IN-DEPTH ANALYSIS
Requested by the ECON committee
Monetary Dialogue Papers, June 2023

Unavoidable

High inflation and monetary tightening in the euro area

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Supporting monetary policy scrutiny

Economic Governance and EMU Scrutiny Unit (EGOV)
Directorate-General for Internal Policies
PE 747.847 - May 2023

EN

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Abstract

This paper examines the unavoidable effects of the long overdue normalisation of monetary policy on households and firms in the euro area. While the costs are higher than they would have been if such normalisation started much earlier, they are unavoidable in order to fortify the euro area economies. This is imperative because the threats of de-globalisation and geopolitical risk – along with the EU's own future plans - may entrench inflationary pressures well into the future.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 5 June 2023.

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

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Manuscript completed in May 2023
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This document was prepared as part of a series on “The effects of high inflation and monetary tightening on the real economy”, available on the internet at:
https://www.europarl.europa.eu/committees/en/econ/econ-policies/monetary-dialogue

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LIST OF ABBREVIATIONS

BIS	Bank for International Settlements
CPI	Consumer Price Inflation
ECB	European Central Bank
EEA	European Environment Agency
EU	European Union
GDP	Gross domestic product
HICP	Harmonised index of consumer prices
NPL	Non-performing loan
PEPP	Pandemic emergency purchase programme
SGP	Stability and growth pact
SVB	Silicon Valley Bank
USD	US dollar

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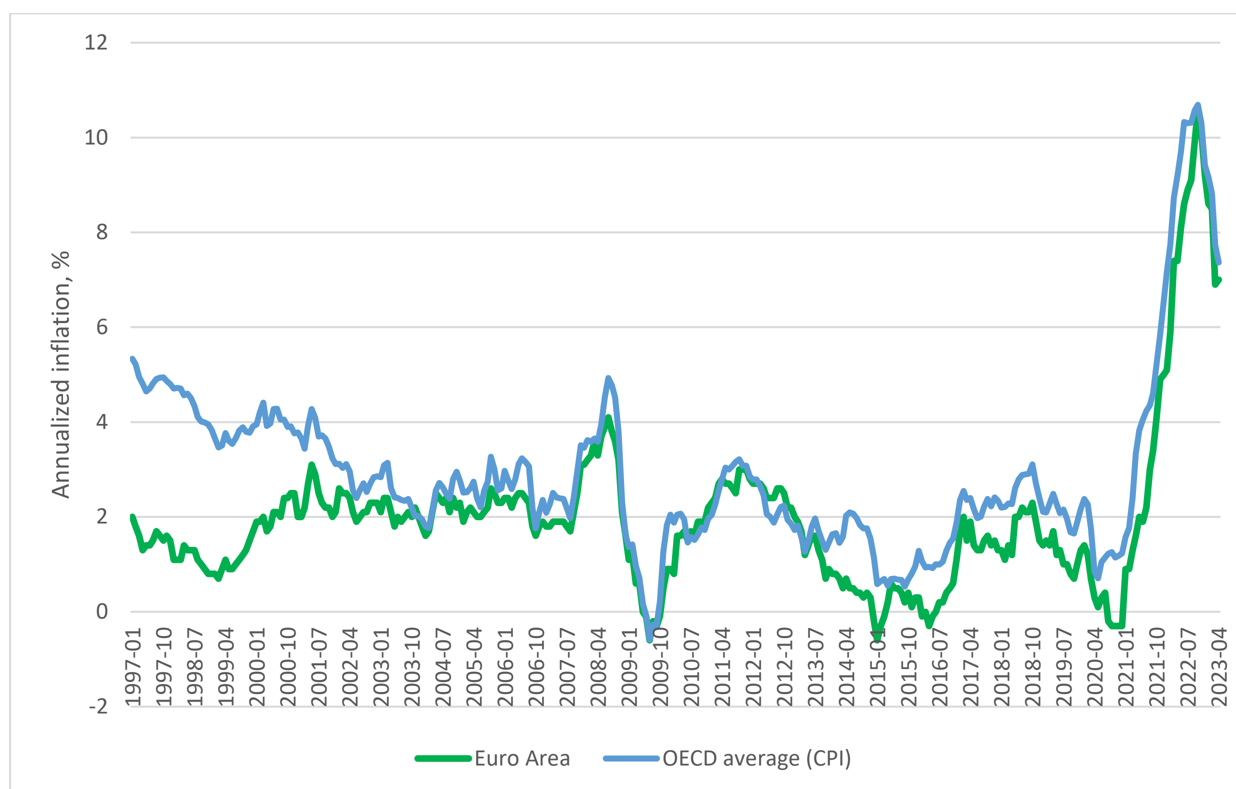
EXECUTIVE SUMMARY

- **The monetary normalisation of the European Central Bank (ECB) in the face of increased inflation is long overdue.** Over a decade of low interest rates has resulted in malinvestment and mispricing and it was unavoidable that the ECB would eventually have to attempt to price capital correctly.
- At the same time, **the effects of the monetary contraction are unavoidable.** While there will be heterogeneity in the scale of the effects across the euro area, the direction of the effects will be similar and predicted by theory and empirics.
- With regard to the effect on **firms,** the credit channel will be the largest factor affecting expansion and balance sheets. However, normalisation of monetary policy also serves the function of Schumpeterian creative destruction, forcing inefficient firms to exit and strengthening existing firms.
- For **households**, the main effects will be felt in household debt and in the housing market, although these effects will be vastly disparate depending upon local conditions and which particular Member State a household is located in.
- Despite the short-term economic pain that will come with normalisation, the ECB must see it through as **its own credibility is on the line**. Any wavering in normalising monetary policy will diminish the credibility of the ECB and make it harder to combat inflation in the future – as well as possibly entrench inflationary expectations. As recent research shows, a loss of credibility for the ECB may also result in a fall in the resilience of the euro area economy.
- The normalisation of monetary policy is even more crucial given the **massive challenges that the European Union and the euro area face globally.** The return of **geopolitical risk** is one of the largest challenges, including the Russian invasion of Ukraine and de-globalisation. Continued support of industrial policy and protectionism have the ability to increase prices in key sectors for years.
- In addition to the inflationary pressures from geopolitical risk, there are **structural dangers for inflation** within in the euro area. These dangers are connected with EU and Member State fiscal policy, and in particular the push for a **green transition**. Increased spending – even if introduced more gradually over time – coinciding with contractionary monetary policy makes the monetary normalisation less effective and perhaps more painful. The EU and its Member States need to rethink the wisdom of an immediate transition, especially considering how it will complicate normalisation and how its benefits are theoretical at this point in time.
- A final structural issue which will keep inflationary pressures high throughout the EU is **demographic decline**, which has the potential to skew economic behaviour in the Union towards consumption and away from savings and investment. Such a positive aggregate demand shock also has potential to build in decades’ worth of inflationary pressures especially when combined with the negative aggregate supply shock that ageing creates.

1. INTRODUCTION

The unwinding of the prohibitions on economic activity associated with the COVID-19 pandemic and the reality of massive fiscal stimulus on top of the monetary stimulus of the past 15 years has finally begun to manifest itself in price data. Indeed, after years of quantitative easing, zero interest rate policies, asset purchases, and the "unconventional" - which rapidly became "business as usual" - the consequences of loose monetary policy are now evident, aided by a perfect storm of roaring demand, massive fiscal stimulus, and geopolitical tension restricting supply. In the euro area and elsewhere around the globe, inflation, heretofore subdued under a cloak of slack capacity and/or constrained supply, has come roaring back. In the euro area, annual headline inflation was 7.0% in April 2023 and food prices alone reaching levels of 15% in the same month, and while inflation has tapered from its highs in October 2022, it still remains more than three times what it was on the precipice of the pandemic (Figure 1).

Figure 1: Annual rate of change, harmonised index of consumer prices (HICP), monthly



Source: Eurostat, series PRC_HICP_MANR, OECD database.

Note: OECD average included for comparison. OECD uses consumer price index (CPI) changes rather than HICP methodology.

As the title of this study asserts, this state of affairs was going to come to fruition in some manifestation, given the course that global monetary policy was on since the global financial crisis. But the return of inflation has confronted policymakers with a challenge, as it has forced central bankers to increase interest rates on economies in order to stop the inflation from achieving a high plateau. Thus, also unavoidable from this point onward is the reality that the fragile economic recovery of the 2010s will be upended, reversed, or at least redirected as capital is priced accordingly. At the same time, the resumption of the time value of money and (more) accurate pricing of capital after a decade and a half

of unconventional monetary policy also carries an institutional challenge for central banks: while headline inflation appears to be abating somewhat off its highs immediately post-pandemic, inflationary expectations are climbing.

If modern central banks (including the ECB), which have made inflation targeting their reason for existence, are found to be consistently missing these targets from above (i.e., failing to prevent inflation rather than create it), these banks and their policies will be perceived as less credible than they were pre-pandemic (Hartwell and Siklos, 2023). In what could be a downward spiral, less credible central banks are less likely to be effective in fighting inflation and, more importantly, can weaken a country's economic resilience even further.

This institutional threat is compounded by the circumstances surrounding the return of inflation, while predictable, are also unique given the disruption that the global economy has faced since the global financial crisis, disruptions which have made countries in the euro area and elsewhere already rather fragile. In the first instance, the rise of economic nationalism and the return of industrial policy has provided headwinds for the euro area, heralding the return of geopolitical risk as a potent factor in business decisions and price formation. While such risk has always existed for firms and national level economies, its form had mutated in the globalised world of the 1990s and 2000s; no longer was it about large armies fighting each other in pitched battles, instead it was about non-state actors, informal networks, corruption, cyber-attacks, and above all terrorism. Such incidents were localised and had little effect on overall price levels.

Beginning in the 2010s, however, the ascendance of China and its willingness to behave in a manner antithetical to the liberal rules-based trading order (aided and abetted somewhat by the United States' abdication of global leadership in trade liberalisation) started to raise geopolitical risks and transform them back into its familiar state-to-state form. The unprovoked second Russian invasion of Ukraine in February 2022, which sparked a major land war in Europe and which Russia has portrayed as a clash of Russia and the West, confirmed that the old forms of geopolitical risk had returned. In fact, the invasion alone showed the power of such risk for monetary outcomes, as it gave an additional push to massive energy and commodity price increases; at the same time, it accelerated the trend towards de-globalisation which began during the global financial crisis, breaking global supply chains and threatening to erase the efficiencies – and price reductions – which came during the era of globalisation in the 1990s.

Thrown into this mix is also the wild card of fiscal policy, a policy lever which was somewhat muted during the post-global financial crisis world (especially given the constraints placed on governments during the sovereign debt crisis in the euro area), but which emerged again during the pandemic. The COVID-19 pandemic poured fuel on the structural fire with massive stimulus packages meant to mitigate prohibitions on economic activity ("lockdowns" in the popular vernacular). Indeed, although the explosive combination of loose monetary policy and aggressive fiscal policy has been found historically to be the main accelerant of high- and hyper-inflation (Miller and Zhang, 1997), the exigencies of the lockdowns appeared to require high levels of fiscal stimulus in order to stave off economic collapse and/or widespread societal discontent. To this end, the European Union's fiscal rules under the Stability and Growth Pact (SGP) were widened to allow for deviations in 2020 and have yet to be re-tightened, with a proposed plan to ease the pathway back to fiscal rectitude based on country-specific circumstances. Combined with the overall policymaker-led push to create a "green transition" – involving projected spending of approximately EUR 520 billion *per year* at both the private and the public level – the fiscal path ahead for the EU does not appear to be leading back in the direction of fiscal rectitude (European Commission, 2021). Indeed, actually building in massive fiscal transfers at a time of high inflation risks only perpetuating the price pressure for an extended period of time via

increased aggregate demand even if – as the architects of the transition claim – it will eventually lead to lower prices in the long run.

This paper looks at the prospects for inflation in the euro area and its effects on the real economy from the perspective of business and policymakers. The first – again, unavoidable - conclusion is that the real economy is suffering from a long overdue correction after over a decade of easy money, with distortions introduced by these policies necessarily in the process of being uprooted from the euro area economy and discarded. While the ECB is interested in price stability – that is, avoiding a scenario where the correction itself threatens price and financial stability – there may be little in the way of softening the blow due to the EU's policies being on an emergency footing for so long. Indeed, the consequences of the monetary bubble bursting, as predicted (Hartwell, 2019), have been made worse by the long delay in normalisation of monetary policy but remains necessary in order to return the euro area (as well as the United States, the United Kingdom, and Japan) to sustainable growth paths. However, the pain of this adjustment will fall on firms and households, likely reversing the gains of the soft post-global financial crisis recovery. We will discuss what the path of normalisation of monetary policy will look like in particular in the euro area and what the implications of this path will be in the aggregate, considering the fact that this normalisation is coming during a time of de-globalisation.

The second conclusion of the paper is that the EU and especially the euro area continue down a dangerous inflationary path without simultaneous normalisation of fiscal policy, not just at the Union level but of course at the Member State level as well. The taps are already open for increased spending, and although the euro area budget deficit average has decreased to 3.4% of GDP in 2022 from approximately 4.8% in 2021 (i.e., during COVID), a full 20 Member States are running deficits of up to as much as 8% of GDP (in Italy, according to Eurostat). The proposed green and digital transitions may be good for the EU's competitiveness in the longer-term and may contribute (slightly) towards more environmentally friendly activities, but they need to come out of an organic, bottom-up process from different layers of environmental governance within Member States rather than be imposed from the top-down (whether that "top" be the Commission, the ECB, or even the governments of Member States) – and they need to be timed to accord with demand and external circumstances.

Even in a situation where the citizenry may support the spending of public money for such a transition, economic policymakers such as the ECB should be expressing forbearance rather than jumping into the fray. Moreover, any energy transition in particular needs to be done in a measured and gradual manner: the Russian invasion of Ukraine and the spike in energy prices since that time show that the euro area needs more energy, not less, with secure and available energy generation kept in place rather than shut down. This lesson has somewhat been learned already the hard way, but it must not be seen as a simple emergency measure in reaction to a specific event, instead it must be thought of as part of the process. If this is not done, inflation will be effectively made structural, driven by high energy prices and low supply, and combined with recurring fiscal stimulus and the lingering price effects of de-globalisation hinted at above.

The rest of this paper proceeds as follows. The next section examines the implications of the normalisation of monetary policy as we near the midpoint of 2023 with an emphasis on the effects on households and firms, while Section 3 explains why how the new world of geopolitical risk and de-globalisation will still be exerting upward pressure on prices. Section 4 offers some closing remarks.

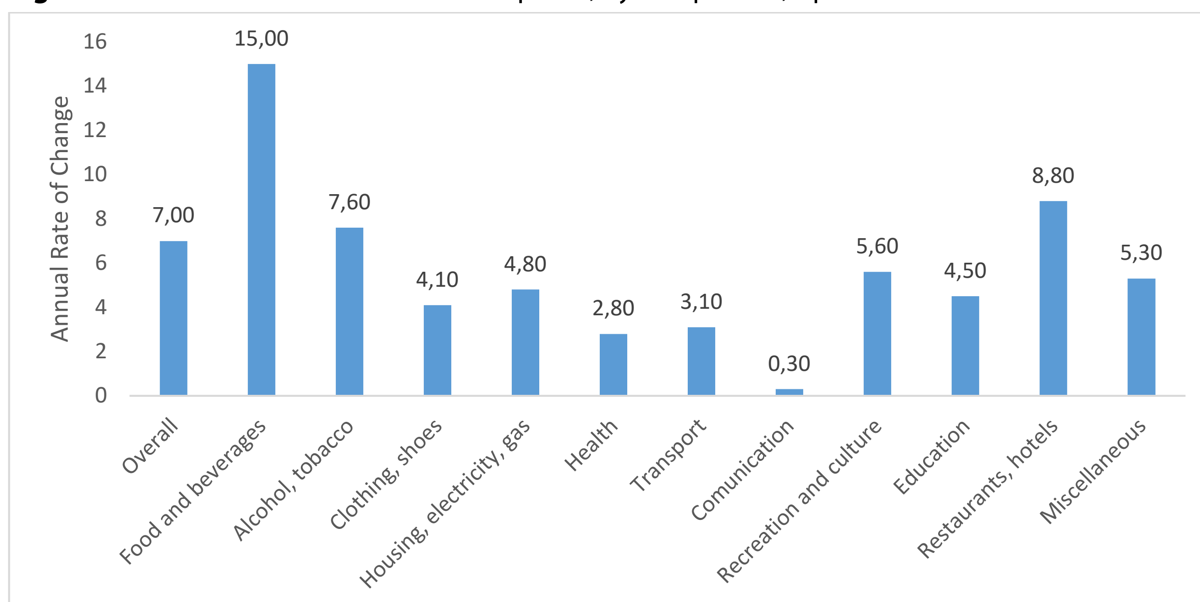
2. THE IMPLICATIONS OF THE NORMALISATION OF MONETARY POLICY

2.1. State of play in the euro area

As noted in the introduction, the euro area faces substantial challenges as a result of continuing and elevated (especially against the benchmark of the past 15 years) headline and core inflation. While Section 3 will examine some of the existing and new drivers for inflationary pressures in the euro area, this part of the paper will focus on the implications of the current and anticipated normalisation of monetary policy for the real economy of the euro area.

In order to understand where the euro area might be going, however, we need to first understand where we are in terms of inflationary outcomes and expectations across the EU; this will help to clarify the way in which normalisation of monetary policy may actually impact the real economy. In the first instance, inflation has been driven in 2023 mainly by large increases in food and beverages, with the hospitality industry (including restaurants and hotels), alcohol and tobacco, and recreation contributed to an overall price increase of 7% in April 2023 (Figure 2). Food and beverages have been on a steady upward climb since mid-2021, reaching new highs in each successive month and driven by geopolitical instability (more on this in Section 3) and an increase in the price of fertilizer and other inputs (including energy).

Figure 2: Harmonised index of consumer prices, by component, April 2023



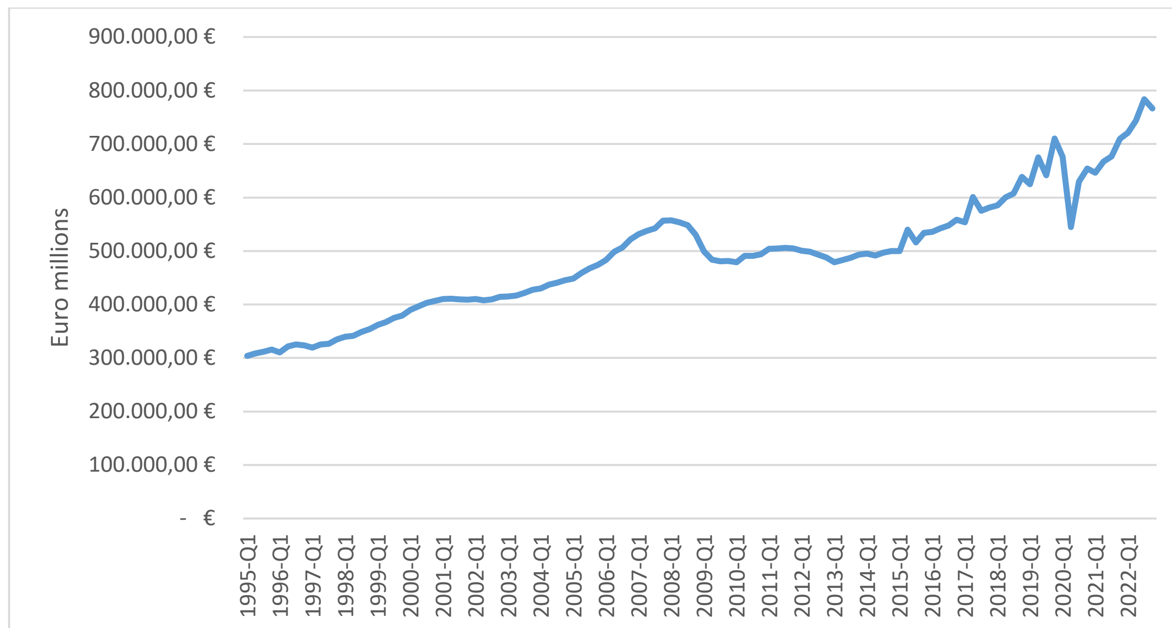
Source: Author's elaboration from European Central Bank Statistical Data Warehouse and ECB Dashboard.

Note: Shown is the annual rate of change of prices by component for April 2023.

This component-based approach to understanding inflation only can get us so far in terms of understanding inflationary drivers, as in reality it tells us what influences the index rather than what is actually driving prices and perceptions. A key issue which has not resolved itself since the global pandemic (and realistically since the global financial crisis, see Section 3) has been supply chain issues across several goods and services, driving up prices in an area (especially in food and manufacturing) where prices have been muted precisely due to globalisation (Koester et al., 2021). While we discuss this phenomenon more in the next Section, suffice it to say that the restriction of supply due to

disruptions in logistics and market access have necessarily increased prices. At the same time, an idiosyncrasy of the pandemic has generated elevated levels of inflation, namely labour shortages in specific sectors, including services (di Giovanni et al., 2022). More aptly thought of as the introduction of labour market rigidity, the on/off lockdowns and restrictions on economic activity made it more difficult for sectors to reallocate labour to those which were most needed, restricting supply and, in many cases, increasing demand. The slow unwinding of pandemic restrictions led to slower labour reallocation, especially in euro area economies which tend to have large-scale impediments to reallocation in the best of times.

Figure 3: Gross fixed capital formation in the euro area, quarterly, 1995 to 2022



Source: Author's elaboration from European Central Bank Statistical Data Warehouse.

Of course, these issues exacerbated the monetary precipitant of inflation in the euro area, mainly an accommodative monetary policy which (in the author's opinion) remained accommodative for too long. With refinancing policy rates kept below 1% from 2011 through September 2022, the euro area was awash with liquidity; European Central Bank (ECB) analyses attempted to explain the lack of inflationary pressure during this time (especially from 2013 to 2019) on slack capacity and in particular an underestimation of the size of the slack (Koester et al., 2021). However, as noted in another briefing done for the European Parliament (Marmefelt, 2020), coordination in markets relies on price signals, and for over a decade the basis of prices (the time value of money) was negated. Slack capacity itself was due in part to lack of investment, and investment was flat in the euro area until the months immediately preceding the pandemic (perhaps in anticipation of monetary normalisation, see Figure 3). In fact, it has only been accompanying the normalisation of monetary policy that investment has begun to climb again in the euro area, suggesting that the causality from slack capacity to loose monetary policy may have been running in the other direction.

2.2. The possible path of normalisation

In any event, the advent of inflation has given the push needed to normalise monetary policy. In reality, there are three separate ways via which the ECB can attempt a normalisation of the unconventional policy that it has administered for the past decade plus:

1. *"Strong normalisation*," where a path of uninterrupted interest rate hikes are carried out in order to wring the liquidity out of the euro area, with concurrent warnings regarding overly accommodative fiscal policy;

2. *"Moderate normalisation,"* where interest rate hikes are accompanied by fiscal policy measures to possibly cushion the deleterious effects of normalisation. Alternatively, a moderate approach to normalisation may entail periods of consolidation, where interest rate increases are pushed off or even reversed to provide "breathing space;" and

3. *"Weak normalisation,"* where interest rate hikes cease the minute that inflationary levels appear to have peaked, and no further normalisation is envisioned by the ECB (and is communicated thusly).

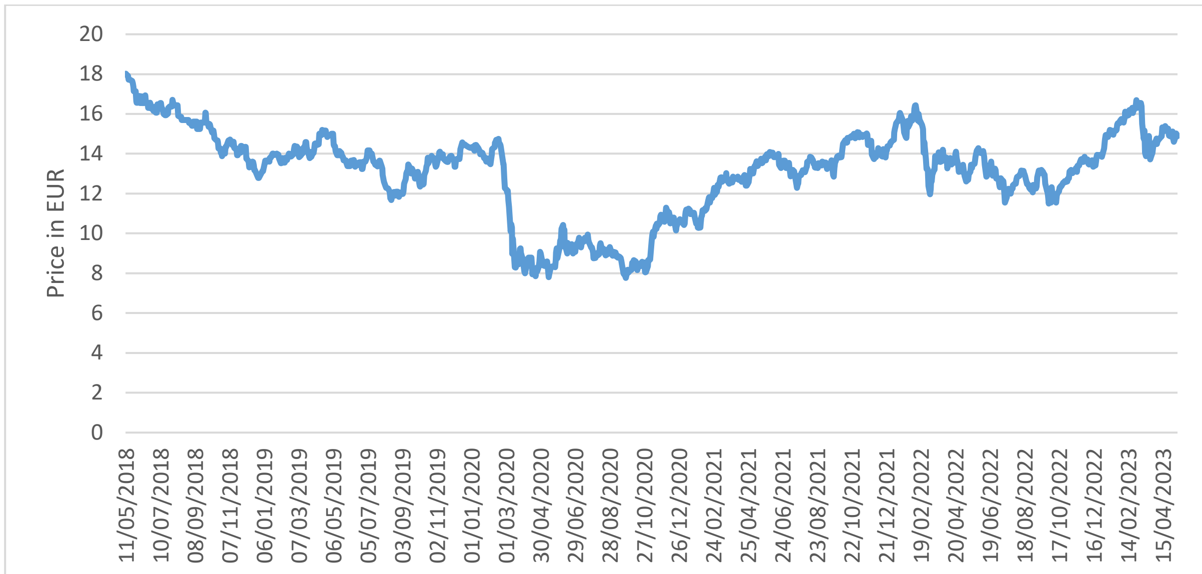
The effect of monetary policy normalisation will thus likely be similar in its channels affecting the real economy no matter which path is chosen (i.e., impact on households through increased borrowing costs, impact on financial firms through cost of capital), but each of these approaches will have different impacts on inflation. Based on creeping expectations of inflation, it is likely that approaches 2 and 3 will be far less effective than the approach of strong normalisation, therefore creating a situation where firms are both being harmed by monetary policy but not necessarily helped by a cessation of inflation. Approaches 2 and 3 are also likely to have other consequences beyond the real economy and inflation, as we will explore below.

2.3. Normalisation: effect on financial firms

While this study is targeted primarily at the effects of normalisation on the real economy, it is crucial to consider the sector that the reversal of loose monetary policy will affect first, and that is the financial sector. No matter which approach is chosen, already globally the increase in interest rates has begun to trickle through to overleveraged banks, as witnessed by the spectacular failure of Silicon Valley Bank (SVB) in the United States in March 2023, the failure of Signature Bank at the same time, and the additional failure of First Republic Bank in California in May 2023 (with combined total assets across the three banks of USD 548.5 billion, approximately 2.4% of all assets in the US banking system).[1] The prospect of other bank failures has US markets rattled, and bank stocks have undergone substantial volatility due to short-sellers, risk contagion, and worries about fundamentals as encapsulated in commonly-used capital ratios.

[1] According to data from the Federal Deposit Insurance Corporation (FDIC) and the Board of Governors of the Federal Reserve System.

Figure 4: STOXX 600, Europe 600 Banks Index, 2018 to 2023



Source: Prices taken from Yahoo! Finance.

As the popular saying, tweaked somewhat, says, when US banks sneeze, the world catches a cold, a reality brought into stark relief during the global financial crisis. In the euro area, the European Banking Authority (EBA) launched a stress test exercise in January 2023, modelling scenarios which may have seemed pessimistic when devised in 2022 but now may even be optimistic in terms of the worst-case scenario (where long-term rates top out at 6%); the results of this exercise will not be available until July 2023, but the accumulation of negative shocks with regard to GDP, home prices (see below), and unemployment are likely to show moderate stress on several banks across the euro area. Indeed, the effect of the SVB failure resulted in consecutive days of decline in the STOXX Europe 600 Banks benchmark index (Figure 4), with the index now where it was on the eve of the pandemic; while equity prices have calmed down since that event, it is undeniable that the effect of any additional bank failures will have a cumulative effect on markets. It is far too soon to say we are out of the woods with the stability of the financial sector, as the risk of contagion remains real. Added to this issue, further negative shocks in the real economy or increased hikes from the ECB are likely to continue the stress on euro area banks, with countries showing low capital ratios and/or higher levels of NPLs facing more stress from markets (i.e., being targeted by investors) in the short- and medium-term (including Greece, Spain, and Portugal).

As the purpose of this study is not to survey the exact effect of normalisation on the financial sector, we will not go further in-depth into the possible course ahead for euro area banks. However, the possible effects of normalised monetary policy on the real economy go first and foremost through the credit channel, mediated by the financial sector. Already banks within the euro area have reported a substantial tightening of credit standards for lending to enterprises owing to decreased risk tolerance and a higher cost of capital (European Central Bank, 2023), a reality which will make it more difficult for firms in the euro area to invest and expand. Indeed, for firms, the increased cost of capital and the inability to access finance for expansion may be the largest way in which the non-financial sector may be impacted. This difficulty will be felt most strongly in the first approach, that of strong normalisation, but is likely to permeate financial sector institutions no matter which approach is chosen; in reality, uncertainty regarding the cost of capital is likely to manifest itself in a risk premium, meaning that even moderate or weak normalisation will generate higher capital costs and/or tight lending requirements.

The effect on the financial sector need not be uniformly negative however, and research from Nelson et al. (2018) shows that contractionary monetary policy may be bad for banks but good for shadow banking, which tends to expand its share of the market during monetary contractions. As shadow banking assets in the euro area, as measured in 2018 (before the pandemic) stood already at 40% of all assets in the financial sector (Hodula, 2020), any expansion of this intermediary could help to address credit shortages for firms and keep capital flowing. At the same time, the accurate pricing of capital could draw other lenders and holders of capital into financial intermediation, as high pricing benefits lenders (Dopeke and Schneider, 2006); given that demand for capital is unlikely to fall to zero, even during a recession, higher interest rates could increase the supply of capital at the margins from non-banks and other financial sources and also bring more "traditional" finance into the sector, driving prices down again through the competition channel. This comports with results from Ibrahim (2021), who find that countries with high financial sector efficiency will see very little income redistribution as a result of a contractionary monetary policy shock.

2.4. Normalisation: effect on the real economy

The financial channel is just one way in which normalisation of monetary policy in the euro area will affect households and firms, both for better and for worse. Unfortunately, there are many other ways in which rising interest rates and the fight against inflation can also have adverse and heterogeneous effects on the real economy across Europe – as well as possible positive effects from the transition (and not just its outcome).

As noted in the previous section, the rising cost of capital will dampen investment by firms but may also entrench existing businesses by making firm entry harder (more likely under strong normalisation). While such a restriction of firm entry may generate upward price pressures domestically, this is not likely to occur in the current environment due mainly to the concurrent effect on aggregate demand. However, the area where lack of firm entry will be felt is in the variety of products offered to consumers, meaning a reduction in societal welfare and aggregate productivity (Hamano and Zanetti, 2022). But, like the opportunities opened in financial intermediation by accurately priced capital, Hamano and Zanetti (2022) also show that aggregate productivity may be helped as well through contractionary monetary policies. In particular, the monetary shock has the potential to play the role of Schumpeterian "creative destruction," causing inefficient firms to exit. In this scenario, the malinvestment created by overly accommodative monetary policy will likely be exposed by rising interest rates, meaning an increase in non-performing loans and a further tightening of credit; the effect will be to liquidate firms and projects which should never have been begun in a period of accurate pricing of capital. Thus, in addition to the benefits of holding inflation in check, normalisation of monetary policy may also provide a benefit to an economy through better allocation of resources – setting the stage for the recovery period.

For households, there also will be a melange of effects, with some also countervailing, in the euro area. In the first instance, households taking on debt will also be harmed by the increase in interest rates, although this is unlikely to be a major issue across the euro area: according to statistics from the ECB[2], household indebtedness has fallen substantially since the worst of the pandemic and is currently at the level it was at in 2015 (approximately 58% of GDP). Interest rate increases are likely to harm households through the slow adjustment of food and beverage prices, continuing to strain household budgets, as well as via the possibility of higher housing prices: with housing starts harmed by increasing costs of capital, constricted supply will mean higher housing prices in the short-term for those actually looking

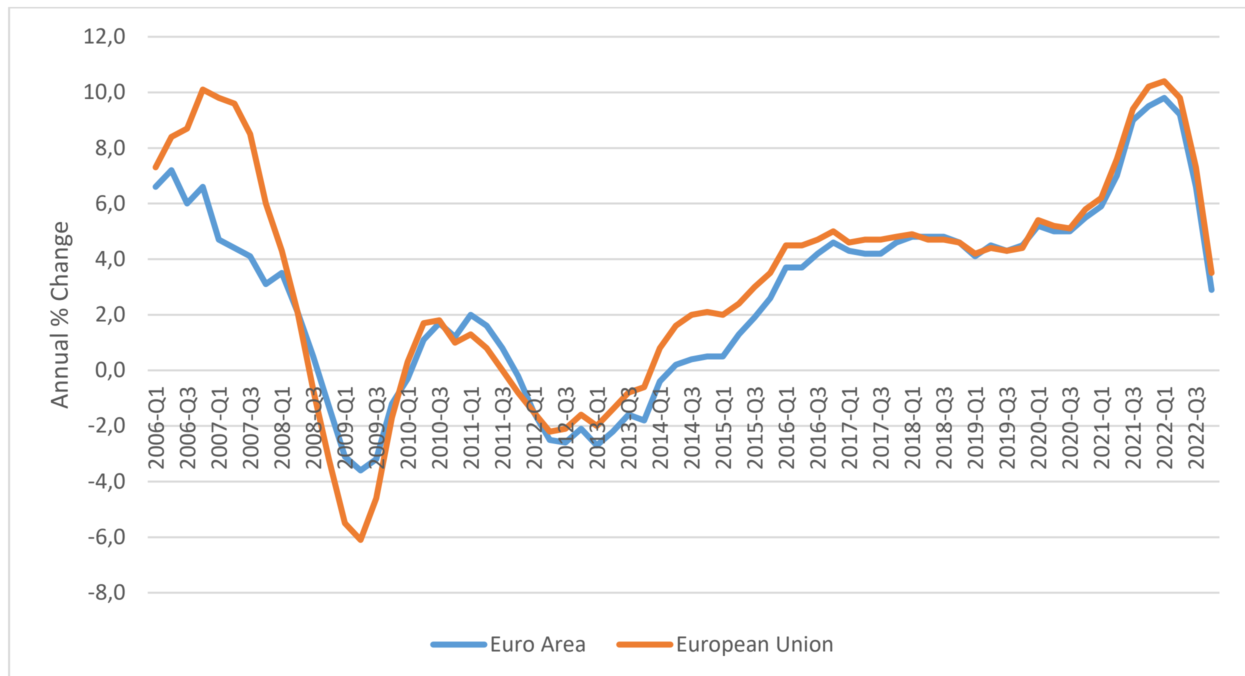
[2] https://www.ecb.europa.eu/press/pr/stats/ffi/html/ecb.eaefd_full2022q4~31b4c8fce3.en.html

to purchase (manifested in mortgage rates rather than actual prices), and even possibly higher rents for those staying put, given the lack of turnover and supply. Again, this is a two-tiered effect, as house prices themselves are exhibiting a "disorderly house price correction" downward (Valderrama et al., 2023), but the real cost of owning a home will increase because of the cost of mortgages increasing. In any event, these should be short-term dynamics but have the ability to further harm euro area households.

However, the exact extent of these effects is conditional on the specific Member State. We have spoken to this point in a broad sweeping manner about the possible effects of normalisation of monetary policy based on the path chosen by the ECB, and to some extent we will keep this approach up for the next section as well. But it has to be noted that there is extensive heterogeneity across households and firms and even Member States, meaning that the transmission of the contractionary monetary shock will be uneven; we have already hinted at this in terms of the effects on the financial sector in the euro area, where some Member State banks are more fragile than others. However, this heterogeneity across firms and households will necessarily affect the *extent* of the effect from normalisation, however, rather than the *direction*, as we can expect the transmission effects of the tightening from the ECB to be similar in composition across countries and economic actors. The effects of a monetary contraction may not follow regular and predictable patterns, but in most instances the impact of a reversal of monetary policy – especially after a decade and a half of the opposite – is going to be uniform in terms of its direction. Indeed, Shibamoto (2016) shows that the impact on real variables from monetary policy shocks are likely to be much larger if the policy does not align with market expectations.

An example of these transmission effects, dependent upon heterogeneity for impact but not direction, can be seen in the balance sheets of households and firms. According to Igan et al. (2017), contractionary monetary policy works through the balance sheets of economic agents (including in the financial and non-financial sector), but the effects take longer depending on how well-situated a firm or household is prior to the shock and/or depending on the term structure of (and reliance on) debt. With an increase in interest rates, the cost of liabilities (mainly loans) incurred by households and firms will correspondingly be higher, leading to more difficulties in balance sheet management. In the euro area, in the run-up to the normalisation of monetary policy, several Member States saw an increase in liabilities: Lithuania topped the list in annual changes, seeing the liabilities of households rising 16.2% from 2020 to 2021, while Slovakia also saw a rise of 13.0%, according to Eurostat data. For these smaller Member States, increases in interest rates are likely to hit household balance sheets harder than countries such as Italy, which saw liabilities increase by 3.4%, or Finland, which had an increase of 3.6% over the same timeframe.

Figure 5: Housing prices in the EU and euro area, annual % change, 2006-2022



Source: Eurostat, series PRC_HPI_Q.

Another example of the heterogeneity of households and Member States with regards to transmission of monetary policy comes from the state of a country's housing market. Increases in the real interest rate will have a dampening effect on the demand for housing, as well as increase the costs to construction and real estate development firms, and this effect has been dramatic in both the EU and the euro area (Figure 5). However, there is no reason that the housing market in each Member State would have a similar scale of effects in response to the normalisation of monetary policy and, in fact, Figure 5 shows a slowdown in housing prices but as of yet no actual decrease in their cost across the euro area (as occurred during the global financial crisis). In Estonia, Lithuania, and Croatia, house prices continue to show large increases on an annualised basis, over 16% from 2021 to 2022, while countries such as Italy and Cyprus have seen much more muted gains (2.8% and 4.4% respectively) and countries such as Finland, Sweden, and Denmark have seen actual declines in house prices on the order of between 2 and 4%. In all of these instances, the increase in interest rates has reversed the previous trends of price increases but at a different magnitude depending upon local conditions. As Tzamourani (2021:1) noted, "the heterogeneity of [interest rate] exposures across euro area countries is largely attributable to the differences in the prevalence of adjustable-rate mortgages (ARMs)" which, by itself, can explain how sensitive a housing market is to any further increases.

A final point regarding the normalisation of monetary policy which has not been considered to this point (and is very rarely in monetary policymaking) is that the ECB's policies have a massive effect on non-euro members of the EU as well. As Kucharčuková et al. (2016) showed, the effect of a conventional monetary shock on these countries is similar to the effect that is observed within the euro area, especially on output and inflation. This is to be somewhat expected, given that non-euro central banks tend to move in lockstep with policies of the ECB, even though business cycles may not be entirely synchronised and the levels of targets very different. Thus, normalisation will not just have an impact on the euro area, it will reverberate throughout the entire EU; importantly, however, as Kucharčuková et al. (2016) demonstrated, normalisation in the euro area will also help to rein in the disparate impacts

that unconventional monetary policy had in the non-euro EU countries. This needs to be regarded as a positive externality for the fight against inflation Europe-wide.

2.5. Normalisation: effect on the ECB

A final consequence of normalisation and the path in which normalisation is conducted is the effect that it has on the monetary policy authority of the European Union, the European Central Bank. As the institution charged with overseeing maintenance of the euro, the ECB has been sole driver of monetary policy in the euro area and the reason why unconventional monetary policy remained in place as long as it did. Thus, one can make the argument – as I have, and continue to do so now – that the policies of the ECB created the conditions for the inflation that the euro area now faces, with an assist from other events (COVID-19, fiscal policy, and, as we will see in the next section, geopolitical risk).

Fortuitously for the ECB, as this manifestation of inflation in broader consumer prices is a worldwide phenomenon (most central banks moved in lockstep in pursuing accommodative monetary policy for far too long, with all of them creating conditions for inflationary pressure), the ECB has retained some measure of credibility (perhaps seen best in the ECB-commissioned *Survey of Professional Forecasters*, which shows confidence in the ECB in fighting inflation). This credibility, indeed, still held across nearly all central banks globally, has remained strong despite the reality that all of the consequences of loose monetary policy and then normalisation should have been foreseen – and, given the massive delay in normalisation, the consequences are now necessarily more severe than they would have been in previous years. This is not a fact which is unique to the ECB but is shared across the US Federal Reserve, the Bank of England, the Bank of Japan, and others. And the sheer fact that the ECB is still seen as a credible institution also means that it may be able to transmit its monetary policies more effectively, as markets will believe the commitment to fighting inflationary pressures (as noted in the aforementioned Survey).

However, the credibility of the ECB is likely to be tested severely by the need for normalisation, and any wavering will lead to a diminution of its credibility; put into the language of Section 2.2, moderate or weak normalisation paths have the largest opportunity to damage trust in the ECB.[3] The effects of such an eventuality can make it much harder for the ECB to fight inflation, as inflationary expectations will become entrenched (and if there is an expectation of inflation, especially from the producer side, actors will act like the inflation is there and will actually will it into existence). Moreover, the loss of credibility of a central bank can have far-reaching deleterious effects: as work done by myself and Pierre Siklos (Hartwell and Siklos, 2023) shows, central banks which lose their credibility with the public (generally by missing inflationary targets) degrade the resilience of the entire economy. This analysis, focused on single countries rather than multiple country groupings such as the euro area, nonetheless still applies to the ECB and in fact can be even more of a warning: if the ECB loses its credibility, it is likely to have real institutional effects in the euro area economy.

The lesson that comes from this research is thus simple: the normalisation of monetary policy is not only an imperative for the real economy, no matter how much short-term pain it will bring, but it is imperative for the credibility of the ECB. If there is any wavering or backsliding regarding normalisation, inflation will be harder to combat, and the ECB will be less well situated to fight it. As former Fed Chairman Alan Greenspan (2007:156) put it, "The [Federal Open Market Committee] has always recognized that in a tightening cycle, if we stop too soon, inflationary pressures will resurge and make

[3] Of course, in many ways, the ECB is going to be attacked no matter what. There already have been calls in the press that the normalisation is harming ordinary people and thus needs to be abandoned. However, from the point of view of financial markets and the real economy, credibility is related to the ECB doing the job that it is charged with, that is, price stability.

it very difficult to contain them again. We therefore always tend to take out the insurance of an additional fed funds increase, fully expecting that it may not be necessary." This approach should also be adopted by the ECB in order to ensure that both inflation is conquered, and that the ECB's credibility remains intact.

3. WHY IT MATTERS: HEADWINDS AND PRESSURES FROM ABOVE

The previous section has shown that the way out of the problems which the ECB and other central banks have caused must be to continue wringing liquidity out of the system; in the words of Winston Churchill, "when going through hell, keep going," meaning one does not stop in the middle, as the pain will still be there. But although tightening is necessary as a correction away from the unorthodox and ultimately structurally harmful policies pursued since the global financial crisis, it will likely push fragile economies in the euro area and elsewhere towards recession.

The prospect of recession within the euro area is doubly problematic at this specific point in time, as the global economy has already provided some massive headwinds in the form of heightened geopolitical risk. Geopolitical risk, defined as "the threat, realization, and escalation of adverse events associated with wars, terrorism, and any tensions among states and political actors that affect the peaceful course of international relations" (Caldara and Iacoviello ,2022:1197) by itself would likely not be sufficient to raise inflationary pressures (although Caldara et al. [2023] argue that it is). However, the rise in risk has manifested itself through growing de-globalisation, starting with the pandemic and continuing through Russia's invasion of Ukraine, breaking global supply chains, and precisely hitting the mechanisms which have helped to keep inflation low in developed economies even during a time of profligate monetary policy.

Occurring at the same time as increases in geopolitical risk has been another short-term inflationary pressure generated from within the halls of the EU and supported by a large proportion of the EU's citizenry. While there has been discussion of using fiscal policy to counterbalance the deleterious effects of the normalisation of monetary policy, the EU and especially its Member States are finding themselves with far less fiscal space to undertake such actions, mainly because of its commitment to massive fiscal expenditures in the pursuit of twin transformations, one green and one digital. With the timing of such expenditures called into question by the uncertain external environment – and the path and timing of the transformation being initiated from the top down, both from the EU and Member State governments – the additional costs in terms of higher inflation may make the entire endeavour a net negative for the EU and especially its competitiveness.

This section examines these two challenges for the euro area economy within the context of high inflation, noting that these two shocks – one exogenous, one endogenous – can be overcome by euro area countries. However, due to the monetary policies of the past, the EU is much weaker and less resilient than it could have been to face any one of these challenges in isolation, much less all three at the same time. Facing this new external environment will also require a successful completion of the normalisation process and a return to economies that price capital correctly, have appropriate market signals, and which heed economic tenets rather than political ones.

3.1. De-globalisation, monetary policy, and energy/food inflation

An overdue monetary correction, while having real effects on the real economy, is not the real threat facing the European economy or even the global economy; the effects of normalisation too will pass and leave a stronger euro area ahead, as inflation is more dangerous for the health of the EU than normalisation. Of more consequence in terms of inflationary trends, however, are the structural issues accruing globally, with the largest threat to subdued inflation being de-globalisation and the re-emergence of geopolitics as a key player in economic policy. The rise of inter-state conflict has far more destructive potential than capital once again being priced accordingly, and the re-emergence of geopolitical risk has become a defining factor in international economic policy. From Russia's invasion

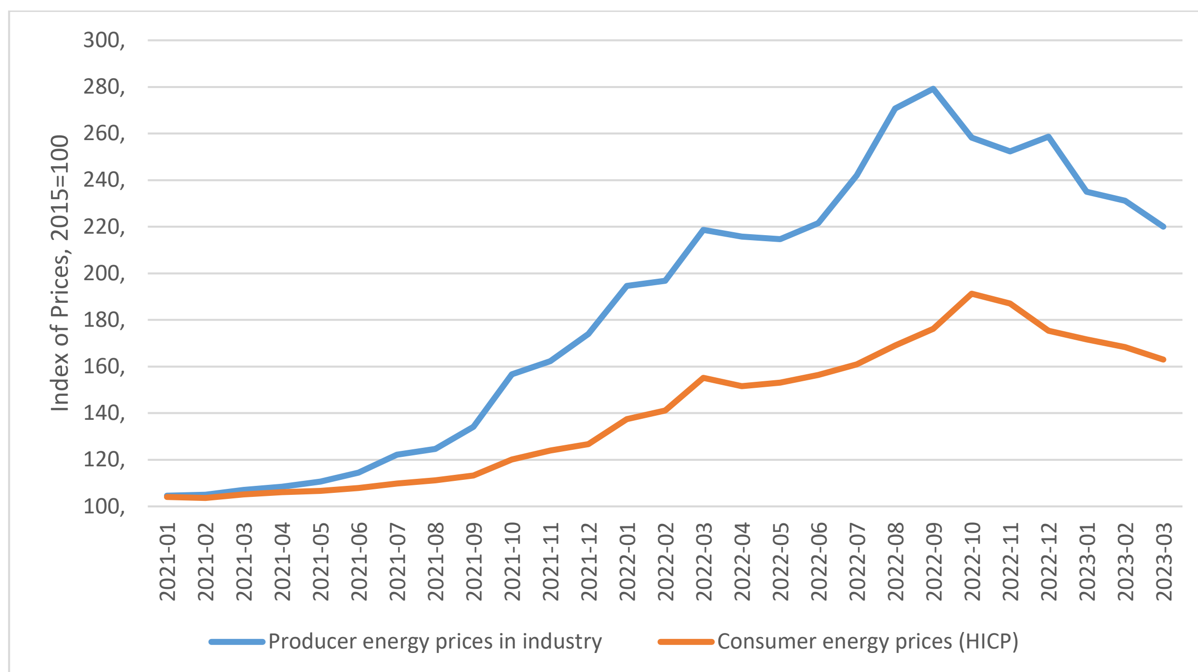
of Ukraine to China's inevitable slowdown (and destabilising policies from COVID obfuscation to sabre-rattling over Taiwan), the global economy faces several challenges to price stability in the coming years.

The move towards de-globalisation after the global financial crisis, coupled with monetary policy, already created some inflationary pressure within advanced economies, but it was not until broad-based de-globalisation was explicitly the policy of major actors such as the United States that consumer price inflation was given an entryway to affect the economy. Globalisation in the 1990s and 2000s was a major contributor to breaking the back of demand-push inflation, as product competition lowered prices for consumers (Rogoff, 2003) while openness also contributed to keeping central bank inflationary biases low because of a larger output-inflation trade-off (Badinger, 2009). The collapse and subsequent slow recovery of trade during the global financial crisis and especially the advent of trade wars between the US and China starting in 2017 took aim at these inflation-dampening mechanisms, generating pressure for domestic inflation due to lessened competition. The continued waging of trade wars by the United States under President Biden (the misnamed "Inflation Reduction Act," for example, contains several overt and misguided industrial policy elements to which the EU objects) has also further threatened the gains of globalisation with regard to prices. However, it was the COVID-19 lockdown shock was the straw that broke the camel's back, with the closing off of foreign competition allowing domestic firms to pass through price increases to consumers without suffering any loss of market share (Amiti et al., 2023). In a world where trade continues to be subjected to political imperatives rather than market forces, price levels will be artificially higher than they should be.

De-globalisation is only one manifestation of the increase in geopolitical risk, with the other, more prominent one, being the threat of and initiation of hostilities by state actors. While the 1990s and 2000s were relatively peaceful compared to previous decades, the threat of large-scale war, including in Europe, has returned with a vengeance due to Russian President Vladimir Putin. The act of war initiated by Russia with no legal reason has had large ripple effects throughout the global economy, also enabling inflation to take root.

The first inflationary consequence of the invasion has been a spike in energy prices, feeding through as a main (but not the only) driver of price inflation in the euro area. As the ECB (2022) noted, "in the first two weeks after the invasion, the prices of oil, coal and gas went up by around 40%, 130% and 180% respectively" and prices continued to rise throughout the incredibly hot summer that Europe faced (Figure 6). Despite a decline off the highs occasioned by uncertainty, even as of the time of writing of this paper (May 2023), energy prices were at the level they had jumped to at the beginning of the invasion in February 2022. The war has necessitated not only energy saving measures throughout the EU, but it has also forced a reorientation away from Russian oil and gas, which constituted approximately 23% of EU imports of energy in 2021. This forced transition, coupled with other measures that the EU has voluntarily taken on (see below), has not only resulted in higher energy prices but also in higher price volatility, constituting an increasing cost to the real sector. And, as is well known, high and variable energy prices pass through to firm investment decisions (Yoon and Ratti, 2011), meaning that continued uncertainty related to the current war will also continue to dampen activity in the real sector. This is to say nothing of additional geopolitical risks which are gathering, including the very real possibility of China launching a similarly unprovoked invasion of Taiwan or the acquisition of nuclear arms by Iran (who has already been supplying Russia with weaponry for its invasion).

Figure 6: Energy prices in the euro area, 2021-2023



Source: Eurostat, series PRC_HICP_MIDX and STS_INPPD_M.

Similarly, food prices have also been affected by the Russian invasion of Ukraine, as Glauber et al. (2023) note that "over 2019-2021, [Russia and Ukraine] accounted for 12% of global agricultural trade on a kilocalorie basis, with a combined market share of 34% for wheat, 26% for barley, 17% for maize, and 75% for sunflower oil." The disruption of supply chains, both through the conflict itself and also through the imposition of sanctions, led to global increases in the price of wheat of as much as 60% by June 2022, with corn prices rising by approximately 24% over that same period (based on data from the World Bank). The COVID-19 pandemic, by closing off supply routes and imposing severe restrictions on economic activity, already had led to an increase in food prices worldwide (Ahn and Norwood, 2021), and the prospect of further supply-side shocks has the ability to once again force prices upward. The ongoing Russian invasion has furthermore led to greater volatility regarding food prices and the prospect of additional disruptions and trade diversion, especially if the net of sanctions (and secondary sanctions) are to expand further.

The rise of geopolitical risk more generally is likely to be a driver of inflationary pressure albeit in an uneven manner. While other geopolitical risks may not have such effects on these specific commodities, it is difficult to wave away the inflationary pressures which may come with an invasion of Taiwan by China. Already the erratic behaviour of the Communist Party in China surrounding its treatment of Uyghurs in the country's west and especially regarding the origin of the COVID-19 pandemic (and its precise effect on China) has made business with China riskier than it has been for decades. The pandemic further accelerated a de-coupling of at least the US economy with China, and China's centrality in the global trading order and supply chains has been called into question repeatedly (Free and Hecimovic, 2021). In the event of a full-scale invasion of Taiwan, the labour and materials that China supplies to the world would likely be dramatically scaled back, leading to an enormous productivity and supply shock and a long period of continued inflation in developed economies. These effects would accrue no matter what happened with the war itself, its duration, and whether or not advanced democracies get themselves involved; in any event, such a disastrous event would dramatically alter the global economic structure which has evolved to keep inflation low.

3.2. Fiscal policy and inflation

The rise of geopolitical risk has been a mostly exogenous shock for the European Union. On the other hand, an additional threat to prices over the longer-term comes from wholly endogenous sources, namely the planned expansion of EU fiscal policy (at both the supra-national and especially the Member State level) over the next twenty-five years. Indeed, the effects of monetary policy and exogenous shocks on energy and food prices have been and will be compounded by the EU's ambitious move towards a "green" and a "digital" transformation. These twin transformations have the goal of fundamentally remaking the structure of European economies, focusing first and foremost on energy and then on a sector heavily dependent on energy, technology.

The green transition in particular contemplates massive government outlays in an attempt to change the structure of production across the euro area, a way to increase aggregate demand for "green" products and processes over two decades while simultaneously engineering a temporary negative supply shock papered over by fiscal policy; in fact, although the ostensible goal of the green strategy is to generate competitiveness and resource efficiency, the disruption of the transition away from traditional methods of doing business imposed from above will create difficulties in the short- and medium-term in maintaining competitiveness,[4] especially in labour markets (Fleming and Mauger, 2021). This will necessitate even more additional fiscal policy tools, including perhaps industrial policies, in order to keep EU businesses afloat. Over the long term, however, the green transition is implicitly presented as a way to lower prices, as the increased effectiveness of the overall economy and removal of non-"sustainable" technologies will generate efficiencies over time that more than offset the pump priming of the transition.

In reality, it appears that the effect of the "Green New Deal" will be threefold on prices, with a tendency towards price increases rather than long run decreases. In the first and most obvious instance, EU policies will flood the market with fiscal stimulus which would necessarily be counteracted by the disruption of business in the short run and during the transition; it can be argued that this is also necessary as it corrects a "market failure," but such failure only exists if policymakers know precisely what the optimal energy mix should be in an economy to match with the future structure of production and the market is not delivering this precise mix. In any other situation than this highly unlikely one, the disruptions would be for an uncertain future, one which can be theorised but not conclusively known. Existing research shows that such environmental initiatives tend not to deliver as much as promised and rarely enough to exceed the costs of the disruption (Dechezleprêtre and Sato, 2017). Indeed, even the costs of climate change itself pale in comparison to the costs meant to undertake its mitigation, especially in the euro area: according to the European Environment Agency (EEA), the total cost of *all* weather and climate-related events from 1980 to 2021 in the EU amounted to EUR 560 billion, an amount slightly more than the projected *one year* of investments needed to effect a "green transition."[5]

Increased demand and dampened supply is not the goal of the transition, however, as EU documents (European Commission, 2022) make clear that the purpose of the transition is to improve

[4] Already issues with such top-down green transitions have been seen in the United States, where environmental diktat has led to the replacement of better-performing items with less efficient ones (as in low-flow showers and toilets) or in eliminating effective methods altogether (as in the coming ban in California city San Francisco on gas stoves and hot water heaters) – see Rothman (2023) for a comprehensive series of examples. These outcomes flow from the model of Ambec and De Donder (2022), who show that environmental consumerism may lead to lower quality goods but still give consumers a "warm glow" due to the environmental friendliness of the good. In other words, consumers face trade-offs.

[5] European Environment Agency website, https://www.eea.europa.eu/publications/assesing-the-costs-and-benefits-of#:~:text=According%20to%20these%20data%2C%20the,States%20(EU%2D27).

competitiveness in the long run, meaning increasing supply at some point. In this eventuality, upward pressure on prices would have already occurred as a result of the stimulus but would be expected to fall as the transition is completed, and a new equilibrium longer run output is achieved. However, this approach ignores the effect on aggregate demand coming from fiscal stimulus, meaning that prices may not decrease and may even increase, depending on the extent of the stimulus. This effect will be seen even more where the reliance of green companies on government subsidies rather than on organic, market-based innovation is greatest. This would mean that further stimulus is built into the medium-term and put more upward pressure on prices. This has already been seen in the United States, where many forms of "green" energy are subsidiaed to up to as much as 70% of their cost as a result of the "Inflation Reduction Act;" already the EU has countered with an increase in subsidies (the Economist, 2023). The European Commission has also called for a "green deal industrial plan," institutionalising subsidies on a vast scale (European Commission, 2023).

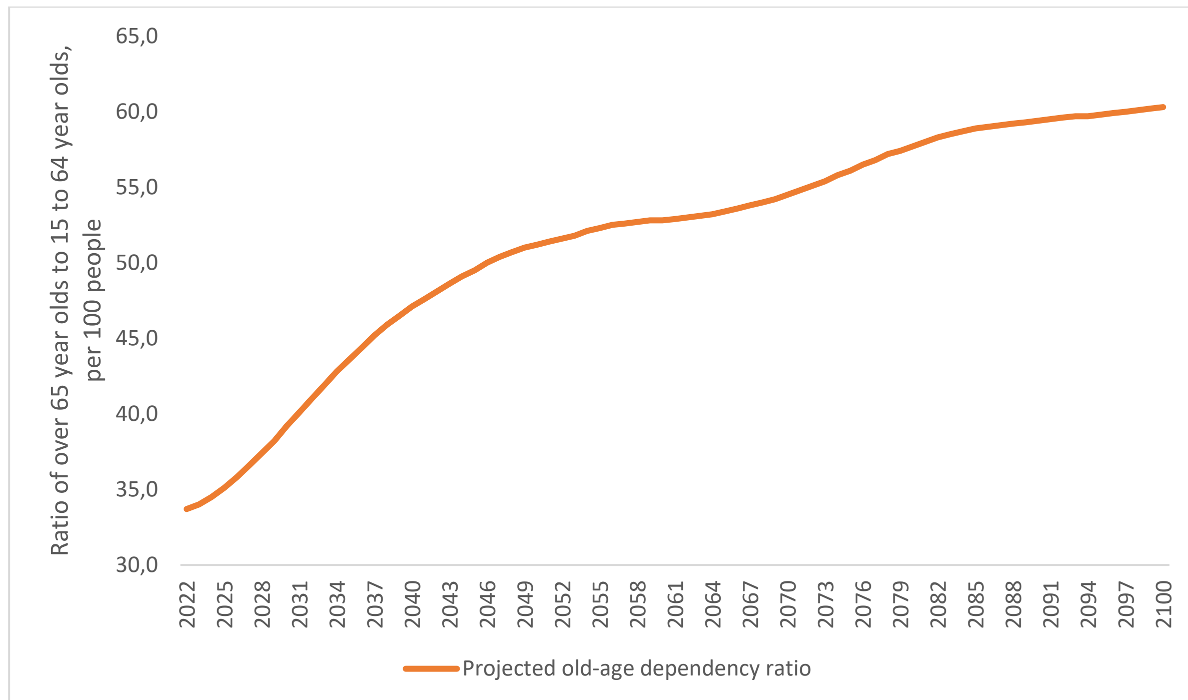
The second channel via which the green transition will delay the fight against inflation is its effect on the ability of EU Member States to mitigate the effects of normalisation. A common refrain heard from politicians and legislatures surrounding the effects of monetary contractions is that they can be softened somewhat by a countervailing fiscal policy, especially given that contractionary monetary shocks increase inequality (Coibion et al., 2017). In theory, using fiscal policy as a counterbalance might be efficacious if such a policy was targeted towards those who were hardest hit from contractionary monetary policy (Furceri et al., 2018), mainly the lowest strata of the economy. However, such redistributive schemes in an ongoing fight against inflation will face two major problems: first, the fiscal space of Member States will be severely restricted by the outlays necessitated by the green transition, making the amount available for mitigation much lower than in the absence of concurrent fiscal stimulus (this has in fact been used as an argument in favour of greater EU-wide stimulus and revisions of current budgetary rules such as the SGP – arguing for more fiscal space and subsequently more stimulus and complicating inflation mitigation further). Second, the fact that mitigation will be undertaken at the same time as stimulus is akin to attempting to put out one part of a fire while fuel is added to another part of it (even if the time horizons for fuel/mitigation are slightly different). Yes, there might be some success in limiting the spread of the fire in one direction, but the fire will continue to grow, either directly or in laying down the fuel for the future. Continued fiscal stimulus will make the fight against inflation more difficult.

As a third effect on prices, and in line with the effects of the Russian invasion of Ukraine, the green transition's effects also have more immediate importance for Europe with regard to its energy security. The green transition is just that, a transition, meaning a period where energy sources will be replaced and re-fitted throughout the economy. A problem in this transition, however, is that many of the replacement technologies are not necessarily either at the scale at which they need to be to replace existing energy sources or – more problematic from the point of view of prices – require continuing government subsidies to survive. In this situation, as Germany is finding (Pegels and Lütkenhorst, 2014; Murray, 2019) with its decision to close its (emissions free) nuclear power plants, the effects of the energy transition will be to increase energy costs in the short- and medium-term rather than dampen them. Again, with a policy almost entirely designed to create inflationary pressure in the short run, it should not be surprising that fighting this pressure will be made more difficult.

A final additional problem accompanying the massive spending envisioned for the green transition is the structural inflation that Europe faces as the demographic shift occurs across the continent (Figure 7). Standard lifecycle theories teach us that early adults through retirees tend to save, driving investment, while both the very young and very old dis-save, driving consumption. With an economy seeing more and more elderly and fewer workers, the structure of the economy will shift towards more

consumption, i.e., higher demand for goods and services, a classic Keynesian positive aggregate demand shock. Using a standard aggregate demand/aggregate supply framework for the short-run, this increased demand will increase prices in the short-run but the increased prices for inputs – and the lack of workers – will decrease aggregate supply, meaning a long-run equilibrium of higher prices. This effect will of course be confounded with other policies, such as the aforementioned envisioned positive supply shock combined with subsidies, but it does not point to a great lessening of inflationary pressures. A move towards older populations will mean more consumption, more demand, and higher prices over the long run.

Figure 7: Demographic change in the euro area



Source: Eurostat, series TPS00200.

Note: Shown is the ratio of over 65 people in the euro area to those aged 15-64 per 100 people. Higher numbers indicate much higher percentages of the non-economically active population. Projections are from 2021.

This is precisely the situation that the euro area (and the broader EU) finds itself in at the moment, as the old age dependency ratio shown in Figure 7 is projected to balloon from 34 in 2023 to over 60 in 2100 (one pensioner's age from now). Almost doubling the number of the economically inactive while halving the number of those who are economically active will shift the structure of the euro area's consumption and investment patterns, and likely drive prices higher as consumption increases. In this environment, matching massive fiscal expenditures for a green transition along with demographic decline (and the concomitant rise in pensions and healthcare expenditures) is a recipe for elevated prices far into the future. If the structural inflation engendered by the demographic shift then leads to popular calls for further fiscal redistribution – and people over the age of 40 and especially over 65 tend to vote in much larger numbers (Goerres, 2007) – this could entrench inflationary pressures even further. And while the demographic decline in Europe threatens price inflation over a longer period of time, if during the entire period of the transition towards greater private fiscal outlays the EU poured fuel on the fire with massive fiscal stimulus, price inflation could become substantial.

4. CONCLUSION

This study has examined the prospect of inflation in the euro area and the effects of the normalisation of monetary policy after a decade and a half of unconventional policies. As stressed throughout, such a normalisation was unavoidable but was severely delayed as a matter of convenience rather than necessity. This delay has led to several deleterious consequences, including a less resilient euro area, a major problem for economic policy as the EU faces global headwinds. Rather than having the luxury of normalisation during more placid times, the euro area must now undertake interest rate hikes under the threat of entrenched inflation, global geopolitical instability, and restricted fiscal space (restricted further by the lowering of economic activity effected by normalisation itself).

However, a theme which should have emerged is that the normalisation of monetary policy is crucial and necessary, with its costs paling in comparison to the potential costs if such a normalisation is further delayed. While the effects, as shown in this paper, will be painful for both the financial and non-financial sectors, as well as households, they are a necessary stabilisation in a tumultuous world. Indeed, for liberal democracies to be able to meet the extensive inflationary and destabilising challenges which exist today, they need to have economies which are both deep and resilient – and this cannot occur if they remain tethered to a monetary policy which keeps these economies brittle. The short-term pain connected with conquering inflation will reap benefits in the long run against an external environment which is tailor-made for increasing inflation.[6] While geopolitical risks cannot be erased, they can be mitigated, and the biggest buffer against geopolitical shocks is economic strength.

Along these lines, fiscal policies also play a role in fighting against inflation in the euro area, but not in the "usual" (i.e., redistributive) sense. The "Green Deal" is likely to be a major driver for sustained inflation in the EU and euro area over the next two decades – can policymakers say how long the "transition" will take and when we will know it is completed? - and it is important that its goals are not confused with the means of achieving them; by this, I mean that positive environmental outcomes will not come about solely because of a top-down directive to reduce all emissions. In reality, the inflation-minded solution for the euro area in the area of energy is to increase the opportunities for more production and transmission (including and especially in clean production, such as nuclear) from private sources. While parts of the Green Deal may have been envisioned as a way to facilitate private investment in the direction of cleaner technology, this approach towards encouraging a true green technology would emphasise parts more in line with market tenets (regulatory sandboxes, for example) and minimise those with overt industrial policy overtones (where the conversation has gone in 2023). With more energy available, the euro area countries will be better placed to weather exogenous shocks; moreover, from the point of view of inflation, increased production need not be accomplished through government subsidies, further straining finances and adding to price level increases, but instead can be accomplished by government policies which ease entry into the energy sector. An increased supply of energy will help to ease price pressure due to constant or rising demand and constrained supply, making the real economy a key ally in keeping inflation low.

In any event, the current state of affairs was in fact unavoidable but the strange circumstances of the past three years, including the pandemic and the Russian invasion of Ukraine, made it inevitable. Luckily, this is not necessarily the case for the future of inflationary pressure within the euro area,

[6] One could argue that this would also be true about the green transition. This argument ignores two specific realities: one, the mispricing of capital was done precisely through government policy for over a decade and removing a distortion is not the same as radically transforming the energy sources of an entire continent. Secondly, the price mechanism is well understood as the basis for a modern market economy and the consequences of altering their functioning demonstrated in example after example; on the other hand, a massive transformation of energy, based on technology which – while improving – is still not up to the challenge is a much bigger leap of faith than a mere correction.

meaning that a return to normalisation in a world that is increasingly not “normal” will be an effective panacea for the structural issues which still exist.

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This study examines the unavoidable effects of the long overdue normalisation of monetary policy on households and firms in the euro area. While the costs are higher than they would have been if such normalisation started much earlier, they are unavoidable in order to fortify the euro area economies. This is imperative because the threats of de-globalisation and geopolitical risk – along with the EU's own misguided policies - may entrench inflationary pressures well into the future.

This paper was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 5 June 2023.

PE 747.846
IP/A/ECONMD/FWC/2020-002/C1

Print ISBN 978-92-848-0657-7 | doi:10.2861/46548 | QA-04-23-565-EN-C
PDF ISBN 978-92-848-0656-0 | doi:10.2861/18681 | QA-04-23-565-EN-N