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Closing the EU's inflation governance gap

The limits of monetary policy and the case for a new policy framework for shockflation

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STUDY

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Closing the EU's inflation governance gap

The limits of monetary policy and the case for a new policy framework for shockflation

EGOV
ECONOMIC GOVERNANCE

External authors:
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Economic Governance and EMU Scrutiny Unit (EGOV)
Directorate-General for Internal Policies
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EN

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Abstract

This report investigates how the EU should deal with shockflation - inflation unleashed by shocks to systemically significant prices such as energy and food. We argue that the ECB's monetary policy is not an adequate instrument to deal with this kind of inflation. Therefore, the EU currently lacks adequate governance structures. The EU should develop a new inflation governance framework that targets shocks to systemically significant prices directly, before they are propagated through the economy.

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LIST OF ABBREVIATIONS

CSPP	Corporate Sector Purchase Programme
CMU	Capital Markets Union
EC	European Commission
ECA	European Chips Act
ECB	European Central Bank
ESM	European Stability Mechanism
EU	European Union
OMT	Outright Monetary Transactions
TFEU	Treaty on the Functioning of the European Union
TEU	Treaty on European Union

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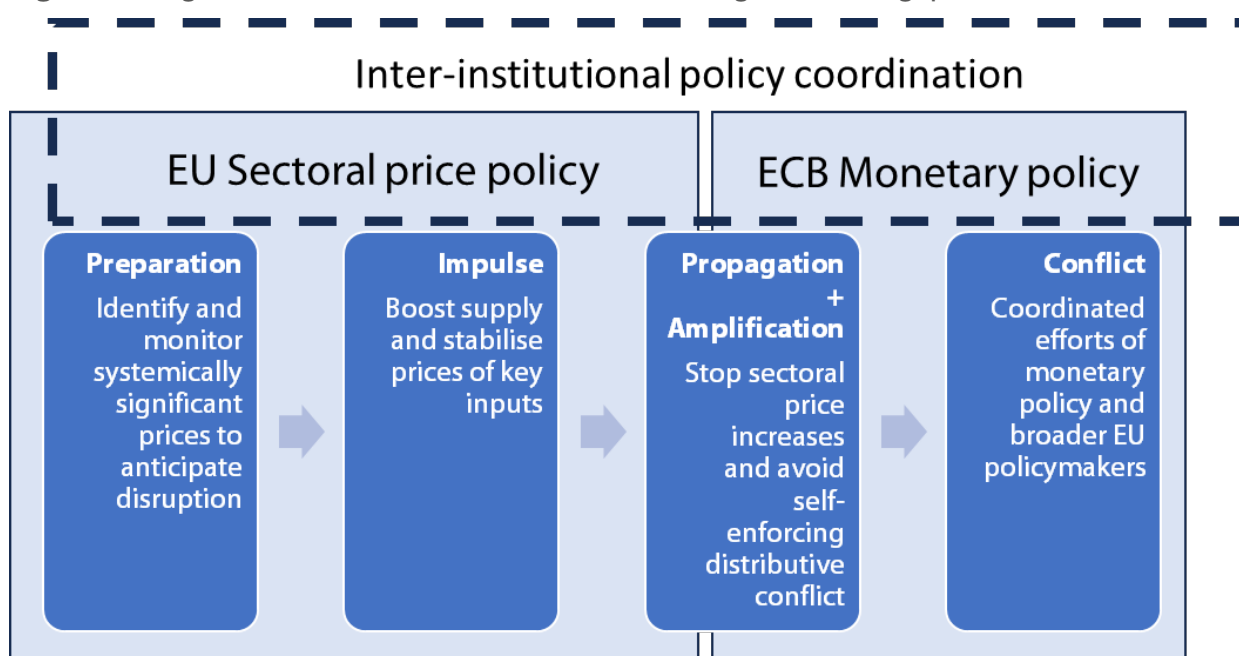
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EXECUTIVE SUMMARY

In the coming years, the European Union (EU) will be vulnerable to more frequent shocks. These risks stem from the overlapping emergencies of **geopolitical tensions** and **the climate and environmental crisis** as well as **more aggressive firm pricing strategies**. If shocks hit systemically significant sectors like energy, food or commercial infrastructure, and firms respond to cost increases by hiking prices, such shocks can unleash a general increase in consumer prices – as has occurred in the recent inflation bout. We call this kind of **inflation unleashed by sector-specific shocks** “**shockflation**”.

Figure 1: Stages of Shockflation and the EU’s inflation governance gap



Source: Authors, based on Weber & Wasner (2023).

Currently, the **EU’s response to any kind of inflation is to raise monetary policy rates**. Relying on such macroeconomic tightening in response to shockflation **comes at a high cost**. Instead of addressing supply shocks and preventing price spikes from rippling through the economy, this approach intervenes when inflation is already generalized. It fails to address the negative economic and social effects of inflation. Macroeconomic tightening becomes even more costly in response to frequent shocks, setting up a scenario with persistently high interest rates and low levels of innovation and growth. While facing a heightened risk of shockflation, the EU will need to **mobilise unprecedented levels of private and public investment to address the root causes of the shocks**, first and foremost climate change. But investment requires low interest rates. And crucial investments in clean energy are particularly vulnerable to high rates. Simply put, the policy response to shockflation currently undermines the EU’s ability to contain the risk of future shockflation.

To devise a less costly response to inflation and create space for public and private investments, the EU needs to reconsider its inflation governance structure. This report **argues that the EU needs a new inflation governance framework to prepare for shockflation** and address shocks in a targeted way (see Figure 1). **Shockflation** originates in a shock to systemically significant prices for example due to

supply chain disruptions or perceived or real shortages. These are the prices that have the largest impact on other prices in the economy. They have this system-level effect through a combination of being important as inputs for production or directly for consumption and being volatile. Changes in systemically significant prices acquire an outsized impact on the consumer price index. In having such an impact, they are different from, for example, haircuts and other retail services, which have relatively stable prices and limited impact on economy-wide inflation.

Recent empirical research indicates that **the most systemically significant prices are those of basic production inputs like energy, basic necessities like housing and food, and commercial infrastructure.**

Shockflation ripples through the economy in three stages (see Figure 1) with distinct forms of inflation dynamics. It originates in shocks to systemically significant prices (*Impulse stage*). Firms transmit these shocks across the economy in a process of **sellers' inflation** as they price to protect or enhance profit margins (*Propagation + Amplification Stage*). Since the early stages have a negative effect on real wages, shockflation can evolve into a wage-price spiral. This can happen when unions and employees seek a catch-up of their salaries to keep real wages stable. Higher wages, in turn, can set off the final **Conflict stage**: wage increases can lead to a new round of sellers' inflation depending on firms' response to increased wage costs, which can lead to renewed wage catch-up.

When inflationary cost shocks ripple through the economy, the **EU's current governance structure involves a dilemma between two options: do nothing or take drastic, economy-wide monetary policy measures.** The first option of waiting for inflation to go down does little if anything to address the negative economic and social effects of inflation. The second option of raising monetary policy rates is costly. **Excessive use of monetary policy harms exactly those investments most needed to protect the European economy against future shocks. Higher interest rates also constrain the fiscal space of the EU and its Member States,** hindering governments from responding in an agile way to new crises. Neither approach addresses the effects of inflation on the purchasing power of vulnerable households in the *Impulse* and *Propagation + Amplification stages*.

To address the inflation governance gap, the EU needs to develop a new toolbox for sector-specific policies that ensure adequate supply, avoid shocks and mitigate their impact. This allows for directly addressing an inflationary shock in its *Impulse* and contain it at the *Propagation + Amplification stage*. We show that the EU already has sectoral policies that can be mobilised to address earlier stages of shockflation. These include sector-specific supply-side policies (e.g. the Common Agricultural Policy (CAP)), policies to directly address bottlenecks (e.g. the 2023 European Chips Act (ECA)) and price policies (e.g. the EU-wide measures to deal with exceptional energy prices). However, these broader policies to date lack a coherent governance structure and are hence uncoordinated and bound to be implemented too slowly.

The EU treaties provide ample scope to address shockflation through measures at the EU and Member State level as well as for coordinated action involving the European Central Bank (ECB), the political bodies of the EU and specialised actors such as statistics offices and market regulators. **To stop firms from propagating and amplifying sectoral shocks, a new EU-level inflation governance framework should anticipate disruptions where possible and intervene as early as possible.** Eurostat and the ECB's Datawarehouse should develop an enhanced price monitoring system. **For essential sectors such as energy, food and critical raw materials, the Commission should coordinate Member State policies at the EU-level** to avoid impulse shocks. It should also **build**

capacity to boost supply and stabilize prices with physical and virtual buffer stocks, stabilising prices and be prepared to cap prices in emergencies when corrections of supply shortfalls. Competition policy and other measures to **address price gouging and excess profits** and stop the proliferation and amplification of shocks should be implemented by the Commission and national competition authorities. Coordination between the **European Central Bank and the three legislative bodies (the Council, the Parliament and the Commission)** should serve to protect crucial investments and address the sectoral drivers of inflation.

1. INTRODUCTION

We live in an age of overlapping emergencies, and our toolboxes are no longer fit for purpose. The ongoing environmental crisis has resulted in an increase of natural disasters and extreme weather, with severe consequences ranging from disrupted supply chains to mass migration (Kai-Yuan 2022; Vince 2023). Europe is in the most challenging geopolitical setting in decades. The COVID-19 pandemic and the energy price crisis have made it clear that shocks that can result from this global destabilisation of natural and political environments can trigger inflation when they hit sectors that provide essential inputs like energy, critical commercial infrastructure like shipping or basics of human livelihoods like food (Weber et al. 2024a and b).

The European Parliament recognizes these challenging times when it calls for “novel and creative policy measures that go beyond well-established Commission communications and initiatives”. Similarly, Mario Draghi has recently called for “radical change [...] to achieve transformation across the European economy”, lamenting that the EU lacks the capacity to promote its economic policy priorities:

*our organisation, decision-making and financing are designed for ‘the world of yesterday’
– pre-Covid, pre-Ukraine, pre-conflagration in the Middle East, pre return of great power rivalry.
(Draghi 2024)*

With this report, we aim to link the challenge of financing climate change mitigation and economic resilience to inflation preparedness and governance.

We start with two high-level observations about the current predicament and the challenges that the EU faces: i) the risk of more frequent inflationary shocks and a need for unprecedented public, and ii) private investment. These conditions put conflicting demands on the EU's existing inflation governance structures: Investments thrive on low interest rates and strong demand, but the EU response to inflation is to raise monetary policy rates and impose fiscal tightening. The two directly contradict each other.

As we argue, policymakers should avoid overreliance on monetary policy measures to address new shocks to systemically significant prices. High interest rates have considerable lag times and cannot prevent the propagation of supply shocks. Using monetary policy is also a costly policy, which works by reigning in economy-wide demand. It can be used to respond to supply shocks, but it cannot address their root cause, which are typically sector-specific. Yet, higher rates impact investments more than consumption. Clean energy investment, which has high upfront costs, is particularly vulnerable to high rates. Monetary policy, accordingly, may undermine critical public and private investment.

To deal with inflation without damaging its capacity to deal with other challenges, the EU's inflation governance framework should reflect the way in which cost shocks ripple through the economy. The governance framework should consist in enhanced price shock monitoring to anticipate disruptions in systemically significant sectors and enable a swift response; sectoral policies to increase supply resilience and intervene where necessary in smart and effective ways; and to contain the propagation and amplification of cost shocks where they cannot be prevented to avoid inflation that is driven by distributive conflicts between capital and labour.

The report is structured as follows. Section 2 provides a broad overview of how the EU's approach to inflation evolved historically from the 1970s onwards. We show that the specific circumstances of the Great Moderation led to a simple idea for how to achieve price stability. However, the post COVID-19

pandemic inflation was different, with cost shocks that made profits rather than wages the main driver of inflation. Going forward, more shocks are to be expected. In Section 3, we argue that shocks to systemically significant prices are not best addressed by raising interest rates. We also show that the current inflation has already resulted in new sector-specific approaches. Section 4 sets out the shape of an adequate EU inflation governance.

2. EU INFLATION POLICY AND THE END OF THE GREAT MODERATION

The EU's approach to inflation developed during the period of the Great Moderation, when a range of factors together led to low inflation. The period was preceded by a period of high inflation in the 1970s, which originated in oil price shocks and persisted due to conflict inflation (see section 2.1). Reflecting these experiences, the Member States gave the leading role in the EU's inflation governance to the ECB. As inflation remained low in the past decades, the ECB increasingly simplified its approach to price stability, with the main role relying on monetary policy rates and having little attention to cost shocks (see section 2.2). However, the coming years' geopolitics, the climate and environmental crisis as well as more aggressive firm pricing strategies would make the EU and the global economy vulnerable to higher inflation and more frequent shocks (see section 2.3)

2.1. Two types of shockflation: The 1970s and today's dynamics of sellers' inflation

The EU's approach to inflation emerged out of the experience of the 1970s (Mourlon-Druol 2012; Warlouzet 2018). Western Europe was struck by high levels of inflation following a four-fold increase in oil prices in 1973 and a further shock in 1979. Then, as now, such supply shocks impacted prices far beyond the energy sector. The higher input costs led to higher prices in sectors relying on oil as an input, which by the 1970s was the case for almost every sector of the economy.

The oil price shock is an example of a shock to a systemically significant sector. In that regard, the inflation of the 1970s is similar to today. Systemically significant prices for inflation are prices whose changes have disproportionately large impacts on overall price stability compared to other prices (Hockett and Omarova 2016; Weber et al. 2024a; Weber and Wasner 2023). Interest rates and wages are generally acknowledged as having such outsized impacts and are the target of central bankers and policymakers. However, in a world of supply shocks that trigger large price swings, specific individual sectors can also become systemically important for the general price level.¹ This means that changes to systemically significant prices acquire an outsized impact on the consumer price index. In having such an impact, they are different from, for example, haircuts and other retail services, which have relatively stable prices and limited impact on economy-wide inflation. We refer to inflation caused by shocks to systemically significant prices as shockflation (Weber et al. 2024b).

¹ Systemic significance can occur through the following three channels or a combination thereof: 1) a sector's forward linkages in the input-output network, 2) a sector's weight in the consumption basket, or 3) a sector's price volatility. Recent empirical studies highlight three groups of systemically important sectors: essential production inputs e.g. energy, chemicals (channel 1 and 3), essential commercial services e.g. wholesale trade, transportation (channel 1), and essentials of human livelihoods e.g. food and housing (channel 2) (Weber et al. 2024a).

Figure 2: Stages of shockflation

Source: Weber & Wasner (2023).

The propagation of a shock to a systemically significant sector can turn the local price spike into generalised inflation. This can occur through two channels: firms increase their prices to protect their profit margins and/or workers protect their living standards against rising costs by demanding higher wages. Both exert additional pressure on prices. In the 1970s both channels were at play as labour and capital competed in fending off costs (Rowthorn 1977; Lindberg and Maier 1985). Conflict inflation emerged out of two relatively brief oil crises and it persisted well into the 1980s.

While the 1970s wage-led and today's profit-led inflation were forms of shockflation, they are different in nature and require different kinds of policy responses. As a recent analysis by the IMF (2023) on Europe shows, in the initial inflation phase of the 1970s unit wages captured a larger share of inflation than unit profits. In sharp contrast to the 1970s, unit profits accounted for half or more of inflation in 2021-2023 as the analysis of the IMF (2023) and the ECB (2024b) demonstrate. In comparison, in the period from 1999 to 2019, unit profits accounted for only one third of inflation (Arce, Hahn, and Koester 2023; ECB 2023). Firms used to absorb parts of input cost increases by margin compression (ECB, 2024b). So, from that vantage point, the increase in unit profits is exceptional. Meanwhile, at the peak of inflation in the third quarter of 2022, real wages in Europe saw a record decline of an average of 5.1 per cent year-on-year (EC 2024a). ECB analysis of the gas price shock also shows that while the margins of firms using gas as input expanded, wage increases only compensated around 20% of the cost shock leading to workers carrying part of the cost with falling living standards (Adolfson et al. 2024). Simply put, workers failed to protect their purchasing power against the cost shock, while the corporate sector gained.

At the June 2023 Monetary Dialogue, Christine Lagarde explained the exceptional role of profits as follows:

Certain sectors of the economy in particular had taken advantage of the mismatch between supply constrained by bottlenecks and demand enhanced by recovery and a situation of everybody's in the same position, we are all going to increase prices which can be concerted practice, which can be just market driven practices; and in those circumstances those sectors have taken advantage to push costs through entirely without squeezing on margins and for some of them to push prices higher than just the cost push. (EP 2023)

What Lagarde describes is what Weber and Wasner (2023) have conceptualised as sellers' inflation, which is at the core of the recent shockflation. In the first stage, shocks to systemically important sectors like energy, raw materials and transportation create an inflation impulse. As their analysis of earnings

calls shows, these shocks coordinate firms' price hikes since all firms price to protect margins (stage two). Note that to keep profit margins stable, firms need to increase prices by more than the initial cost shock and increase unit profits (Colonna, Torrini, and Viviano 2023; ECB 2023). Where price increases overshoot or bottlenecks created temporary monopolies, firms even increased their profit margins and not only propagated but amplified the initial shock. These pricing decisions by firms transformed a local shock into generalised sellers' inflation. In the euro area, sectors that benefited most in terms of higher profit margins included agriculture, construction, mining and utilities, manufacturing but also contact-intensive services (Hansen, Toscani, and Zhou 2023; Weber and Wasner 2023). If propagation and amplification of the shock go unaddressed, they can in principle set off a conflict inflation (stage 3), as unions and employees seek a wage catch-up to fight back against a decline in real wages. However, this has not been the case in Europe as workers did not even manage to protect their living standards against inflation.

Eventually, the shocks to systemically important prices cease and prices in commodity-type sectors fall. This means that if shockflation does not trigger sustained conflict inflation its effects are transitory. Yet, firms that keep output prices stable despite falling input costs can see both their absolute profits and profit margins (profit as a share of sales revenues) increase as inflation falls. Alternatively, firms could also absorb the shock through wage increases. The structures of inflation governance determine how the cost increases are born by society.

2.2. The ECB's operational framework and the exceptional circumstances of the Great Moderation

The 1992 Maastricht Treaty was informed by a deep anxiety around the return of inflation, with a prominent role assigned to a newly created European Central Bank. Over the course of the 1990s and 2000s, the ECB developed a monetary policy strategy according to which it could mostly ignore supply shocks, making the EU ill-prepared for the recent shockflation.

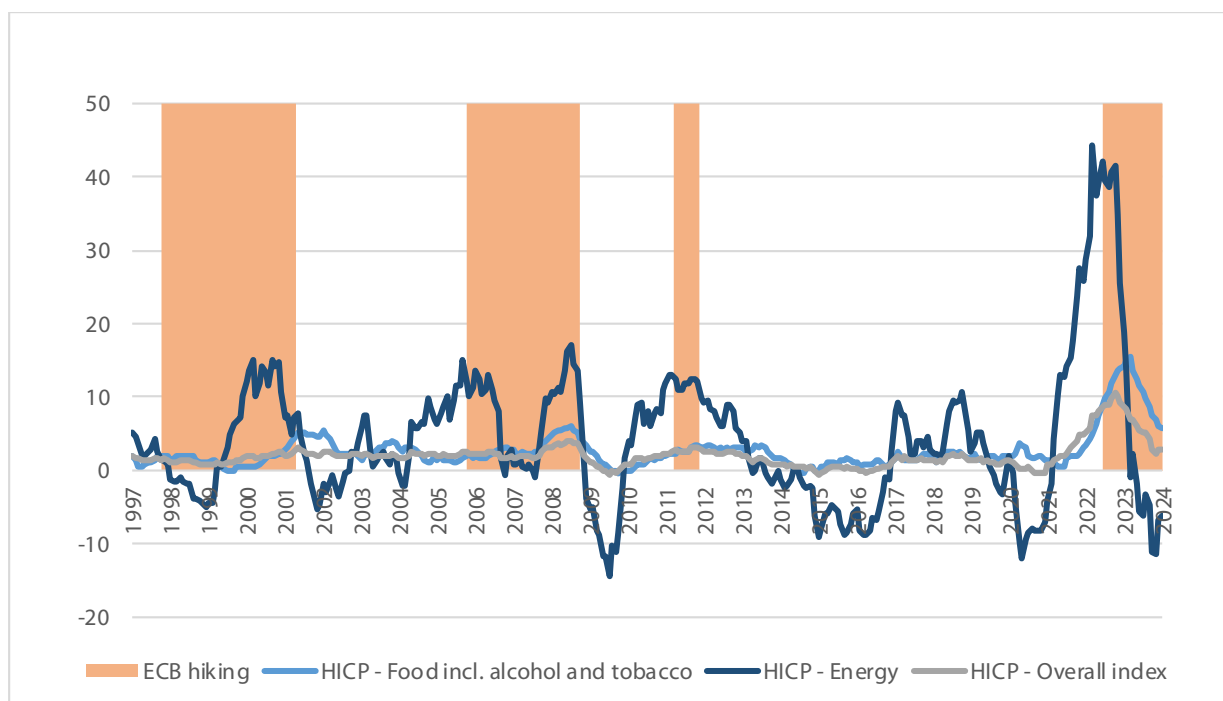
The success of the Deutsche Bundesbank had a major impact on these developments. It gave rise to a relatively simplistic account of the role of the central bank and its contribution to price stability that is, however, not in line with the broader toolbox that had been mobilised to achieve monetary stability in Germany. According to the monetarist ideas prevalent at the time, interest rates could be used to steer the volume of money creation, where the optimal volume of money is determined by the long-term development of the economy's productive capacity. This perspective was slowly complemented by a New Keynesian vision, which sees interest rates as a means to steer aggregate demand and inflation expectations (see Box 1). Across these different theoretical frameworks, the focus of the central bank's decision-making is meant to be on demand stemming from wages and public deficits.

In reality, the Bundesbank's monetary policy was at best one factor driving low inflation in Germany (Hall and Franzese 1998; Hancké 2013). Central banks can only indirectly influence inflation drivers such as wages and fiscal policies. Rather, Germany's inflation record rested on coordinated wage bargaining, wage moderation and support for anti-inflationary policies. The Bundesbank safeguarded these institutional features through monetary policy contractions to ward off excessive demand stemming from wage increases and government spending.

From the mid-1980s onwards, inflation stabilised at much lower rates across advanced economies. After the crisis of the 1970s, oil prices came down and remained much more stable during the following decades. Demand-led factors were attenuated as fiscal deficits went down and the bargaining position

of organised labour weakened. Supply shocks were attenuated by the downward impact of globalisation on consumer good prices. Weak bargaining power of European unions and the globalisation of value chains - in particular cheap production in East Asia and integration with China - kept average inflation rates low. Between the start of the ECB's operations in 1998 and the 2020 COVID-19 pandemic, the price of consumer goods went up only 0.6% per year; even as the quality and quantity of available products expanded dramatically.

Figure 3: ECB periods of rising interest rates and annual changes to Harmonised Consumer Price Index (HICP), in %



Source: ECB Datawarehouse. Hiking measured from the month that ECB monetary policy rates went up until the month they went down.

The few periods that the ECB did raise rates were closely tied to preceding energy and food price shocks (see Figure 3). In those moments, a fear of a return of the 1970s inflation loomed large. As Jean-Claude Trichet explained the ECB's 2011 hike:

The increase in inflation rates in early 2011 largely reflects higher commodity prices. Pressure stemming from the sharp increases in energy and food prices is also discernible in the earlier stages of the production process. It is of paramount importance that the rise in HICP inflation does not lead to second-round effects in price and wage-setting behaviour and thereby give rise to broad-based inflationary pressures over the medium term. (Trichet 2011)

The experience of the 1970s led central banks to develop a role focused on threats to price stability stemming from high wages and excessive government spending. From this perspective, negative supply shocks can be ignored unless they trigger excessive wage increases or other economy-wide inflationary effects (Bernanke and Mishkin 1997). Central banks incorporate this commitment into their strategy in various ways. The Federal Reserve focuses on core inflation, which excludes food and energy prices, while other central banks also exclude terms-of-trade shocks. The inflation target is also typically envisaged over a specific time horizon, allowing the central banks to wait for shocks to play out.

Throughout its history, the ECB has held the view that temporarily allowing for a deviation from the inflation target is compatible with its price stability mandate, but only as long as inflation is expected to return to 2% over a medium term (i.e. 2 to 5 year) period (Grünewald and Van 't Klooster 2023). Its two strategy reviews (in 2003 and 2021) shared a general outlook where sectoral supply shocks are treated as a topic of minor concern, with the notable exception of the 2021 workstream on climate change (Drudi et al. 2021; cf. Issing 2003). As the ECB summarised the outcome of the 2003 review of the monetary policy strategy:

[M]onetary policy needs to be tailored to the nature of the shocks hitting the economy, and their size, source and potential for propagation. On this basis, the key ECB interest rates must evolve in such a way that the path of future inflation remains in line with the ECB's objective of price stability over the medium term. (ECB 2003, 88)

Similarly, reflecting the ECB's undershooting its inflation target after the 2010-2012 sovereign debt crisis, the 2021 strategy review focused on better understanding factors that kept prices low. Its approach to supply shocks remained largely unchanged:

As different types of shock may move inflation and real economic activity in the same direction (as in the case of demand shocks) or create a temporary trade-off (as in the case of supply shocks), the medium-term orientation also provides the policy flexibility to assess the origin of shocks and look through temporary shocks that may dissipate of their own accord, thus avoiding unnecessary volatility in activity and employment. (ECB 2021)

As the 2021 strategy makes clear, for the central bank to allow a cost increase to ripple through the economy, its effects must remain modest. When shocks become larger and recur, the ECB's strategic outlook increasingly sets up a dilemma: Either do nothing, wait for the effects of the shock to dissipate, or use the crude tool of monetary policy rates.

The European inflation governance has been set up with the 1970s in mind and aims to address wage-price spirals. From the perspective of shockflation that has sellers' inflation at its core this means that the propagation and amplification of shocks by firms' pricing behavior remains unaddressed. Instead, once the central bank starts raising interest rates it merely prevents wages from catching up with the cost shock. Currently, the European governance framework is only suited to rein in at the conflict stage and not at the impulse or the sellers' inflation stage of amplification and propagation. At every stage, shockflation becomes increasingly costly to contain.

Box 1: Firm pricing and forward-looking expectations

The ECB's strategy for inflation aims to avert the conflict stage of inflation by shaping the economic expectations, bargaining power of unions and policy space of different actors. Macroeconomic theory captures this dynamic in the idea of forward-looking expectations. Whereas the impact of the central bank on governments and unions is well established in the political economy and historical literature (Hall and Franzese 1998; Hancké 2013), there is hardly any evidence that well-anchored inflation expectations stop individual firms from raising prices. Experimental studies show that higher inflation expectations sometimes lead firms to raise prices, but can also have the opposite effect (Coibion, Gorodnichenko, and Kumar 2018; Coibion, Gorodnichenko, and Ropele 2020). Indeed, the mechanisms by which the anchoring of inflation expectations could impact firm pricing decisions are either not well understood (Coibion et al. 2020) or may in fact not very strong (Rudd 2021). Rather than beliefs about the central bank, firm pricing is shaped primarily by input costs and the firm's individual ability to raise prices without losing market share (Weber and Wasner, 2023). Monetary policy, of course, shapes the financing conditions available to households and firms, and it is likely mostly via these channels that monetary policy could shape firm pricing decisions. These channels function in a substantially different manner than central bank communication's efforts to affect wages and fiscal deficits.

2.3. The end of the Great Moderation

Although the ECB's strategic framework is geared towards preventing excessive wage increases as a driver of inflation, this should not be the EU's sole concern when it comes to price stability. In the coming years, three factors combine to make the EU vulnerable to both more frequent and heterogeneous shocks as well as more persistent inflation: deglobalisation and geopolitical tensions, the climate and environmental crises as well as new firm price strategies.

First, imported consumer goods need not continue to be abundant and ever cheaper as they have been during the Great Moderation. There is an ongoing debate about the reality of deglobalisation, and related phenomena such as decoupling, deglobalisation and regionalisation. For now, global trade seems to have stayed relatively stable. But as the invasion of Ukraine made clear, geopolitical tension can easily cut off production chains of crucial inputs into the production process.

A second set of factors contributing to more volatile prices are climate change and other environmental factors (Batten 2018; Drudi et al. 2021). Climate change can suddenly drive up prices via the physical impact of extreme weather events and natural disasters, which typically result in lower output and a higher price level (Cantelmo et al., n.d.). These impacts extend far beyond obvious sectors such as agriculture, tourism and coastal real estate. Record droughts in Taiwan were an important driver of the 2021 semi-conductor shortages (Kai-Yuan 2022). A rapid transition can similarly drive up prices, for example via higher costs of carbon intensive products (for example due to taxes) or bottlenecks in inputs like critical minerals (Schnabel 2022; Weber et al., 2024b). As firms rapidly revise their production processes to zero emissions technologies, demand for transition-critical materials such as copper, lithium and nickel can rapidly outpace supply (Miller et al. 2023).

Finally, more aggressive firm price-setting behaviour may also increasingly make the European economy more vulnerable to persistent inflation. Having learnt new lessons during the recent inflationary episode, firms are already developing new strategies to pass on costs to their customers (Weber and Wasner 2023) Once shocks return and become more frequent firms are likely to adapt

pricing strategies that increase their propagation and amplification, as well as increasing the likelihood of conflict inflation. Over time, firms are likely to improve their ability to raise prices and pass on cost increases to consumers, using, among other tools, AI and algorithmic approaches. Against the background of the dramatic collapse in real wages in Europe in 2022 and 2023, labour will be more aware of inflation, leading to more ambitious wage bargaining strategies. More volatility can also undermine long-term price stability and anchoring of inflation expectations, since such expectations are typically formed based on cost increases in the recent past. Again, we are likely unable to foresee the precise impacts of these developments, but they warrant a close look at the EU's anti-inflationary toolbox.

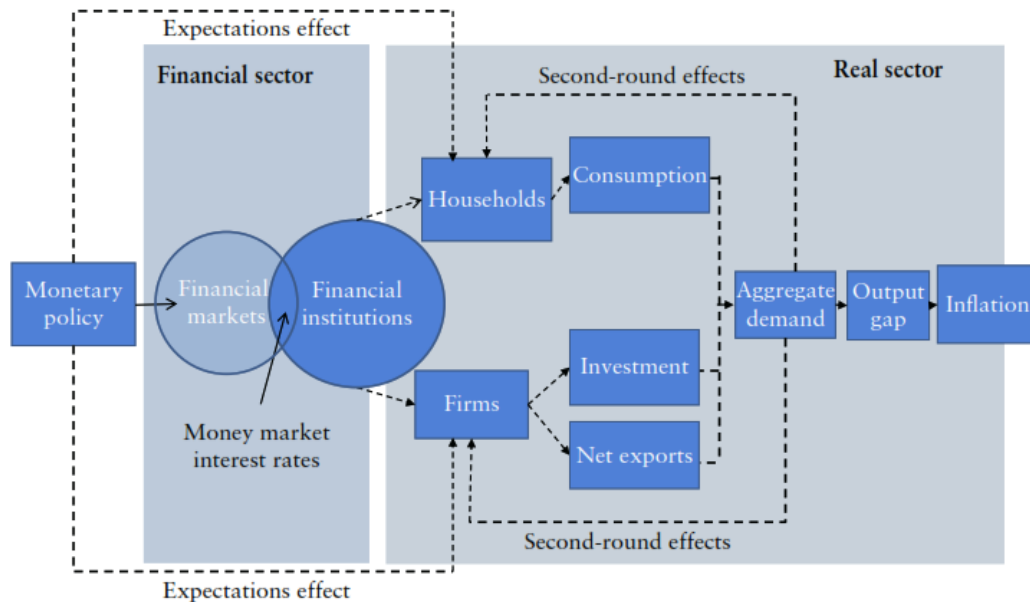
3. MAKING THE EU READY FOR A WORLD OF SHOCKFLATION

In a world of increasingly frequent and severe shocks, the EU needs to develop new forms of price stabilisation that directly address shocks to systemically significant prices. Addressing these new challenges with the old instruments of monetary policy is costly and does not address many of the most pressing economic and social impacts of negative supply shocks (see section 3.1). However, the EU has always maintained some sectoral price policies, with the past two years seeing a clear re-emergence of such measures (see section 3.2). EU-wide sectoral policies can support economy-wide policies to achieve price stability, while also creating more space for EU-level private and public investment.

3.1. The limits of monetary policy

As we have seen, the German success story of the Bundesbank ultimately relied on much more than just monetary policy. Drawing the lessons from this history, today's almost automatic response to shockflation is to raise interest rates. Since monetary policy has limited traction on firm price-setting, it cannot do much to prevent price increases from rippling through the economy. It is also a costly instrument to bring down consumer prices. It does not address, and can in fact exacerbate, the negative economic and social effects of inflation.

Increasing central bank policy rates can be compared to intentionally triggering an economy-wide supply shock: since interest rates are systemically important prices, raising rates suddenly makes a wide range of economic activities more costly, ultimately depressing aggregate demand (See Figure 4) (Moenjak 2014; Gern, Jannsen, and Sonnenberg 2023). However, the exact transmission of interventions on interest rates to the growth of aggregate price levels is indirect, non-linear and takes months to work, with key mechanisms resisting simple summary. Higher ECB rates impact the European economy via a variety of channels, many of which could plausibly help bring down inflation (see Figure 3). Central banks only directly control a few short-term money market rates, but can thereby also influence other markets. These interventions not only shape the financing conditions available to households and firms, but can also influence their behaviour via expectations of future economic conditions. These effects, in turn, shape household consumption, firm investments and the balance of payments, thereby influencing aggregate demand and, ultimately, the price level. However, the relative importance of individual transmission channels, the timing of their effect and even the direction of impact often remains poorly understood (Tarullo 2017; Rudd 2021; Altavilla et al. 2021, 20). For the highly heterogeneous euro area the effects of changing financial conditions also differ strongly between Member States and geographic regions (Corsetti, Duarte, and Mann 2022).

Figure 4: The transmission of monetary policy to the price level

Source: Moenjok (2014).

Shockflation raises a difficult dilemma for central banks, in particular when cost shocks become more frequent and severe. As cost shocks ripple through the economy, the central bank has two options: do nothing or take drastic, economy-wide measures (Beaudry, Carter, and Lahiri 2023).

The first option is to wait for inflation to go down as the prices stabilise at a higher level. This may take a long time and does little if anything to address the negative economic and social effects of inflation. An inflationary environment sees some prices go up much more than others. The ability of individuals and firms to bear higher costs differs considerably. From the perspective of low-income households, inflation is a major threat to living standards, especially when driven by prices of essentials like energy (e.g. Bobasu, Dobrew, and Repele 2024). High prices can have dramatic cost of living impact for households and create an existential threat to exposed firms. In 2022, soaring energy and food prices had the biggest impact on the cost of living in low and below-median households. Across the EU, households living in absolute poverty grew by 4.4%, with some Member States seeing those numbers go up by up to 19% (Menyhert 2022). Inflation, in sum, requires policy.

The only option available for central banks under the current governance structure is to raise policy rates, but this can fail to work, be economically costly and has a range of undesirable side-effects. Monetary policy aims to bring down prices by contracting demand, halting wage catch up and reducing economic activity. However, the channels through which policy rates transmit to the real economy is highly indirect, making its effect on firm price setting hard to predict or trace.

As we saw, when the ECB raised its policy rates in 2005, 2011 and 2022, the central bank responded to the inflationary effects of rising energy prices. By the time the ECB started to raise rates, energy prices were already on their way down. Beyond their direct impact, raising interest rates at best attenuates the propagation of cost shocks through the economy. Large and irregular supply shocks can give rise to undesirable changes to economic expectations and firm pricing strategies, even increasing the propagation and amplification of shocks through the economy over time. However, monetary policy does little to stop sellers' inflation, especially when firms prioritise price increases over volumes.

Households also experience the direct impact of higher mortgage rates on their disposable income, further raising their cost of living. This may be an important part of today's persistent experience of inflation (Bolhuis et al. 2024).

Used without supporting supply-side measures higher rates can damage the economy's productive capacity as well as be self-defeating. Monetary policy exacerbates shockflation by introducing a cost shock to a systemically important price. For firms, higher interest rates raise the cost of capital, thereby making investments more expensive. As monetary policy drives down economic activity, moreover, it strikes directly at productivity-enhancing firm investments (Galbraith 1997; Jorda, Singh, and Taylor 2020; Fornaro and Wolf 2023). The more long-term those investments, the more damage high rates do. One way in which high rates make the EU economy more vulnerable to economic shocks is via their negative impact on investments for decarbonising energy systems (Egli, Steffen, and Schmidt 2018; Schmidt et al. 2019; van 't Klooster 2022). Clean energy investments share a cost structure where a large part of the cost of energy production is determined by upfront costs. Similarly, investments in energy efficiency measures involve predominantly costs, after which variable energy costs are both lower and more reliable. Using monetary policy to deal with shocks harms exactly those investments most needed to protect the European economy against future shocks. Higher interest rates also constrain the fiscal space of the EU and its Member States, hindering governments from responding in an agile way to new crises.

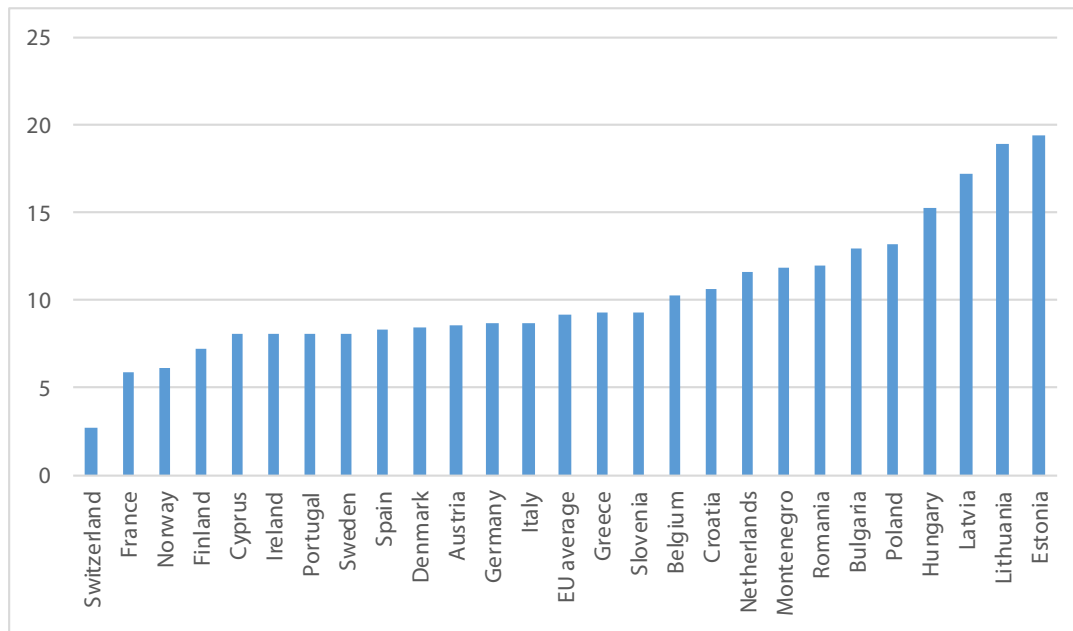
Shockflation originates in a few sectors, but slowly percolates through the economy in ways that warrant targeted and carefully designed policy interventions. Targeted interventions can cut off the inflationary dynamic in its earliest stages. With the EU's current blunt instruments it will time and again be forced to raise its policy rates. This can set the stage for new shocks and, ultimately, even higher rates.

3.2. The return of sectoral policies

The inflation of 2021 and 2022 forced the EU to go beyond its existing approach to inflation, giving rise to haphazardly designed sectoral policies. Instead of curtailing economy-wide economic demand, these measures address supply shocks and excessive price increases by targeting systemically important prices.

Although targeted measures were no longer part of the anti-inflation toolbox, the EU never abolished sectoral price policies entirely. By far the most important field of price measures remains the Common Agricultural Policy (CAP). Although direct price controls were abolished after 1992, the EU continues to monitor price developments as well as purchase and store products to stabilise market prices (EC 2024b). Eurostat's Food Prices Monitoring Tool provides detailed data on prices within the food sector, spanning the supply chain from agricultural commodities, via food industry products to consumer goods. Currently, the EU and some of its Member States intervene directly in the markets for wheat, durum wheat, barley and maize, rice, beef and veal, butter and skimmed milk powder (EC 2024b). For some of these products the EU also pays the private sector for storage, such as for example for white sugar, olive oil, pig meat, sheep and goat meat, flax fibre.

From the end of 2021 onwards a wide range of new policies to deal with inflation proliferated throughout the EU, often with a specific sectoral focus (Sgaravatti et al. 2024). These policies include measures to mitigate the impact of the Russian war on Ukraine and to enhance the EU's robustness to future geopolitical events.

Figure 5: Annual Consumer Price Inflation (HICP) for 2022, in %

Source: Eurostat.

The initial wave of cost shocks in 2021 originated in energy, chemicals, metals, and woods as well as shipping and intermediate goods such as auto parts and semi-conductors. In 2021, 23% of firms in the euro area reported that production was limited by a lack of material and/or equipment (historical average: 6%) (Attinasi et al. 2021).

A new willingness to go beyond reliance on free prices also informed the EU's approach to the energy shock. In 2022, the EU and its Member States introduced extensive policies to cushion the impact of the exceptional energy prices (EC 2021). Member States went beyond economic orthodoxy to introduce price stabilisation policies for energy, which had significantly contributed to lowering inflation according to IMF research (Dao et al., 2023, Krebs and Weber, 2023). Some also introduced it for food price inflation (Amaglobeli et al. 2023). These measures included not only temporary tax breaks, vouchers and subsidies for consumers and businesses, but also price caps that set the limits on energy prices directly. In March 2022, the European Council set out the ambition to phase out the EU's dependency on Russian gas, oil and coal, while also maintaining security of supply and affordable energy prices. Since then, the EU as a whole and individual Member States have developed a range of policies that target energy prices, which helped to keep inflation in check (Pallotti et al. 2023).

At least initially many argued that the EU should simply rely on free market prices to increase supply. For example, Daniel Gros argued that the price increase of semi-conductors should also be seen as a desirable development. Higher prices would lead to more production, whereas genuinely critical sectors could pass on higher prices to consumers: "*Critical sectors should pay higher prices for chips as they can also increase their own prices (if their products are really that critical).*" (Gros 2022). However, this is not the lesson that the EU drew from this experience.

While it is true that supply shocks can set into motion economic forces that bring down prices, there are two key reasons to closely intervene when disruptions to systemically significant prices occur. First, many systemically significant sectors have features that inhibit smooth and swift adaptation of the supply side via the price mechanism. Several systemically significant sectors like oil and gas, food

commodity trade, shipping and chemicals are also highly capital intensive and dominated by a relatively small number of multinational firms with capacities built up over decades or even centuries.² Any development of new capacity in such sectors will only be possible if profits are not perceived as temporary windfalls and if newcomers have a chance to compete against established firms. Often, they are also essentials with relatively low demand elasticities in the short run. A second reason is that, while capacity adapts, increases in systemically significant prices continue to percolate through the economy, both directly affecting households and firms, as well as indirectly via the impact on other prices. In this sense, the price increases of systemically significant sectors have major externalities for monetary and macroeconomic stability. It is also possible that production capacity expands too much, setting the stage for further economic disruption as prices plummet as is typical in commodity markets (Rees and Rungcharoenkitkul 2021). However, for measures to have any benefits, timing remains crucial, with measures in Member States that were slow to act less effective than those that acted earlier (Beckmann, Thie, and Weber 2023; Krebs and Weber, 2024.).

Despite recent efforts, an inflation governance gap remains because price stability is still assumed to be a matter for central banks. To the extent that there is an EU price policy, initiatives often have been *ad hoc* and temporary, going against the grain for economists and policymakers trained during the Great Moderation (Krebs and Weber, 2024). As a European minister commented on their experience during an EU Council meeting in 2022:

People were talking about price ceilings and afterwards I said something very market liberal about the importance of price signals, but I did not at all understand what was happening... I just come from a tradition of economic thinking that assumed inflation will be low.³

The ECB itself has off and on taken the sectoral impact of its interest rates into account. For example, going beyond its previous policy of market neutrality, the central banks put forward a climate agenda as a part of its 2021 monetary policy strategy (ECB 2021). However, with the 2022 inflation, the ECB chose a different approach, designing its new interest rate policy in ways that neglected its sectoral impacts (Schnabel 2023; Dafermos et al. 2023; Goutsmedt and Fontan 2024). So, when the overall price level goes up, the fundamental assumption of EU inflation remains that the best way to deal with inflation is to raise rates.

² To give two sector examples: The world's top 8 carrier groups account for more than 80 percent of the global fleet while the history of top firms like Maersk, CMA or Hapag-Lloyd dates to the 19th century (Freightwaves, 2021). Five companies, the so-called ABCCD (Archer, Bunge, Cargil, COFCO, and Louis Dreyfus) account for more than 70 percent of the global grain trade where most of them originated in the late 19th and early 20th century (UNCTAD, 2023 https://unctad.org/system/files/official-document/tdr2023ch3_en.pdf; Morgan, 2000 <https://www.amazon.com/Merchants-Grain-Profits-Companies-Center/dp/0595142109>).

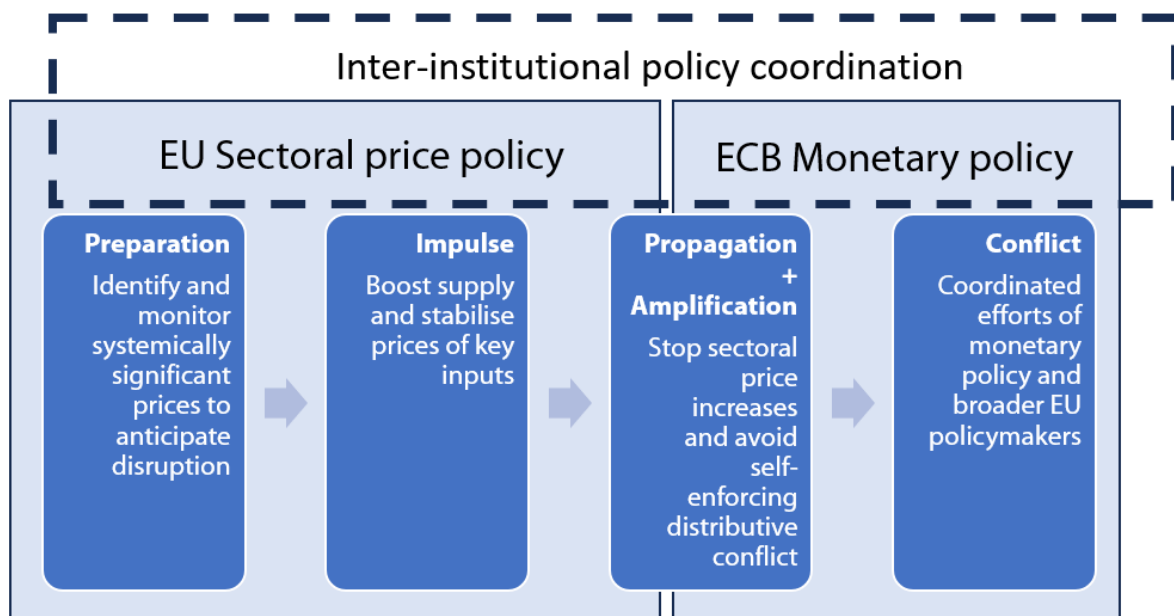
³ Translation from the Dutch: "er werd in [at the EU Council in Brussels] gepraat over prijsplafonds en toen heb ik na afloop iets enorm liberaals gezegd, zoiets van wat een onzin allemaal en prijzen moeten gewoon signalen afgeven enzo, me helemaal niet realiserend wat er aan het gebeuren was. ... Ik kwam ook gewoon uit de traditie dat inflatie laag was" (Presentation at Pakhuis De Zwijger, Amsterdam, 09.11.2023)

4. A NEW EU GOVERNANCE STRUCTURE FOR INFLATION

The ECB's monetary policy is not an adequate instrument to deal with shockflation. Therefore, the EU currently lacks an adequate governance structure for managing its domestic price level. Going forward, a range of new instruments are needed to monitor systemically significant prices and intervene effectively. Moreover, while many measures can be implemented on the Member State level, it is paramount to coordinate their design on the EU level. This avoids a patchwork of regulations and ensures a level playing field within the Single Market. Accordingly, the EU should develop a much more targeted policy toolbox, which should be integrated in an encompassing framework of coordination and governance.

In this section, we outline the main EU-level policies that we see as desirable and permissible within the existing EU Treaties (4.1). A new EU-level inflation governance structure should combine a price monitoring system (4.2) with measures to avoid impulse shocks (4.3) and stop the proliferation and amplification of shocks (4.4). Coordination between the Council, the European Parliament and the ECB should serve to align inflation governance across the different sectors of the European economy (see Figure 6).

Figure 6: EU governance for shockflation



Source: Authors, based on Weber & Wasner (2023).

4.1. Inflation governance within the EU Treaties

The EU treaties provide ample scope addressing shockflation through measures at the EU and Member State level as well as for coordinated action involving the ECB, the European Commission and the EU's competition authorities.

The distribution of competences within the EU Treaties reflects the basic assumption that economic policy requires the coordinated action of many actors. It is in this regard constitutively a pluralist constitution where "all actors are supposed to achieve a common objective by way of a mix of overlapping voluntary and mandatory activities." (Bieber 2014, 55). EU membership also imposes such requirements on the Member States, who should regard their economic policies as "a matter of

common concern” (Article 121 of the Treaty on the Function of the European Union; TFEU) and geared towards common objectives.

The basic assumption of pluralism also applies to price stability, which is not the sole responsibility of the ECB, but rather an important consideration in a wide range of economic policy competences in and of the EU. Article 3 of the Treaty on European Union (TEU) sets out the objectives of the EU, which are the shared objectives of the EU institutions and also those that the Member States should take into account when conducting their economic policies (Article 120 TFEU). One key objective is “the sustainable development of Europe based on balanced economic growth and price stability” (Article 3(3), TEU). That price stability is not just the task of the ECB is also clear from other passages. For example, concerning the exchange rate of the euro, the Council can conclude formal arrangements with other States, but should only do so with the “primary objective” of price stability (Article 119(2) TFEU) and “after consulting the European Central Bank, in an endeavour to reach a consensus consistent with the objective of price stability” (Article 219(1) TFEU). Other non-ECB competences that serve to pursue price stability within the EU include the general outlines of macroeconomic policy set by the Council and EU budgetary surveillance.

The wide-ranging effects of shockflation are not just a concern from the perspective of price stability, but also impact further priorities of EU policymakers, creating a further justification for their role in addressing price increases in its early stage. The social and economic impact of shocks warrants intervention from Member States and the EU institutions, impacting a range of EU’s objectives set out in Article 3 TEU, such as the well-being of European citizens, a competitive social market economy, social justice and protection, economic, social and territorial cohesion, and solidarity amongst the member states. Beyond the coordination of Member States policies, EU legislation would be appropriate to the extent that price developments impact the functioning of the internal market (Article 114 TFEU). We also see a special role for EU competition policy where the price-setting behaviour of individual firms can constitute abuse of dominance that allows for “directly or indirectly imposing unfair purchase or selling prices” (article 102, TFEU; see Box 2).

While the ECB mandate is premised on legal independence, it provides ample scope for coordinated policies (Beukers 2013; de Boer, Grünewald, and Van ’t Klooster 2024; Grünewald and Van ’t Klooster 2023). Article 130 TFEU prohibits the ECB from taking binding instructions and prohibits other policymakers from interfering with its pursuit of price stability. Within the context of these requirements of independence, however, there is also room for policy coordination in the pursuit of price stability, as demonstrated in the period since 2008 in a range of domains, for example, the coordination between the ECB’s 2012 Outright Monetary Transactions (OMT) programme and the European Stability Mechanism (ESM), the design of the Corporate Sector Purchase Programme (CSPP) to contribute to the Capital Markets Union (CMU) and the recent greening measures of the ECB’s monetary policy instruments. The EU Treaties, accordingly, provide ample scope for effective inflation governance through a coordinated action of European policymakers.

Box 2: EU competition policy

There is ample scope within the competition law provisions of the EU Treaties for more careful scrutiny by the European Commission and national competent authorities of excessive pricing (Dunne 2018; Kianzad 2021; Basaran 2022).

Article 102 TFEU prohibits “Any abuse by one or more undertakings of a dominant position”, explicitly singling out “directly or indirectly imposing unfair purchase or selling prices”. It does not prohibit “unfair” prices per se, but rather using a dominant position in a market to charge prices to that end. Firms that are able to unfairly raise prices because of their dominant position are obliged to not make use of that opportunity. The European Commission’s task is to enforce that provision.

In a 1978 ruling on the pricing of Chiquita bananas, the CJEU interpreted the provision to prohibit cases where a firm makes use of “the opportunities arising out of its dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition”.¹ For this it set out a two-step test. First, it would need to be established that “the costs actually incurred and the price actually charged is excessive” and then whether doing so is “either unfair in itself or when compared with competing products”. Even for establishing excessive pricing key information about mark ups is often not publicly available. There was then and remains to this day no developed account of how to establish whether a pricing policy is unfair (Dunne 2018; Monti 2018).

Although the interpretation of this provision is thus contested, in recent years a wide range of cases have established excessive pricing (Dunne 2018; Monti 2018) For example, in 2017 the European Commission launched an investigation into Aspen Pharmaceuticals for ‘price gouging’ by charging excessively high prices for life saving medicine (Shukla 2021). In 2020, the firm committed to reduce the price of cancer medicines by 73% on average.

There appear to be two main reasons for why this provision has not been used more frequently (Dunne 2018; Monti 2018). The first is the assumption that high profits will draw in competitors, so that the market can itself prevent abuse of dominance, if its only effect is to raise prices. Where action has been brought under this provision it has focused on excessive pricing that was used to distort competition. A second set of reasons pertains to the influence of the Chicago School’s approach to competition policy. No similar excessive pricing provision exists in US antitrust law and there is ample reason for the EU to diverge from American practices in this regard.

4.2. Price shock monitoring to anticipate supply disruptions

Supply chains form a complex web of inputs and outputs to production, via which shocks spread through the global economy. In this web, some nodes are more central than others. One major challenge is to develop a better understanding of which prices are systemically significant.

The EU statistical office, (Eurostat), and the ECB’s Datawarehouse should work to improve their capabilities for identifying systemically significant sectors and goods and for monitoring their prices and volumes in real-time. This would be complementary to the monitoring of the physical risk of climate change that the ECB is already doing (ECB 2024a). To identify systemically significant prices, input and output data is an important starting point (Weber et al. 2024). For policy purposes, moving from the sectoral- to firm-level can be helpful for a more granular assessment of systemic risks (Welburn et al. 2023). Left to individual firms’ decision-making, key nodes in that web may fail to build sufficient

spare capacity to absorb shocks, especially after they learned that bottlenecks often benefited their margins.

The European Chips Act (ECA) is a model for what legislation on enhancing supply buffers could look like. To effectively deal with new shocks, the EU should work to ensure sufficient information is available concerning not just systemically significant prices, but also cost structures and profits in key sectors.

Box 3: European Chips Act

The European Chips Act is a new EU law that will set up a sectoral price policy framework for semi-conductors. It develops a coordination mechanism between the Member States and the Commission that serves to closely track supply and demand in the EU's semi-conductor sector, thereby anticipating shortages. In the event of serious disruption of supply chains that threaten "essential products used by critical sectors" (Article 123), the Act empowers the Commission to (i) request relevant information from different firms in the semiconductor supply chain (subject to fines for non-compliance (Article 25) (ii) oblige "integrated production facilities and open EU foundries to accept and prioritise an order of crisis-relevant products (priority-rated order)", with such obligation acquiring "precedence over any performance obligation under private or public law" (Article 26) and (iii) coordinate public procurement (Article 127).

The logic of some sectors being systemically significant for inflation due to their central position in the production network is in parallel with the classification of some banks as being too large or too connected to fail (Hockett and Omarova 2016). The mandate of the European Systemic Risk Board, which was established in response to the systemic risks that became apparent in the global financial crisis, should be expanded to also include risks for supply and price stability emerging in systemically significant sectors of the real economy. To facilitate EU-wide measures, the ECB should make much more information available. Similar to its Financial Stability Review, the central bank should publish a Monetary Stability Review that assesses the resilience of systemically significant sectors combined with a more real-time warning system.

Initial research on the sectoral level suggests that energy, food, housing, chemicals, wholesale trade, transportation and agriculture prices should be a key concern, but more detailed studies are needed for the price stability impact of specific goods such as critical raw materials (Weber et al. 2024). For crucial sectors, it is also important to keep a close eye on the funding costs for investment. For example, the ECB's 2022 hike has resulted in a dramatic increase in the funding costs for new clean energy investment, but the consequences for new wind and solar capacity remain hard to gauge (Schnabel 2023; Collectif 2024). The resulting underinvestment can exacerbate the supply vulnerability. Like the European Chips Act, the medium-term goal should be to identify the most vulnerable nodes and to develop an early warning system for shocks and excessive profits.

4.3. Avoiding shocks to systemically important sectors

Disruptions to systemically significant sectors lead to disruptive cost shocks across the economy and should be addressed at the root. This can be done either by stabilising supply or, if that is not possible, by stabilising prices.

As we saw, price shocks percolate through supply chains as firms respond to cost increases by pricing to protect margins. Supply in systemically significant sectors often does not adapt fast enough but may also overshoot giving rise to further instability. Accordingly, targeted and well-designed supply-side measures for key sectors should be at the heart of any measures to stop shockflation. Building on efforts

to monitor and anticipate disruptions, the Commission should propose an adequate legal framework to intervene where necessary, in smart and effective ways that stabilise prices over time. This requires developing EU policy for dealing with such shocks.

Strategic reserves are a key tool for supply and price stabilisation that can be implemented through a combination of physical and virtual buffer stocks as has been proposed for the case of food (von Braun and Torero 2009).⁴ The US deployed its Strategic Petroleum Reserve to stabilise fuel prices in 2022 and, like the EU, agricultural policy relies extensively on price, supply and demand stabilisation (Baumeister 2023; USDA 2024). China has a complex system of buffer stocks ranging from critical minerals, metals, fuels, to grain and even perishable food items like eggs and pork. In the US calls for a comprehensive Strategic Resilience Reserve are becoming louder (Hockett and Omarova 2016; Datta and Turnbull 2023; Singh and Datta 2024). For critical raw materials, a buffer stock could complement efforts to diversify supply chains (Miller et al. 2023). In this spirit, Draghi has rightly called for the creation of a EU Critical Mineral Platform for “joint procurement, [to] secure diversified supply, the pooling and financing, and stockpiling.” (Draghi 2024). Price stability is not only about macroeconomic stability and social cohesion but also cost competitiveness. Europe’s international competitiveness has been adversely affected by the energy price shock. If both China and the US are engaged in price stabilisation efforts for essentials, it will be difficult for Europe to compete in a world of shocks.

Existing EU policy can further strengthen supply and price stabilisation. There is scope for promoting investment through targeted initiatives in a coordinated fashion, as demonstrated by the EU Recovery and Resilience Facility, notably via RePowerEU. The ECB’s instrument provisions in articles 18 and 20 of the ECB and ESCB Statutes allow the central bank to intervene in the price of commodity futures and other derivatives through open market operations. European storage facilities with equitable access across EU Member States would need to be established to leverage the size of the combined European countries in stabilising market participation.

Beyond measures to address the shortfall itself or release financial assets, temporary, selective price controls to correct the overshooting of prices in response to shocks that induce endogenous price uncertainty can help to buy time (Krebs and Weber, 2024). Price controls can allow for supply to adjust and substitution to be implemented by consumers and firm. Adequate preparation also makes it possible to target interventions where they are most needed and effective. The European gas price cap can serve as a blueprint for direct emergency price stabilisation. It has been designed to prevent price overshooting without creating a permanent price control regime. However, it came only after prices had already exploded due to lengthy negotiations. This underscores the need for preparedness to enable swift intervention at the impulse stage. In light of the impact of food prices on the purchasing power of the most vulnerable households, the EU should also consider targeted measures for the price of key food products.

⁴ For a more in-depth discussion of how buffer stocks can be mobilized to enhance macroeconomic stability see Weber and Schulken, 2024.

Box 4: Monetary policy, interest-rate differentiation and supply chain resilience

Excessive reliance on monetary policy not only fails to address shockflation at its root, high interest rates also make the EU more vulnerable to future shocks. High interest rates harm long-term investments, thereby creating a direct tension between the supply-side measures required for price stability and the current modalities of monetary policy. This tension has been clearly visible in the past two years as wind energy producers have regularly cancelled planned investments citing high interest rates (FT 2024). Higher borrowing costs also constrain the fiscal space of the EU and its Member States, hindering governments from responding in an agile way to new crises. By undercutting the private and public investments needed to make the EU economy more robust to shocks, monetary policy can be self-defeating: it undermines long-term price stability, which raises questions about the compatibility of this approach with the ECB's price stability objective.

While traditional instruments of monetary policy cannot be used to directly influence systematically significant prices such as food and energy, interest-rate differentiation allows for protecting investment in key sectors. Indeed, there is a long, historical tradition of exempting key sectors from monetary tightening (Monnet and Van 't Klooster 2023). The Bundesbank, for example, exempted export credit from contractionary monetary policy until the 1990s. Already in the 1970s, the Banque de France developed a targeted programme to boost energy investments (Monnet and Van 't Klooster 2023). The logic here is simple: sometimes price stability requires low interest rates for crucial investments to go through.

There are a range of ways to design the ECB's monetary policy framework with the aim of protecting crucial investments (Colesanti Senni et al. 2023). Interest-rate differentiation can be implemented through targeted asset purchase programmes, collateral policies and refinancing operations. Eligibility criteria can be derived from existing EU-level policy. For example, for the energy sector the ECB could build on the clean energy policy set out in the RePowerEU initiative. The ECB could also provide monetary support for EU-level subsidised credit schemes. The ECB's bond purchase programmes, finally, help address pressure on the fiscal space of the EU and the Member States.

4.4. Stopping proliferation and amplification and avoiding distributive conflict

If shocks to systemically significant sectors are allowed to spread through the economy, it becomes much harder to stop their inflationary effects. At this stage, the main objective of price policies should be to avoid the inflationary dynamics turning into self-enforcing distributive conflict (Rowthorn 1977; Lorenzoni and Werning 2023). In the 2022 inflationary episode, the corporate sector as a whole effectively protected its profit margins against the cost shock, with unit profits going up and driving inflation. This can set the stage for conflict inflation, where workers would manage to achieve wage increases to compensate for the falling living standards.

The EU's current governance framework assigns a key role to the ECB's monetary policy in ensuring inflation does not reach the Conflict stage. However, as we saw, this approach is one-sided and biased towards labour protecting its incomes against cost shocks without addressing the profit side. It does

not address the root causes of inflation and fails to ameliorate the negative economic and social effects of inflation. If inflation persists a combination of smart targeted and economy-wide measures will be needed, which should take the form of coordinated action of the ECB and the political bodies of the EU.

In this stage, the Commission can again take an important role in developing economy-wide measures to nip excessive price increases in the bud. Adequate monitoring of supply chains is a crucial precondition for identifying sectoral profit margins. As Christine Lagarde has pointed out, the EU needs better data on profits (EP 2023). This data could also be monitored continuously. A credible windfall profit tax framework is an effective way to prevent price gouging. The European Commission should explore how Article 102 TFEU applies to price increases in the context of bottlenecks and develop a framework for enforcement in case of unfair pricing (see Box 3).

Through coordination of policy between the European Commission, the European Parliament and the Council, monetary policy measures can complement agreement on unit profits in wage bargaining and Member State income policy. The effective use of EU-level measures is important to safeguard a level playing field across the Single Market. If the ECB does decide to raise interest rates, it is crucial to protect supply-enhancing investments from interest rate hikes (see box 4).

Going forward, policy coordination in the context of supply-driven inflation should be built on a coherent shared vision of the drivers of inflationary dynamics and the sectoral policies most effective at addressing them. However, it remains crucial that the ECB's capacity is leveraged and its ability to pursue price stability is not affected by these arrangements and that any pursuit of secondary objectives is properly rooted in existing EU level policies (Grünewald and Van 't Klooster 2023; de Boer, Grünewald, and Van 't Klooster 2024).

5. CONCLUSION: POLICY RECOMMENDATIONS

While facing new shocks, and in efforts to manage crises and avert the worst consequences of climate change, the EU will need to mobilise unprecedented levels of private and public investment. These conditions put conflicting demands on the EU's existing inflation governance structures: Investment requires low interest rates, but the EU response to inflation is today to raise interest rates. To create space for the public and private investments needed to address the EU's current challenges, the EU needs to reconsider its inflation governance structure. To summarise our concrete policy recommendations to adjust and mitigate the effects of external shocks.

- Monetary policy has limited traction on firm price-setting, making it a costly and ineffective instrument to bring down consumer prices in a context of shockflation.
- To stop firms from propagating and amplifying sectoral shocks, a new EU-level inflation governance framework should anticipate disruptions where possible and intervene as early as possible.
- Eurostat and the ECB's Datawarehouse should develop an enhanced price monitoring system.
- For essential sectors such as energy, food and critical raw materials, the Commission should coordinate Member State policies at the EU-level to avoid impulse shocks as well as boosting supply with physical buffer stocks, stabilising prices with virtual buffer stocks and capping prices when corrections of supply shortfalls and market overshooting are not sufficient.
- Competition policy to address price gouging and taxes on windfall profits to stop the proliferation and amplification of shocks should be implemented by the Commission and national competition authorities.
- Coordination between the Council, the European Parliament and the ECB should serve to align inflation governance across the different sectors of the European economy.

REFERENCES

- Adolfsen, Jakob Feveile, Massimo Ferrari Minesso, Jente Esther Mork, and Ine Van Robays. 2024. "Gas Price Shocks and Euro Area Inflation." Working Paper Series 2905. Working Paper Series. European Central Bank. <https://ideas.repec.org/p/ecb/ecbwps/20242905.html>.
- Altavilla, Carlo, Wolfgang Lemke, Tobias Linzert, Jens Tapking, and Julian von Landesberger. 2021. "Assessing the Efficacy, Efficiency and Potential Side Effects of the ECB's Monetary Policy Instruments since 2014." *Occasional Paper Series*, Occasional Paper Series, , September. <https://ideas.repec.org/p/ecb/ecbops/2021278.html>.
- Amaglobeli, David, Mengfei Gu, Celine Thevenot, Emine Hanedar, and Gee Hee Hong. 2023. "Policy Responses to High Energy and Food Prices." IMF Working Paper 2023/074. Washington, D.C.: International Monetary Fund. <https://papers.ssrn.com/abstract=4410557>.
- Arce, Óscar, Elke Hahn, and Gerrit Koester. 2023. "How Tit-for-Tat Inflation Can Make Everyone Poorer." March 30, 2023. <https://www.ecb.europa.eu/press/blog/date/2023/html/ecb.blog.230330~00e522ecb5.en.html>.
- Attinasi, Maria Grazia, Roberta De Stefani, Erik Frohm, Vanessa Gunnella, Gerrit Koester, Máté Tóth, and Alexandros Melemenidis. 2021. "The Semiconductor Shortage and Its Implication for Euro Area Trade, Production and Prices," June. https://www.ecb.europa.eu/pub/economic-bulletin/focus/2021/html/ecb.ebbox202104_06~780de2a8fb.en.html.
- Basaran, Bahriye. 2022. "A Closer Look on the Effectiveness of the EU Legal Framework for Excessive Pricing during the COVID-19 Crisis." *European Competition Journal* 18 (1): 82–104. <https://doi.org/10.1080/17441056.2021.1936398>.
- Batten, Sandra. 2018. "Climate Change and the Macro-Economy: A Critical Review." 706. *Bank of England Working Papers*. Bank of England Working Papers. Bank of England.
- Baumeister, Christiane. 2023. "Pandemic, War, Inflation: Oil Markets at a Crossroads?" *NBER Working Papers*, NBER Working Papers, , July. https://www.nber.org/system/files/working_papers/w31496/w31496.pdf.
- Beaudry, Paul, Thomas J. Carter, and Amartya Lahiri. 2023. "The Central Bank's Dilemma: Look Through Supply Shocks or Control Inflation Expectations?" Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w31741>.
- Beckmann, Thore, Jan-Erik Thie, and Isabella M. Weber. 2023. "The Tale of the German Gas Price Brake: Why We Need Economic Disaster Preparedness in Times of Overlapping Emergencies" 2023 (1): 10–16.
- Bernanke, Ben S, and Frederic S Mishkin. 1997. "Inflation Targeting: A New Framework for Monetary Policy?" *Journal of Economic Perspectives* 11 (2): 97–116. <https://doi.org/10.1257/jep.11.2.97>.
- Beukers, Thomas. 2013. "The New ECB and Its Relationship with the Eurozone Member States: Between Central Bank Independence and Central Bank Intervention." *Common Market Law Review* 50 (6).
- Bieber, Roland. 2014. "The Allocation of Economic Policy Competences in the European Union." In *The Question of Competence in the European Union*, 86–101. Oxford: Oxford University Press.
- Bobasu, Alina, Michael Dobrew, and Amalia Repele. 2024. "Energy Price Shocks, Monetary Policy and Inequality." SSRN Scholarly Paper. Rochester, NY. <https://doi.org/10.2139/ssrn.4775771>.
- Boer, Nik de, Seraina Grünewald, and Jens van 't Klooster. 2024. "The Law and Politics of Independent Policy Coordination: Fiscal and Sustainability Considerations in the European Central Bank's Monetary Policy." EBI Working Paper. Frankfurt: European Banking Institute.

- Bolhuis, Marijn A., Judd N. L. Cramer, Karl Oskar Schulz, and Lawrence H. Summers. 2024. "The Cost of Money Is Part of the Cost of Living: New Evidence on the Consumer Sentiment Anomaly." Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w32163>.
- Braun, Joachim von, and Maximo Torero. 2009. "Implementing Physical and Virtual Food Reserves to Protect the Poor and Prevent Market Failure." IFPRI Policy briefs 10. Policy Briefs. International Food Policy Research Institute (IFPRI).
- Cantelmo, Alessandro, Nikos Fatouros, Giovanni Melina, and Chris Papageorgiou. n.d. "Monetary Policy Under Natural Disaster Shocks." *International Economic Review* n/a (n/a). Accessed March 11, 2024. <https://doi.org/10.1111/iere.12694>.
- Coibion, Olivier, Yuriy Gorodnichenko, and Saten Kumar. 2018. "How Do Firms Form Their Expectations? New Survey Evidence." *The American Economic Review* 108 (9): 2671–2713.
- Coibion, Olivier, Yuriy Gorodnichenko, Saten Kumar, and Mathieu Pedemonte. 2020. "Inflation Expectations as a Policy Tool?" *Journal of International Economics*, NBER International Seminar on Macroeconomics 2019, 124 (May): 103297. <https://doi.org/10.1016/j.jinteco.2020.103297>.
- Coibion, Olivier, Yuriy Gorodnichenko, and Tiziano Ropele. 2020. "Inflation Expectations and Firm Decisions: New Causal Evidence." *The Quarterly Journal of Economics* 135 (1): 165–219. <https://doi.org/10.1093/qje/qjz029>.
- Collectif. 2024. "La BCE pourrait appliquer des taux d'intérêt moins élevés au refinancement des prêts bancaires alloués à la transition écologique." *Le Monde*, March 2, 2024, Tribune edition. https://www.lemonde.fr/idees/article/2024/03/02/la-bce-pourrait-appliquer-des-taux-d-interet-moins-eleves-au-refinancement-des-prets-bancaires-alloues-a-la-transition-ecologique_6219665_3232.html.
- Colesanti Senni, Chiara, Maria Sole Pagliari, and Jens van 't Klooster. 2023. "The CO2 Content of the TLTRO III Scheme and Its Greening." Working Paper Series 792. Amsterdam: De Nederlandsche Bank. <https://www.dnb.nl/en/publications/research-publications/working-paper-2023/792-the-co2-content-of-the-tltro-iii-scheme-and-its-greening/>.
- Colonna, Fabrizio, Roberto Torrini, and Eliana Viviano. 2023. "The Profit Share and Firm Markup: How to Interpret Them?" Bank of Italy Occasional Paper 770. <https://papers.ssrn.com/abstract=4464310>.
- Corsetti, Giancarlo, Joao B Duarte, and Samuel Mann. 2022. "One Money, Many Markets." *Journal of the European Economic Association* 20 (1): 513–48. <https://doi.org/10.1093/jeea/jvab030>.
- Dafermos, Yannis, Daniela Gabor, Maria Nikolaidi, Jakub Gogolewski, and Mauricio Vargas. 2023. "Broken Promises: The ECB's Widening Paris Gap." Hamburg: Greenpeace.
- Datta, Arnab, and Alex Turnbull. 2023. "Contingent Supply: Why Spodumene Reserves May Be the Key to a More Secure Lithium Supply Chain." Employ America. <https://www.employamerica.org/researchreports/contingent-supply-why-spodumene-reserves-may-be-the-key/>.
- Draghi, Mario. 2024. "Radical Change—Is What Is Needed." Speech at the High-level Conference on the European Pillar of Social Rights (Brussels, April 16, 2024). Paris: Groupe d'études géopolitiques (GEG). <https://geopolitique.eu/en/2024/04/16/radical-change-is-what-is-needed/>.
- Drudi, Francesco, Emanuel Moench, Cornelia Holthausen, Pierre-François Weber, Gianluigi Ferrucci, Ralph Setzer, Bernardino Adao, et al. 2021. "Climate Change and Monetary Policy in the Euro Area." 271. *Occasional Paper Series*. Occasional Paper Series. Frankfurt: European Central Bank. <https://ideas.repec.org/p/ecb/ecbops/2021271.html>.

- Dunne, Niamh. 2018. "Regulating Prices in the European Union." *Yearbook of European Law* 37 (January): 344–94. <https://doi.org/10.1093/yel/yey002>.
- EC. 2021. *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: Tackling Rising Energy Prices: A Toolbox for Action and Support*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:660:FIN&qid=1634215984101>.
- ———. 2024a. "Labour Market and Wage Developments in Europe - Annual Review 2023." Brussels: European Commission. <https://data.europa.eu/doi/10.2767/1277>.
- ———. 2024b. "Market Measures." *European Commission* (blog). 2024. https://agriculture.ec.europa.eu/common-agricultural-policy/market-measures_en.
- ECB. 2003. "The Outcome of the ECB's Evaluation of Its Monetary Policy Strategy." *Monthly Bulletin*, 79–92.
- ———. 2021. "An Overview of the ECB's Monetary Policy Strategy." Frankfurt: European Central Bank. https://www.ecb.europa.eu/home/search/review/html/ecb.strategyreview_monpol_strategy_overview.en.html.
- ———. 2023. "How Have Unit Profits Contributed to the Recent Strengthening of Euro Area Domestic Price Pressures?" *Economic Bulletin*, no. 4.
- ———. 2024a. "Analytical Indicators on Physical Risks," April. https://www.ecb.europa.eu/stats/all-key-statistics/horizontal-indicators/sustainability-indicators/data/html/ecb.climate_indicators_physical_risks.en.html.
- ———. 2024b. *Annual Report 2023*. Frankfurt: European Central Bank.
- Egli, Florian, Bjarne Steffen, and Tobias S. Schmidt. 2018. "A Dynamic Analysis of Financing Conditions for Renewable Energy Technologies." *Nature Energy* 3 (12): 1084–92. <https://doi.org/10.1038/s41560-018-0277-y>.
- EP. 2023. "Monetary Dialogue with Christine Lagarde (Monday, 5 June 2023)." Brussels: European Parliament. https://multimedia.europarl.europa.eu/en/video/monetary-dialogue-with-christine-lagarde-president-of-the-european-central-bank-extracts_l242087.
- Fornaro, Luca, and Martin Wolf. 2023. "The Scars of Supply Shocks: Implications for Monetary Policy." *Journal of Monetary Economics*, Inflation: Drivers and Dynamics 2022, 140 (November): S18–36. <https://doi.org/10.1016/j.jmoneco.2023.04.003>.
- FT. 2024. "European utilities cut renewable targets as high costs and low energy prices bite." May 19 2024 Financial Times. <https://www.ft.com/content/625042f5-131e-434c-9d11-af0d39e8cb60>
- Galbraith, James K. 1997. "Time to Ditch the NAIRU." *The Journal of Economic Perspectives* 11 (1): 93–108.
- Gern, Klaus-Jürgen, Nils Jannsen, and Nils Sonnenberg. 2023. "Inflation and the Effects of Monetary Tightening in the Euro Area." *Monetary Dialogue Papers*, June 2023. Brussels: European Parliament.
- Goutsmedt, Aurélien, and Clément Fontan. 2024. "The ECB and the Inflation Monsters: Strategic Framing and the Responsibility Imperative (1998–2023)." *Journal of European Public Policy* 31 (4): 999–1025. <https://doi.org/10.1080/13501763.2023.2281583>.
- Gros, Daniel. 2022. "The European Chips Initiative." *CEPS* (blog). February 10, 2022. <https://www.ceps.eu/the-european-chips-initiative-industrial-policy-at-its-absolute-worst/>.
- Grünewald, Seraina, and Jens van 't Klooster. 2023. "New Strategy, New Accountability: The European Central Bank and the European Parliament after the Strategy Review." EBI Working Paper 139. Frankfurt: European Banking Institute.

- Hall, Peter A., and Robert J. Franzese. 1998. "Mixed Signals: Central Bank Independence, Coordinated Wage Bargaining, and European Monetary Union." *International Organization* 52 (03): 505–35.
- Hancké, Bob. 2013. *Unions, Central Banks, and EMU: Labour Market Institutions and Monetary Integration in Europe*. OUP Oxford.
- Hansen, Niels-Jakob, Frederik Toscani, and Jing Zhou. 2023. *Euro Area Inflation After the Pandemic and Energy Shock: Import Prices, Profits and Wages*. WP/23/131. International Monetary Fund.
- Hockett, Robert C., and Saule T. Omarova. 2016. "Systemically Significant Prices." *Journal of Financial Regulation* 2 (1): 1–20. <https://doi.org/10.1093/jfr/fjw007>.
- Issing, Otmar, ed. 2003. *Background Studies for the ECB's Evaluation of Its Monetary Policy Strategy*. Frankfurt: European Central Bank.
- Jorda, Oscar, Sanjay Singh, and Alan Taylor. 2020. "The Long-Run Effects of Monetary Policy." NBER Working Paper 26666. National Bureau of Economic Research, Inc. <https://econpapers.repec.org/paper/nbrnberwo/26666.htm>.
- Kai-Yuan, Teng. 2022. "How Taiwan's Expanding Semiconductor Industry Deals with Water Shortages." *CommonWealth Magazine*, 2022. <https://english.cw.com.tw/article/article.action?id=3236>.
- Kianzad, Behrang. 2021. "Excessive Pricing during the COVID-19 Crisis in the EU: An Empirical Inquiry." *Concurrences Review*, no. N° 1-2021 (February): 250–59.
- Klooster, Jens van 't. 2022. "The European Central Bank's Strategy, Environmental Policy and the New Inflation: A Case for Interest Rate Differentiation." London: Grantham Research Institute on Climate Change and the Environment.
- Krebs, Tom and Isabella M. Weber. 2024. "Can Price Controls Be Optimal? The Economics of the Energy Shock in Germany." IZA Institute of Labor Economics Discussion Paper No. 17043. Online: <https://docs.iza.org/dp17043.pdf>*(source updated on 17 July 2024)
- Lindberg, Leon, and Charles Maier. 1985. *The Politics of Inflation and Economic Stagnation*. Washington D.C.: Brookings Institute. https://www.brookings.edu/book/the-politics-of-inflation-and-economic-stagnation__trashed/.
- Lorenzoni, Guido, and Iván Werning. 2023. "Inflation Is Conflict." Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w31099>.
- Menyhart, Balint. 2022. "The Effect of Rising Energy and Consumer Prices on Household Finances, Poverty and Social Exclusion in the EU." EUR 31257 EN. Publications Office of the European Union. Luxembourg. <https://doi.org/10.2760/418422>.
- Miller, Hugh, Simon Dikau, Romain Svartzman, and Stéphane Déés. 2023. "The Stumbling Block in 'the Race of Our Lives': Transition-Critical Materials, Financial Risks and the NGFS Climate Scenarios." Grantham Research Institute on Climate Change and the Environment Working Paper 293. London: London School of Economics and Political Science. <https://papers.ssrn.com/abstract=4356692>.
- Moenjok, Thammarak. 2014. *Central Banking in Theory and Practice*. Singapore: John Wiley & Sons.
- Monnet, Éric, and Jens van 't Klooster. 2023. "Using Green Credit Policy to Bring down Inflation: What Central Bankers Can Learn from History." INSPIRE Sustainable Central Banking Toolbox Policy Briefing Paper 13. https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2023/07/INSPIRE-Sustainable-Central-Banking-Toolbox_13.pdf.
- Monti, Giorgio. 2018. "Excessive pricing: Competition Law in Shared Regulatory Space" *Tillburg University Working Paper* Online:

<https://www.tilburguniversity.edu/sites/default/files/download/Monti%20Excessive%20pricing.pdf>.

- Murlon-Druol, Emmanuel. 2012. *A Europe Made of Money: The Emergence of the European Monetary System*. Ithaca, N.Y.
- Pallotti, Filippo, Gonzalo Paz-Pardo, Jiri Slacalek, Oreste Tristani, and Giovanni L. Violante. 2023. "Who Bears the Costs of Inflation? Euro Area Households and the 2021–2022 Shock." Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w31896>.
- Rees, Daniel, and Phurichai Rungcharoenkitkul. 2021. "Bottlenecks: Causes and Macroeconomic Implications," November. <https://www.bis.org/publ/bisbull48.htm>.
- Rowthorn, R. E. 1977. "Conflict, Inflation and Money." *Cambridge Journal of Economics* 1 (3): 215–39.
- Rudd, Jeremy B. 2021. "Why Do We Think That Inflation Expectations Matter for Inflation? (And Should We?)." 2021–062. *Finance and Economics Discussion Series*. Finance and Economics Discussion Series. Board of Governors of the Federal Reserve System (U.S.). <https://ideas.repec.org/p/fip/fedgfe/2021-62.html>.
- Schmidt, Tobias S., Bjarne Steffen, Florian Egli, Michael Pahle, Oliver Tietjen, and Ottmar Edenhofer. 2019. "Adverse Effects of Rising Interest Rates on Sustainable Energy Transitions." *Nature Sustainability* 2 (9): 879–85. <https://doi.org/10.1038/s41893-019-0375-2>.
- Schnabel, Isabel. 2022. "A New Age of Energy Inflation: Climateflation, Fossilflation and Greenflation." Presented at the ECB and its Watchers XXII Conference, Frankfurt.
- ———. 2023. "Monetary Policy Tightening and the Green Transition." Presented at the International Symposium on Central Bank Independence, Sveriges Riksbank, Stockholm Stockholm, 10 January 2023.
- Sgaravatti, Giovanni, Simone Tagliapietra, Cecilia Trasi, and Georg Zachmann. 2024. "National Fiscal Policy Responses to the Energy Crisis." Bruegel | The Brussels-Based Economic Think Tank. March 27, 2024. <https://www.bruegel.org/dataset/national-policies-shield-consumers-rising-energy-prices>.
- Shukla, Priyal. 2021. "The Curious Case of Aspen Pharmaceuticals and Excessive Pricing." *European Law Blog* (blog). 2021. <https://europeanlawblog.eu/2021/05/20/the-curious-case-of-aspen-pharmaceuticals-and-excessive-pricing>.
- Singh, Daleep, and Arnab Datta. 2024. "Reimagining the SPR." *Financial Times*, February 24, 2024, sec. FT Alphaville. <https://www.ft.com/content/e948ae78-cfec-43c0-ad5e-2ff59d1555e9>.
- Tarullo, Daniel K. 2017. "Monetary Policy without a Working Theory of Inflation." Hutchins Center Working Paper 33. Washington: Brookings Institution. <https://www.brookings.edu/research/monetary-policy-without-a-working-theory-of-inflation/>.
- Trichet, Jean-Claude. 2011. Introductory statement to the press conference of 7 April 2011 Frankfurt: European Central Bank. <https://www.ecb.europa.eu/press/pressconf/2011/html/is110407.en.html>.
- USDA. 2024. "Food Distribution." US Department of Agriculture. 2024. <https://www.usda.gov/topics/food-and-nutrition/food-distribution>.
- Vince, Gaia. 2023. *Nomad Century: How Climate Migration Will Reshape Our World*. Flatiron Books.
- Warlouzet, Laurent. 2018. *Governing Europe in a Globalizing World: Neoliberalism and Its Alternatives Following the 1973 Oil Crisis*. Routledge Studies on Government and the European Union 8. London New York: Routledge.

- Weber, Isabella M., Jesus Jauregui, Lucas Teixeira, and Luiza Nassif Pires. 2024a. "Inflation in Times of Overlapping Emergencies: Systemically Significant Prices from an Input-Output Perspective." *Industrial and Corporate Change*, 33(2), 297-341 <https://doi.org/10.7275/0c5b-6a92>. *(source updated on 17 July 2024)
- Weber, Isabella M., Jan-Erik Thie, Jesus-Lara Jauregui, and Lucas Teixeira. 2024b "Carbon Prices and Inflation in a World of Shocks Systemically significant prices and industrial policy targeting in Germany." Bertelsmann Foundation Focus Paper. Online: https://www.bertelsmannstiftung.de/fileadmin/files/user_upload/W_Studie_Carbon_Prices_and_Inflation_in_a_world_of_Shocks.pdf. *(source updated on 17 July 2024)
- Weber, Isabella M., and Evan Wasner. 2023. "Sellers' Inflation, Profits and Conflict: Why Can Large Firms Hike Prices in an Emergency?" *Review of Keynesian Economics* 11 (2): 183–213. <https://doi.org/10.4337/roke.2023.02.05>.
- Weber, Isabella M., and Merle Schulken. 2024. "Towards a Post-neoliberal Stabilization Paradigm: Revisiting International Buffer Stocks in an Age of Overlapping Emergencies Based on the Case of Food". Political Economy Research Institute Working Paper 602. Online: <https://peri.umass.edu/images/publication/WP602c.pdf>. *(source updated on 17 July 2024)
- Welburn, Jonathan W., Aaron Strong, Giovanni Malloy, Prateek Puri, James Syme, and Jessie Wang. 2023. "The Global Economy at the Firm-Level: Estimating Input-Output Linkages in Production Networks and the Potential for Systemic Risk." RAND Corporation. https://www.rand.org/pubs/working_papers/WRA2625-1.html.

This report investigates how the EU should deal with shockflation - inflation caused by shocks to systemically significant prices such as energy and food. We argue that the ECB's monetary policy is not an adequate instrument to deal with this kind of inflation. Therefore, the EU currently lacks adequate governance structures. The EU should develop a new inflation governance framework that targets shocks to systemically significant prices directly, before they are propagated through the economy.

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