European Classification of Individual Consumption by Purpose (ECOICOP),²⁴ for which more granularity was added in 2016, to include lower levels of index aggregation (level 5) for the product level.²⁵

While changes in a cost-of-living index come very close to what most people intuitively understand by the term 'inflation', it is not clear that this is what central banks want to target, since monetary policy affects only a subset of prices in the economy. For this reason, central banks do not usually react to first-round effects of changes in prices resulting from changes in indirect taxes, or to administered or regulated prices, even if they are included in the index targeted. One possibility would be to exclude such prices from the index altogether. A related problem is that the cost of living may fluctuate because of transitory shocks that monetary policy cannot address. Many central banks therefore use different measures of 'core' inflation that eliminate some of the most volatile price components, or those most affected by transitory shocks (for instance, energy prices).

More generally, two important aspects omitted from the [inflation index](#) might not only have an impact on overall price levels but also may better reflect the population's inflation perceptions and provide a better picture of structural price developments. Firstly, the inclusion of owner-occupied housing costs into the HICP, and secondly, the impact of transitioning towards green energy on monetary policy.

The cost of housing

Currently, the HICP index only partially captures the cost of housing. Owner-occupied housing (OOH) costs are partly included through expenditure on maintenance and minor repairs. Other parts of OOH expenditure, in particular the cost to households of owning their homes, are omitted, despite the fact that more than 65 % of households in the euro area owned their main residence in 2019. As the [summary results](#) of the October 2021 'ECB Listens' events highlight, people's perception of inflation is affected by housing costs to a significant degree. In reaction to this, the ECB has decided to recommend a roadmap to include OOH in the HICP. However, data on OOH costs across Member States is currently limited, and in those that do calculate OOH costs, methods and data compilation vary considerably. While stronger methodological harmonisation efforts are needed to establish an augmented HICP, the inclusion of OOH costs would improve how inflation dynamics are reflected. A readily available measure with large coverage is the owner-occupied housing price index (OOHPI) calculated by Eurostat; it measures the price of dwellings that were purchased for the

buyer's own use, and all goods and services that households purchase in relation to them. From 2011 to mid-2021, inflation would have been, on average, 0.09 percentage points higher. However, looking at the past seven years, over which the OOHPI has been above the HICP, the augmented HICP would have been 0.2 percentage points higher. In particular, at the latest data point (third quarter 2021), core inflation would have been 0.6 percentage points higher, according to [ECB](#) estimates.²⁶

The green transition

Another pertinent topic that might have a structural influence on inflation is the transition towards a greener economy. The EU plans for a green transition towards a more sustainable economy, formulated in the 'Fit for 55' package, set ambitious goals for cutting greenhouse gas emissions by 55 % by 2030 (with respect to 1990).²⁷ The centrepiece, a carbon price under the emissions trading system (ETS), will have wide-ranging consequences in several economic sectors, including energy, transportation, housing, manufacturing, agriculture, and even services (European Commission 2020).²⁸ Additionally, institutional investors have also started to materially reduce their exposure to fossil fuel energy and have redirected capital to more environmentally acceptable low-carbon alternatives, while investors demand a premium for exposure to climate-related risks. As a result, the green transition, and energy transition in particular, poses measurable upside risks to inflation projections, based on which monetary policy decisions need to be taken. Two main channels can be highlighted. First, large-scale public and private investment programmes are expected to boost aggregated demand. Second, unlike an oil supply shock in energy importing economies, a carbon tax is ultimately a domestic levy that shifts financial resources from the private to the public sector and will not work like a negative terms-of-trade shock by transferring wealth abroad. Such revenues can either be used for lump-sum transfers to protect the most vulnerable households and electricity bill subsidies or to cut other distorting taxes, such as social security contributions – either way, doing so may boost economic activity. Evidence suggests that carbon taxes do have a modest positive impact on GDP growth and employment.²⁹ Consequently, if prospects of persistently rising energy prices contribute to a de-anchoring of inflation expectations – or if underlying price pressures boost rather than suppress growth, employment and aggregate demand over the medium term – monetary policy cannot just 'look through' structural (energy) price shifts.³⁰

In [July 2021](#), the ECB presented a [climate action plan](#) as part of its [monetary policy strategy review](#), which announced measures to include climate change considerations into its operations. The ECB [specified](#) those plans in July 2022 through several far-reaching measures, including a revision of the corporate bond purchases programme and the collateral framework.

Current inflation dynamics

The return of inflation in 2022 has taken place on a [global](#) scale, with the US being the 'canary in the coal mine'. Elevated inflation rates became the centrepiece of policy discussion in many other advanced economies on the back of higher food and commodity prices, supply bottlenecks and rebounding global demand. Almost half of all countries classified as 'advanced economies' by the [International Monetary Fund \(IMF\)](#) recorded inflation rates above 5 % in 2021. While [global inflation](#) is expected to peak in mid-2022, global growth is slowing sharply and there is an unprecedented synchronised monetary tightening across countries; these developments have prompted concerns about a forthcoming period of global [recession](#). For the EU, this detrimental combination becomes apparent in the Commission's [summer 2022 economic forecast](#), which cut growth projections for 2023 by 0.8 percentage points to 1.5 % and at the same time revised inflation forecasts upwards. This increasingly uncertain [growth outlook](#) gives rise to [concerns](#) about the EU being at an early stage of a [recession](#).³¹ Furthermore, the euro fell below parity against the [US dollar](#) for the first time in almost 20 years as the US Federal Reserve increased interest rates by 75 bps in June. However, on a [trade-weighted basis](#), against all EU trading partners' currencies, the euro has only depreciated by 3.3 % by end July since the start of Russia's war on Ukraine.

Against this backdrop, in June 2022 the [inflation rates](#) soared to 9.6 % for the EU as a whole and to 8.6 % for the euro area.³² Both figures represent record highs since the launch of the economic and monetary union. Inflation is being driven mainly by energy prices, which rose by 42 % in June 2022, contributing 4.2 percentage points to headline inflation (see Figure 2, green bars), mostly on account of higher gas and electricity tariffs as well as oil prices. Excluding energy and food (core inflation), HICP inflation stood at 3.7 % for the euro area, owing to high demand, indirect effects from higher energy prices and supply bottlenecks. The lowest annual inflation rates for June 2022 were registered in Malta (6.1%), France (6.5 %) and Finland (8.1 %). On the other side of the spectrum, the highest annual inflation rates were recorded in the three Baltic countries: Estonia (22.0 %), Lithuania (20.5 %) and Latvia (19.2 %).

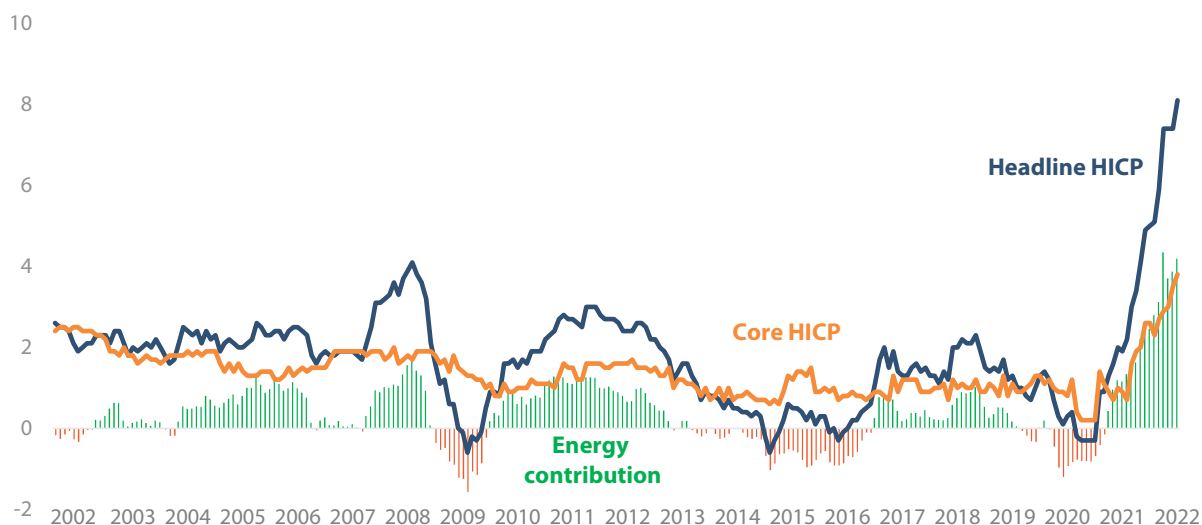
Figure 1 – Inflation generalisation index: combined weight of items in the euro area HICP inflation basket with inflation rates above 2 %, in %



Data source: [Eurostat](#).

Importantly, inflation has become much more broad-based (see Figure 1), as the share of items in the HICP product basket with inflation rates above 2 % has increased significantly. The latest data record three quarters of items above the inflation target of 2 %. Several factors explain these unprecedented levels of inflation, some of which affect certain EU countries more than others.³³ Most significantly, the increase in energy prices continued to have a strong impact on headline inflation in all Member States, amid unparalleled sanctions on Russia following its invasion of Ukraine and a complete overhaul of EU energy policy to reduce dependency on Russian energy.³⁴ EU economies are therefore likely to face heightened energy prices due to economic and political uncertainty, translating into more pronounced and simultaneously more persistent energy inflation. Almost half of the current inflation rate can be attributed to energy components (49 %), at a time when [oil](#) and [gas](#) prices are starting to translate into broader price dynamics (see Figure 2). In addition, food inflation also rose further, standing at 8.9 % in June, in part reflecting the importance of both Ukraine and Russia as producers of agricultural products.

Figure 2 – Headline and core inflation (including the contribution of energy to their levels) in the euro area, in %



Data source: [Eurostat](#).

On top of the external price shocks caused by the war, persistent supply bottlenecks for industrial goods and recovering demand, especially in the services sector, are also contributing to the current high rates of inflation.

Unlike the supply side-driven inflation components,³⁵ where the monetary policy lever is limited, the spill-over effects to demand-side factors can be significant. In such scenarios central banks worry most about second-round effects (wage increases, goods inflation), which need careful monitoring. For instance, the EU's strong (fiscal) policy response to the pandemic has been successful in mitigating its impact on labour markets, in particular through the application of short-term work schemes, thereby offsetting fears of a 'hysteresis effect'.³⁶ The recovery in the labour market thus continued to be strong, with [unemployment rates](#) declining to 6.0 % in June 2022, the lowest unemployment rate ever recorded by Eurostat. This can potentially lead to a labour market tightness that translates into higher negotiated wages and ultimately to a [wage-price spiral](#). However, since May 2022, [wage growth](#) has continued to increase only gradually, according to forward-looking indicators (e.g. microdata on wage agreements) remaining contained overall. Nevertheless, wage developments are a key risk indicator to be monitored for signs of more sustained inflationary pressures, should elevated increases in negotiated [wages](#) materialise and persist beyond 2022. Ultimately, the longer inflation rates are elevated, the higher the risk of second-round effects.

To address soaring inflation rates, in its [monetary policy meeting](#) of 21 July the ECB raised interest rates for the first time in over a decade by 50 bps and approved its new Transmission Protection Instrument (TPI). Previously, the ECB had announced an interest rate hike only half that size for the said meeting. At the same time, the ECB suspended [forward guidance](#) on the size of future rate rises in the interest of more flexibility, shifting to a 'meeting-by-meeting' approach. As for the TPI – the new addition to the ECB's toolkit – the ECB can activate it to counter unwarranted, disorderly market dynamics, allowing it to make secondary market purchases of securities under certain conditions (see box below). In conclusion, the latest ECB decision reflects increased efforts to bring inflation back to the 2 % target through a front-loaded policy rate hike, while putting in place an additional tool to counter unwarranted fragmentation.³⁷³⁸

Transmission Protection Instrument (TPI)

The expectation of monetary policy tightening, meaning increasing policy rates and the end of asset purchases, combined with slower growth expectations and high levels of debt, has resulted in a significant increase in sovereign bond yield spreads since the end of 2021. After on [9 June](#) the ECB announced its monetary policy decision to make two interest rate hikes, one in July and potentially another in September, sovereign bond spreads diverged considerably. Italy's 10-year government bond yield rose to its highest level since December 2013 at 4.3 %. The yield spread between Italian and German sovereign bonds – a gauge of the euro area financial stability – hit its widest level since April 2020 at 250 bps. Six days later, on [15 June](#), the ECB saw itself forced to hold an ad-hoc meeting, announcing a new anti-fragmentation instrument, the TPI. This addition to the ECB toolbox at the regular ECB Governing Council meeting on [21 July](#), based on a definition and activation criteria given below.

Through the [TPI](#), 'the Eurosystem will be able to make secondary market purchases of securities issued in jurisdictions experiencing a deterioration in financing conditions not warranted by country-specific fundamentals, to counter risks to the transmission mechanism to the extent necessary. The scale of TPI purchases would depend on the severity of the risks facing monetary policy transmission. Purchases are not restricted ex ante'. The programme will be subject to the following criteria:

- 1) Compliance with the EU fiscal rules, i.e. not being subject to an excessive deficit procedure;
- 2) Absence of severe macroeconomic imbalances, i.e. not being subject to an excessive imbalance procedure;
- 3) Fiscal sustainability taking into account analyses by the ECB, the European Commission, the European Stability Mechanism (ESM), the IMF and other institutions;
- 4) Compliance with the Recovery and Resilience Facility (RRF) plans and the Commission's country-specific recommendations.

Consequently, the TPI will not be activated automatically; this will be done based on the ECB's assessment of the above criteria. Compared to the Outright Monetary Transaction ([OMT](#)) tool this is a shift from conditionalities based on an ESM programme to fiscal and debt sustainability criteria, partly laid out in the EU Treaties, and enforced by the Commission.

Several questions remain open, as it is unclear how fast this programme can be activated, whether TPI purchases will be consolidated with APP and PEPP holdings and whether such purchases will be sterilised, meaning the ECB would offset any TPI purchases by taking an equivalent amount of money out of circulation. Importantly, the ECB will have to justify whether the TPI is in compliance with the principle of [proportionality](#). However, as clearly pointed out in the ECB [monetary policy decision](#), the first line of defence to counter risks to the transmission mechanism and any unwarranted fragmentation remains the flexibility in reinvesting redemptions coming due in the PEPP portfolio.

Outlook

Inflation is expected to remain significantly above the target of 2 % for some time,³⁹ due to continued geopolitical uncertainty, which causes pressure on energy and food prices. Strong inflation momentum for a broad set of components led to a record high inflation rate in June, standing at 9.6 % in the EU and 8.6 % in the euro area. Furthermore, persistent supply chain disruptions and the depreciation of the euro exchange rate add to elevated inflation levels. Upside risks to the inflation outlook remain large. At the same time prospects for economic growth are tilted in the opposite direction as [economic forecasts](#) are revised downwards substantially, prompting concerns about economic [recession](#).

Against this backdrop, the ECB took a decisive step in its [monetary policy decision](#) of July 2022: on the one hand by tackling inflation by front-loading the policy rate increase (+ 50 bps), and on the other hand by countering fragmentation concerns by creating a new policy tool, the Transmission Protection Instrument (TPI).⁴⁰ A deterioration in financing conditions not warranted by country-specific fundamentals (e.g. real growth, fiscal position, banking sector vulnerability or political-

institutional strength) would pose a threat to the transmission of monetary policy across the euro area. Should this occur, the ECB would be able to purchase securities on the secondary market with a focus on public sector securities. Those purchases will be dependent on an assessment by the ECB based on certain criteria (see box on TPI) that are partly aligned with the EU fiscal rules (Stability and Growth Pact). Nevertheless, compared to the Outright Monetary Transaction tool, this is a shift from [conditionalities](#) based on an ESM programme to fiscal and debt sustainability criteria, partly laid out in the EU Treaties, and enforced by the Commission. Consequently, this increases the significance of the EU fiscal rules and the fiscal surveillance of the Commission, and highlights the importance of the ongoing EU [economic governance review](#). The newly created policy tool has provoked immediate [criticism](#) by some, in particular concerning the [conditionality](#) based on the eligibility criteria as opposed to an ESM programme linked to the OMT tool.

In conclusion, the latest ECB decision reflects increased efforts to bring inflation back to the 2 % target through a front-loaded policy rate hike, while putting in place an additional tool to counter unwarranted fragmentation, in particular in sovereign debt markets. While being the main driver of inflation, energy also remains the most important inflation component to be monitored. As the geopolitical situation continues to create a lot of uncertainty, energy supply, in particular gas and oil from Russia, will have a substantial impact on inflation levels as well as on the economic momentum going forward. Three recent [IMF studies](#) examine the impact of a Russian gas shut-off on European economies. The impact crucially depends on the level of [cooperation](#) across countries and on whether markets are subjected to rationing. Some of the [worst-hit countries](#) in central and eastern Europe – such as Hungary, Slovakia and Czechia – could see their GDP shrink up to 6 %. However, securing alternative supplies and energy sources, easing infrastructure bottlenecks, encouraging energy savings while protecting vulnerable households and expanding solidarity agreements to share gas across countries, could mitigate the impact.

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ENDNOTES

¹ Currently, evidence suggest that the likelihood of such a wage-price spiral is limited, particularly when it comes to energy inflation. See G. Koester and H. Grapow, '[The prevalence of private sector wage indexation in the euro area and its potential role for the impact of inflation on wages](#)', *Economic Bulletin*, Issue 7, ECB, 2021.

² The consensus model of monetary policy reinforces four main advances in monetary policy arrived at in practice: the priority for price stability; the targeting of core rather than headline inflation; the importance of credibility for low inflation; and pre-emptive interest rate policy supported by transparent objectives and procedures. Elaborated in M. Goodfriend, '[How the World Achieved Consensus on Monetary Policy](#)', *Journal of Economic Perspectives*, 2007, 21(4): pp. 47-68.

- ³ For further details, see [Price Stability: Why it is important for you](#), ECB.
- ⁴ For a more detailed discussion about the ECB monetary policy review, see [ECB monetary policy: Strategic review](#).
- ⁵ See the [ECB's monetary policy strategy](#), 2021, and M. Hoflmayr, [ECB monetary policy: Strategic review](#), EPRS, October 2021.
- ⁶ A slowing of price increases, as opposed to deflation, which is a decrease in general price levels.
- ⁷ The equilibrium rate that supports the economy at full employment/maximum output while keeping inflation constant.
- ⁸ The zero lower bound occurs when the short-term nominal interest rate is at or near to zero, which limits the central bank's capacity to stimulate economic growth.
- ⁹ The [main refinancing operations \(MRO\) rate](#) is the interest rate banks pay when they borrow money from the ECB for one week.
- ¹⁰ The [deposit facility rate](#) defines the interest banks receive for depositing money with the central bank overnight.
- ¹¹ The [marginal lending facility rate](#) is the interest rate banks pay when they borrow from the ECB overnight.
- ¹² [Open market operations](#) consist of one-week liquidity-providing operations in euro, as well as three-month liquidity-providing operations in euro.
- ¹³ The Eurosystem offers credit institutions two [standing facilities](#): the marginal lending facility and the deposit facility.
- ¹⁴ [Minimum reserve requirements](#) are deposits on accounts with national central banks that credit institutions are required to hold.
- ¹⁵ The importance of clear and targeted communication was found to be a major factor in a survey of former ECB policymakers on the ECB's monetary policy communication, see M. Ehrmann, S. Holton, D. Kedan, G. Phelan, [Views on monetary policy communication by former ECB policymakers](#), VoxEU.org, 17 January 2022.
- ¹⁶ See Z. Andrejs, [Macroeconomic Effects of the ECB's Forward Guidance](#), Working Papers, Latvijas Banka, March 2019 and M. Ehrmann, S. Holton, D. Kedan, G. Phelan, [Views on monetary policy communication by former ECB policymakers](#); VoxEU Blog, January 2022.
- ¹⁷ Treaty on European Union and Treaty on the Functioning of the European Union [2021/C326/01](#).
- ¹⁸ See Protocol No 4 on the [Statute of the European System of Central Banks and of the ECB](#).
- ¹⁹ See [ECB's monetary policy strategy](#), 2021.
- ²⁰ N. Fraccaroli, A. Giovannini, J-F. Jamet, E. Persson, [Ideology and monetary policy: the role of political parties' stances in the ECB's parliamentary hearings](#), ECB Working Paper Series No 2655, March 2022, show that general sentiment toward the ECB is correlated with a predominantly ideological pro-/anti-EU stance, rather than on a left-right dimension.
- ²¹ Several alternative measures provide a different angle to price developments. For instance: the Industrial Producer Price Index ([PPI](#)) measures inflation at earlier stages of the production process; the [Import Price Index](#) measures inflation for imports; the Labour Cost Index ([LCI](#)) measures inflation in the labour market; and the Gross Domestic Product (GDP) [Deflator](#) measures inflation experienced by both consumers themselves as well as governments and other institutions providing goods and services to consumers.
- ²² By definition, cost-of-living indices should take account of substitution effects. Unless weights are revised frequently, an index will become less representative as goods with larger price increases tend to be demanded less and those with lower prices increases or price decreases tend to be demanded more.
- ²³ The HICP is constructed as a Laspeyres index with annually updated weights, which is chain-linked over December t-1. The HICP weights in year t shall represent consumption structures of t-1. They are based on annual average expenditure shares of t-1, which in practice are mostly approximated by the penultimate year. The weights are obtained by price updating these expenditure shares to December t-1. For further details, see Eurostat's [methodological manual](#).
- ²⁴ See the latest trends at [Household consumption by purpose](#), Eurostat, November 2021.
- ²⁵ For more detailed information, see [Inflation measurement and its assessment in the ECB's monetary policy strategy review](#), Occasional Paper Series No 265, ECB, September 2021.
- ²⁶ See M. Höflmayr, [Including the costs of owner-occupied housing in inflation measurement](#), EPRS, European Parliament, December 2021.
- ²⁷ See ['Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality](#), European Commission, July 2021.
- ²⁸ [2030 Climate Target Plan Impact Assessment](#), SWD(2020) 176 final, European Commission, September 2020.
- ²⁹ See, for instance, G. E. Metcalf and J. H. Stock, [The Macroeconomic Impact of Europe's Carbon Taxes](#), NBER Working Paper Series, No 27488, July 2020; G. E. Metcalf and J. H. Stock, [Measuring the Macroeconomic Impact of Carbon Taxes](#), AEA Papers and Proceedings, Vol. 110, pp. 101-06, May 2020; G. E. Metcalf, [On the Economics of a Carbon Tax for the United States](#), Brookings Papers on Economic Activity Series, 49 (1), pp. 405-58, March 2019; A. Yamazaki, [Jobs](#)

and Climate Policy: Evidence from British Columbia's Revenue-Neutral Carbon Tax', *Journal of Environmental Economics and Management*, Vol. 83, pp. 197-216, May 2017.

- ³⁰ See the speech by Isabel Schnabel, Member of the ECB Executive Board, [Looking through higher energy prices? Monetary policy and the green transition](#), at a panel on 'Climate and the Financial System', at the American Finance Association 2022 Virtual Annual Meeting. Central banks typically **look through** energy shocks since such price shocks are usually short-lived. A policy response would only amplify the negative effect of rising energy prices on aggregated demand and output, given the lags in policy transmission, and exert downward pressure on inflation at a time when the shock is likely to have faded.
- ³¹ The Purchasing Manager Index from S&P ([PMI](#)), an output index that captures the prevailing direction of economic trends in the manufacturing and service sectors, fell from 52.0 in June to 49.4 in July. By dropping below the neutral 50.0 level, the July PMI signals a contraction of business output for the first time since February 2021.
- ³² According to Eurostat's most recent inflation [flash estimate](#) for the euro area, there will be a further increase of headline inflation to 8.9 % in July 2022, with energy inflation still having the highest annual rate (+39.7 %), although slightly down compared to June 2022 (42 %).
- ³³ Nils Redeker, [Same shock, different effects EU member states' exposure to the economic consequences of Putin's war](#), Policy Brief, Jacques Delors Centre, March 2022.
- ³⁴ The [European Commission](#) has outlined a plan to reduce the EU's dependency on Russian fossil fuel before 2030, cutting demand for Russian gas by two thirds before the end of 2022.
- ³⁵ In the event of an adverse supply shock, the horizon over which inflation returns to the target level (project horizon) could be lengthened to avoid pronounced falls in economic activity and employment.
- ³⁶ New evidence on the existence and strength of [hysteresis effects](#) suggest strong effects, meaning that unemployment exhibits hysteresis. A concept introduced in 1986 by Blanchard and Summers, hysteresis means that short-term fluctuations in unemployment cause the natural rate to change, for reasons including scarring effects on unemployed workers and changes in the number of insiders in wage bargaining. These effects imply that shifts in aggregate demand have long-term effects on unemployment, which potentially has profound implications for monetary policy.
- ³⁷ Fragmentation in the context of monetary policy can be understood as a divergence of financing conditions across euro area economies, thus impairing monetary policy transmission. More specifically, diverging sovereign bond yields within the currency bloc can cause such phenomenon.
- ³⁸ To fund the unprecedented fiscal policy interventions during the pandemic, several Member States relied heavily on the ECB's bond purchase programmes. Nevertheless, while sovereign debt levels are at a record high, the overall debt servicing costs have declined steadily since the mid-1990s and are lower than growth rates. Moreover, average euro area public debt [maturities](#) are around [7.9 years](#); a substantial and permanent shift in bond yields would therefore be needed to drive average interest payment levels higher.
- ³⁹ R. Reis, [The Burst of High Inflation in 2021-22: How and Why Did We Get Here?](#), CEPRS discussion paper, June 2022, inspects four tentative hypotheses for why central banks in advanced economies failed to prevent a burst of high inflation in 2021-2022.
- ⁴⁰ P. De Grauweac and Y. Ji, ['Self-fulfilling crises in the Eurozone: An empirical test'](#), *Journal of International Money and Finance*, Volume 34, April 2013, pp. 15-36, show that a significant part of the surge in the spreads of the peripheral euro area countries during 2010-2011 was disconnected from underlying increases in the debt to GDP ratios and fiscal space variables, and was associated with negative self-fulfilling market sentiments that have strengthened greatly since the end of 2010. In an updated version, ['The fragility of the Eurozone: Has it disappeared?'](#), the two authors highlight that during the pandemic, the new euro area governance prevented a new sovereign debt crisis, despite the pandemic shock's similarity to the financial crisis of 2007-2008.

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