

Amid inflation and financial turmoil: Some questions and answers



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Supporting monetary policy scrutiny



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Amid inflation and financial turmoil: Some questions and answers

Abstract

We argue that a hard stagflation scenario is still possible. This would have the potential to create a conflict between price stability and financial stability. We therefore address four questions. Why should central banks be concerned with financial stability? What financial imbalances should central banks be worried about? Are monetary policy and macroprudential regulation two tools for two goals? Is the ECB poised to face the price stability vs. financial stability trade-off?

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CONTENTS

LIST OF ABBREVIATIONS	6
LIST OF FIGURES	7
EXECUTIVE SUMMARY	8
1. INTRODUCTION	9
2. WHY ARE CENTRAL BANKS CONCERNED WITH FINANCIAL STABILITY, AND SHOULD THEY?	10
2.1. Price stability and financial stability: a paradigm shift	10
2.2. Four reasons for concern	12
3. WHAT FINANCIAL IMBALANCES SHOULD CENTRAL BANKS BE WORRIED ABOUT?	15
4. MONETARY POLICY AND MACROPRUDENTIAL POLICY: TWO TOOLS FOR TWO GOALS?	17
5. IS THE ECB POISED TO FACE THE TRADE-OFF BETWEEN PRICE STABILITY AND FINANCIAL STABILITY?	20
6. CONCLUSION	25
REFERENCES	26

LIST OF ABBREVIATIONS

BIS	Bank of International Settlements
ECB	European Central Bank
EU	European Union
GDP	Gross domestic product
HICP	Harmonised index of consumer prices
IMF	International Monetary Fund
MRO	Main refinancing operations
SGP	Stability and Growth Pact
TLTRO	Targeted longer term refinancing operations
TPI	Transmission protection instrument
US	United States

LIST OF FIGURES

Figure 1: Channels between the monetary and the macroprudential domains	17
Figure 2: Real interest rates in the euro area	20
Figure 3: Credit and money growth in the euro area	21
Figure 4: Euro area HICP inflation	22
Figure 5: Sectoral wage and profit developments	23

EXECUTIVE SUMMARY

- **Monetary authorities have four connected but distinct, concerns for financial stability** when they set the policy stance. (i) Financial turmoil may impair the transmission of monetary policy, (ii) they may need to support financial stability in times of economic contraction and financial distress, (iii) they may ignite by themselves the conditions for a financial crisis, (iv) they may consider whether or not to be engaged in pre-emptive financial stabilisation.
- **The trade-off between price and financial stability goals is inherently state-contingent.** Monetary policy should not be directed to prevent the emergence of imbalances per se because these latter are not necessarily associated with financial disruptions. The nature and the extent of financial imbalances, together with the intensity and the characteristics of the shocks, determine whether a trade-off between monetary and financial stability goals may materialise.
- **The adoption of an enhanced monetary policy-oriented financial stability analysis** capable of balancing all the current and future price stability risks associated with financial instability conditions is consistent with the pursuit of financial stability.
- **Macroprudential policy is also key to overcome the potential conflicts between price stability and financial stability** in compliance with Tinbergen's principle of two instruments for two goals. There are, however, a few stumbling blocks along the way, in particular in the euro area.
- **An accurate design is necessary to the effect that the three levers - microprudential, macroprudential, macropolicy - are moved consistently.** Such a design is highly sensitive to a wide range of contingent factors, from the financial structure of the economies to the most relevant "frictions" therein, from the origin of instability to the evolution of inflation expectations.
- **The euro area is particularly weak on this front because of the incomplete set of supranational financial institutions that further constraints the implementation of the possibly better solution.** An inconsistency exists between the quest for narrow inflation targeting on the part of the ECB and the resistance on the part of national authorities towards supranational devolution of micro- and macroprudential regulation.
- **The ECB dispels concerns to be caught amid price stabilisation and a financial turmoil** because it deems it likely to complete the disinflationary process in a reasonable time without causing a recession. Moreover, the ECB is endowed with the tools and the capacity to calibrate monetary policy against the risks of financial instability and provide liquidity to the financial system in emergency situations.
- **We warn that an adverse scenario of hard stagflation may still materialise.** Because of the fragmentation of the macroprudential and microprudential arms in the euro area, this scenario **could create conflictual objectives for monetary authorities**, severely testing the resilience of the banking sector, and, we add, the integrity of the euro area once again.

1. INTRODUCTION

Recent episodes of bank distress in the United States (US) and in Europe have brought to the forefront the concern whether monetary policy committed to keeping inflation at bay may generate financial instability. The aim of our paper is to address both the theory, explaining the possible existence of a trade-off between price stability and financial stability, and its practical implications for the conduct of monetary policy, with a special focus on the European Central Bank (ECB) and the likely scenarios that it has to face in the next future. To this end, we combine an overview of the relevant academic literature on the topic and a discussion of current hot issues concerning the ECB's policy.

Section 2 deals with the paradigm shift determined by the US financial crisis of 2007-2009 first and the European debt crisis then: the twin ideas that financial markets are efficient and that price stability is sufficient for ensuring financial stability were undermined. The necessity to design appropriate microprudential and macroprudential regulations as well as institutions came to the forefront, with a special attention to the specific problems of financial markets fragmentation in the euro area. This section also sets forth the reasons explaining why monetary authorities should have concerns for financial stability.

Section 3 explains why financial stability is not the lack of imbalances, but it is the condition in which the unravelling of financial imbalances can be faced by the system without major disruptions. Then, the section discusses the implications of this understanding of financial imbalances for monetary policy, focusing in particular on the euro area and the introduction of the new "Transmission Protection Instrument" (TPI), the tool introduced by the ECB to support the effective transmission of monetary policy across all jurisdictions.

Four alternative regimes governing the division of objectives, tasks and tools between the central bank and the macroprudential regulator are outlined in section 4, which is devoted to the relationship between monetary and macroprudential policies. We end this section by noticing that the search of the best regime is highly sensitive to a wide range of contingent factors, and that in the euro area the incomplete set of supranational financial institutions further constraints the implementation of the possibly better solution.

Section 5 elaborates on the possible scenarios that the ECB is likely to face in the next future, wondering under what circumstances it will have to face a trade-off between price stability and financial stability. Our answer is that one cannot rule out this possibility, especially if core inflation will remain persistently higher than the level consistent with its gradual return to the 2% target in accordance to the timescale envisaged by the ECB.

Section 6 concludes.

2. WHY ARE CENTRAL BANKS CONCERNED WITH FINANCIAL STABILITY, AND SHOULD THEY?

2.1. Price stability and financial stability: a paradigm shift

When the monetary integration process leading to the creation of the European System of Central Banks and to the launch of the euro was put on track, the dominant issue was "**one size doesn't fit all**" (e.g. Dornbusch et al., 1998; Buti and Sapir, 1998; Angeloni et al., 2003). The euro-area stabilisation policy was, in principle, a division of labour between the ECB, focused on symmetric shocks to price stability for the area as a whole, and the governments of the Member States that could take care of national asymmetric shocks by means of fiscal policy tools. Confidence in the system's resilience to dis-integration forces, thus keeping the ECB's strict mandate of price stability immune from other concerns, rested on a mixture of theoretical presumptions and empirical extrapolations.

First, there was optimism about the adequacy of the 3% room for cyclical deficit/GDP ratios as stabilisers of asymmetric shocks established by the Stability and Growth Pact (SGP). Optimism was largely empirical, resting on the past experience of future member countries, when, however, they also could avail themselves of independent monetary policy and adjustable exchange rates (Buti and Sapir, 1998). Scepticism was instead already prevailing with regard to the internal consistency of the SGP with more general principles (Buiter et al., 1993; Kenen, 1995; Feldstein, 1997). The SGP envisaged and addressed only one type of externality, namely excess debt and/or deficit by one or more countries jeopardising the Union's financial stability, generating pressure on the ECB for debt monetisation or transfers between Member States to save one or the other from default. The Pact ignored other externalities, such as those of unilateral changes in the fiscal policy implemented by a single country (especially a large one) in a continent where trade is intense and value chains are increasingly integrated, or those triggered by simultaneous implementation of fiscal consolidations across interdependent countries.

Second, since also ideas matter (Brunnermaier et al., 2016), the conception of monetary policy for the euro area was debtor to the advent of the "New synthesis" between neo-classical and neo-Keynesian ideas, emerged from the macroeconomic quarrels of the Seventies and Eighties (Goodfriend, 1997; Blanchard, 2000). Monetary policy was grafted onto models of self-regulating and self-stabilising markets, except for some price stickiness giving rise to temporary real effects of aggregate demand shocks to be stabilised by appropriate, rule-based changes in interest rates. Among the critical postulates of these models was the **efficiency of financial markets**, the same one also underpinning their role as watchdogs of fiscal discipline (Leijonhufvud, 2007; Stiglitz, 2014). A corollary of this postulate was that **price stability would also ensure financial stability**, and consequently there was no need for central banks to have explicit financial stability targets (Bernanke and Gertler, 2001), also known as **Jackson Hole Consensus** (Smets, 2014). As Stiglitz wrote later, "To me, the strangest aspect of modern macroeconomics was that central banks were using a model in which banks and financial markets played no role" (2014, p. 9).

These fault lines yawned in the euro area, not as a consequence of asymmetric shocks, but in the aftermath of the **first large systemic shock of 2008-09**, imported from the United States through financial markets, when it became blatant that the blueprint on how to govern and keep the whole system together was largely incomplete (De Grauwe, 2013).¹ In particular, a dis-integration process of the euro area financial markets was taking hold.

¹ "From my perspective as President of the ECB, I remember clearly the huge uncertainty about where we were and which direction we should head in. I remain convinced that had central banks across the globe in the advanced economies not come together to chart a course out of the crisis, the outcome could have been a repeat, if not worse, of the '30s (...). At the same time, in the euro area, the crisis revealed major deficiencies in its governance, ranging from the refusal by some member states to comply with the fiscal rules of the

It is worth recalling the whole passage of the speech of the then ECB President Mario Draghi (2012) containing his celebrated "whatever it takes" promise.

"[...] we think the euro is irreversible. And it's not an empty word now, because I preceded saying exactly what actions have been made, are being made to make it irreversible. But there is another message I want to tell you. Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough. There are some short-term challenges, to say the least. The short-term challenges in our view relate mostly to the financial fragmentation that has taken place in the euro area. Investors retreated within their national boundaries. The interbank market is not functioning. It is only functioning very little within each country by the way, but it is certainly not functioning across countries. And I think the key strategy point here is that if we want to get out of this crisis, we have to repair this financial fragmentation". (p. 2).

One reason for the ECB's modification, not only of its operation tools from "conventional" to "unconventional", but also of its attitude towards financial stability was provided worldwide. After the earlier consensus that price stability was a necessary and sufficient condition for financial stability collapsed with the global financial crisis, central bankers' conventional wisdom was turned upside down. Great impulse came from research at the Bank of International Settlements (BIS) (White, 2006; Borio, 2008, 2012). The shock of the celebrated Great Moderation of the 1990s - stable inflation and sustained growth worldwide - ending up with a global financial collapse raised the doubt that the surface success of "narrow" reaction functions of central banks would hide, if not feed, cumulative **financial fragility**, typically **excess leverage of intermediaries** and of the private sector as well.² One effect of financial fragility is that intermediaries are **overexposed to (miscalculated) risks**, especially of systemic nature, and/or **cannot withstand restrictive twists** of the monetary policy stance - indeed, the twin triggers of the subprime mortgage crisis in the United States. As the self-regulatory hypothesis of financial markets was set aside, the interconnections among the regulation of individual intermediaries (**microprudential**), the regulation of the intermediaries as a system (**macroprudential**), and the monetary macro-policy came to the forefront.³

A second reason was more specific to the euro area, namely the incompleteness of its financial integration mechanisms and institutions, in particular those devoted to micro- and macroprudential regulation (ECB 2021). In a sense, this was a fault bound to magnify the "one size doesn't fit all" problem.

Since Draghi mentioned **fragmentation** as a major impediment to the proper functioning of monetary policy in the pursuit of its mandate, the ECB pedagogy about its various "unconventional" programmes, up to the creation of the new TPI in July 2022, has hinged on financial stability, and prevention of fragmentation, as a precondition for price stability (Schnabel 2020, 2021, ECB 2021, 2022). The post-pandemic surge of inflation has made this approach more, rather than less, cogent in order to come to terms with the trade-offs between price and financial stability (Wyplosz 2022). **An accurate design is necessary to the effect that the three levers - microprudential, macroprudential, macropolicy - are moved consistently.** The quest for "narrow" inflation targeting to the ECB is hardly consistent with Member States' resistance towards further supranational devolution of micro- and macroprudential regulation.

Stability and Growth Pact to a benign neglect of the major divergences in price and cost competitiveness, from the absence of a crisis management and resolution framework, and, finally, to the lack of a banking union" (Trichet 2015)

² The notion of financial fragility was introduced by Hyman P. Minsky in his studies of the macro-finance nexus of the 1970s (e.g. Minsky 1982), and was revived after years of oblivion.

³ In this respect, too, the seminal work was done at the BIS (e.g. Crockett 2000).

2.2. Four reasons for concern

At risk of simplifying a very complex issue, it could be argued that monetary authorities have **four, connected but distinct, concerns for financial stability** when they set the policy stance. As an ordering device one may begin from the spillovers from financial stability to monetary policy and then consider the spillovers in the opposite direction.

First, central banks may be concerned that (actual or expected) financial turmoil may negatively affect, or even impair, the correct transmission of monetary policy. Monetary and financial policy domains operate through common transmission mechanisms, and impact each other. It goes unchallenged that central banks may suffer from the impact of financial turmoil on the transmission of monetary policy.

Eisenschmidt et al. (2018) and Schnabel (2020) provide a useful account of the specific problems that may arise, and actually arose, in the transmission channels in the euro area in the aftermath of the global financial crisis. Most of the rings in the chain from the rate on Main Refinancing Operations (MRO) to the long-term interest rate(s) went broken. As a typical example, banks stopped lending to each other in the inter-bank market and drew on central bank's liquidity as a hedge against risk instead of a backup for lending (the so-called "liquidity trap"). It is worth stressing that recent research still detects symptoms of fragmentation in the euro area a decade later (Eisenschmidt et al., 2018; Arce-Alfaro and Blagov, 2022)

As Eisenschmidt et al. (2018) explain, these cases of fragmentation of the transmission channel(s) may well arise in stand-alone countries, but in a multi-country monetary system like the euro area they also assume the peculiar form of breakdown of cross-country operations, that is to say a failure of the "law of one price" of capitals on a grand scale. As said above, this can only exacerbate the "one size doesn't fit all" problem.

Second, consequently, the monetary authorities may feel committed to providing support to financial stability in times of economic contraction and financial distress. According to ECB (2021), this can be done in the first place by stabilising economic activity and inflation during slowdowns, as well as by containing the debt burdens in real terms. Yet, as seen in the last decade worldwide, in periods of outright financial stress, central banks need to adopt extraordinary measures to enforce their desired stance when financial instability jeopardises the ordinary transmission mechanism.⁴ Monetary policy can prevent the materialisation of bad equilibria associated with uncoordinated fire sales or bank runs or other forms of market overreaction. The adoption of unorthodox quantitative measures, such as asset purchases programmes, to ensure the circulation of the additional liquidity and the reduction of market interest rates are the typical measures undertaken.

As shown by Della Posta and Tamborini (2022), the commitment of central banks to provide backstops against financial distress enhances the resilience of the system. First, larger shocks can be accommodated within the fiscal sustainability boundaries of governments. Second, the anticipation of the no-break-up intervention keeps interest rates lower for any shock. Third, monetary and fiscal devices are synergic: the activation of both reduces the extent of activation of each. Moreover, under any of these circumstances, the stance of the monetary authorities does not diverge from the optimal one because there is no trade-off between price, output and financial stability. Economic, monetary and financial stabilisation efforts go in the same direction because the financial and economic cycles are synchronised.

Admittedly, this set of policy tools may eventually lead to the problem of exiting from a long-lasting and accommodative stance, and more in general, the commitment of central banks to provide backstops

⁴ See e.g. the earlier Monetary Dialogue papers: European Parliament (2021)

against financial distress is counterbalanced by consideration of the moral hazard problem (see also the fourth point below). In the euro area, moreover, the central bank faces the statutory prohibition to bail out the sovereign debt of Member States. On the other hand, the move of the ECB into the uncharted territory of unconventional monetary policies during the bank-sovereign doom loop was key to the rescue of euro area integrity (Wyplosz, 2014). The same happened again at the outbreak of the pandemic (Schnabel, 2020; Della Posta and Tamborini, 2022).

Third, the authorities may be weary of igniting by themselves the conditions for a financial crisis upon changing their monetary stance. This concern, also dubbed "financial/fiscal dominance" (Benigno et al., 2012), is critical as it arises when a trade-off exists, at least potentially, between pursuing price stability and preserving financial stability. In fact, it has materialised recently, as central banks worry about increasing the policy rates fast, though in the face of a remarkably and persistently high inflation, because of the possible implications for the liquidity and solvency of the banking sector, the private sector or the public sector (International Monetary Fund, 2023).

It is matter of discussion whether the trade-off is unavoidable, and the central bank should state where it strikes the balance *ex-ante* (Wyplosz, 2022), or whether it only arises when underlying financial imbalances pre-exist, in which case the problem is one of (missing) pre-emptive regulation (see e.g. Calomiris, 2023, with regard to bank crises during the Volcker disinflation of the 1980s and now). On the other hand, ECB President Christine Lagarde has argued that there is no such a trade-off, probably meaning that the ECB has the means to address both goals (Lagarde, 2023; also ECB, 2021).

As explained by Schnabel (2023), central banks can take financial stability considerations into account by exploiting the entire length of the medium-term horizon over which price stability is to be achieved: they could thus accept longer deviations from price stability (i.e. higher inflation than desired) if these were necessary to achieve lower risks of financial stability. However, even this strategy could be costly in the long term because it could contribute to undermine the credibility of the central bank and the dis-anchoring of inflation expectations.

In fact, this solution could be viable only on paper. As mentioned before, pre-emptive policies may not succeed in preventing the emergence of imbalances and/or their smooth unravelling. In these cases, monetary policymakers inevitably come to terms with the financial imbalances and their disorderly correction. Under these circumstances, thus, financial stability concerns cannot but affect the stance of monetary policy, in particular because the authorities must consider the scenarios in which their decisions may turn out to be the very factors igniting a financial crisis. This kind of situations is more likely to occur the greater is the importance of macro-financial amplification channels, the larger the existing imbalances and the more likely the materialisation of bad equilibria.

Finally, should central banks be engaged in pre-emptive financial stabilisation? Should they assess monetary conditions against the risk they build up financial imbalances? Hazards may arise in good times, like during the Great Moderation as was discovered afterwards, as well as in bad times, e.g. the past decade when most observers were concerned with the impact of low interest rates for long periods on the profitability (i.e., lending margins) and resilience of banks, and on excessive risk-taking.⁵ On the other hand, the Jackson Hole Consensus that monetary policy should not systematically "lean against the *financial wind*", as this could compromise its ability to fulfil its mandate, remains well alive, if anything because the extent to which central banks should "lean against the wind" is difficult to gauge due to the costs imposed on economic activity and inflation.

⁵ See e.g. the earlier Monetary Dialogue papers: European Parliament (2020a, 2020b).

While each of these concerns taken by itself seems justified, at least on the grounds of experience, the challenge in view of a solid design of policy-making lies in finding an encompassing and coherent framework. The academic as well as policy-based literature has grown rapidly but substantial consensus is not yet discernible. In the next two sections we seek to offer an overview of the main issues under discussion on two grounds. The first regards the notion itself of "**financial imbalances**", the identification of which may justify the central banks' concerns. The second regards the role of the policy domain that has been developed in response to the global financial crisis, namely the **macroprudential one**. How far can this policy arm go in coping with financial stability concerns *vis-à-vis* the conventional priorities in central banks' mandate?

3. WHAT FINANCIAL IMBALANCES SHOULD CENTRAL BANKS BE WORRIED ABOUT?

In our previous account of the potential trade-off between price and financial stability goals, the role played by accumulated financial imbalances is of great importance. The very word “imbalances” elicits the idea of a prolonged processes of accumulation that culminates into an abrupt and disruptive adjustment, which in turn creates serious financial turmoil or fully-fledged financial crises. According to ECB (2021, p. 85),

“financial stability can be seen as a condition in which the financial system is capable of withstanding both shocks and the unravelling of financial imbalances without major disruption and while continuing to provide its essential services to the economy.”

Financial stability is not the lack of imbalances, but it is a condition in which the unravelling of financial imbalances can be faced by the system without major disruptions.

This understanding of financial instability is not trivial. First, the presence of imbalances or lack thereof does not by itself identify the degree of financial instability. Second, this interpretation puts the emphasis on the severity of the dysfunctionalities induced in the financial sector and in the real economy by the unravelling of the imbalances. The nature and the extent of the imbalances, together with the intensity and the characteristics of the shocks, determine whether a trade-off between monetary and financial stability goals may materialise. These considerations entail that **monetary policy should not be directed to prevent the emergence of imbalances per se** because these latter are not necessarily associated with financial disruptions. A third aspect to consider is that financial instability can emerge even in good times if credit institutions and financial markets are fragile or if the redressing of small imbalances has a high impact on the economic environment.

In sum, this understanding of financial instability suggested by the ECB staff implies that **the trade-off between price and financial stability goals is inherently state-contingent**. And this in turn means that monetary authorities, in choosing the stance, cannot but consider both i) how it affects the probability of generating instability, and ii) how the transmission is modified in a context of instability. Any unanticipated monetary policy that weakens financial intermediaries also changes the probability that financial instability emerges, for any given combination of pre-existing imbalances and shocks.

The ECB staff (ECB 2021)– see also Schnabel (2021) – offered a pragmatic suggestion by advocating the adoption of an **enhanced monetary policy-oriented financial stability analysis** capable of balancing all the current and future price stability risks associated with financial instability conditions. This solution is consistent with the interpretation of financial stability given above. Such enhanced monetary policy-oriented financial stability analysis, however, should consider properly the extent of financial imbalances, the implications of their disorderly evolution on the economy, and the interaction between these and changes in the monetary stance.

This seems to entail that central banks need complex analytical models that capture nonlinear relationships and envisage multiple equilibria associated with financial market excesses and with animal spirits. Moreover, they need to understand all the complex interactions and spillovers between macroprudential measures and monetary decisions. As these are daunting tasks at the moment, we recommend that authorities continue to use judgment, caution, gradualism and experimentation.

Assuming that adequate analytical models do exist, it should be noted that the information regarding the potential side effects of monetary decisions on financial instability would be, most of the times, immaterial. Most monetary decisions do not impact on financial stability either because the imbalances

are not excessive or because the change in the monetary stance is not large enough to cause their unravelling. However, under certain circumstances, learning that prospected changes in monetary policy might have the potential to weaken financial intermediaries and/or spur existing imbalances could be of utmost importance.

It is the effectiveness, completeness and conservativeness of the macroprudential policy that determine the probability that such circumstances occur. The quality of macroprudential measures does affect the probability that any given change in the monetary stance might provoke an episode of instability, as well as the probability that the trade-off between price and financial stability goals may emerge.

A recent example of this observation has been offered by the diverse impact of interest rate hikes on the banking system in the US and in the European Union. The higher quality of the surveillance and regulatory systems in the EU prevented the emergence of those tensions observed in the US. Not only the severity of the imbalances in the balance sheets and in the business models of the banks across the Atlantic were different, but also the impact of interest rate hikes on banks' liquidity and solvency varied considerably.

Notably, the differentiated impact of increase in policy rates on the perceived sustainability of government debt has long been a source of financial risk in the euro area. This is known as the risk of financial fragmentation associated with disorderly market dynamics across jurisdictions. In July 2022 the ECB decided to introduce an *ad hoc* tool to support the effective transmission of monetary policy across all jurisdictions, the TPI. The timing and the rationale of the TPI reveal that the European authorities were highly concerned with the potential effects that the normalisation of monetary policy could have had on European sovereign bond markets and on the banking sector. The TPI can thus be seen as an emergency backstop for financial stability that, as a matter of fact, **widens the ECB's room of manoeuvre** in the control of inflation.

On the other hand, aware of the risk of a potential interference between the TPI and the appropriate monetary policy stance, the Governing Council committed to conducting only operations that do not cause persistent impact on the overall Eurosystem balance sheet and on the monetary policy stance. This caveat on the limitations of the TPI makes sense, and it is credible because risks of financial fragmentation regard only few euro area countries. Hence, the overall policy stance can be preserved while highly focused measures of support are undertaken. Such a self-constraining caveat, however, would not be credible had the ECB to envisage some destabilising effects of the appropriate stance on the stability of the entire banking sector. In such a case, the trade-off would between price and financial stability would likely re-emerge, as argued before.

4. MONETARY POLICY AND MACROPRUDENTIAL POLICY: TWO TOOLS FOR TWO GOALS?

"The birth of macroprudential policy was a recognition that price stability and microprudential policies were not sufficient to ensure financial stability, and that financial stability was a necessary precondition for price stability".

(Schnabel, 2021, p.1).

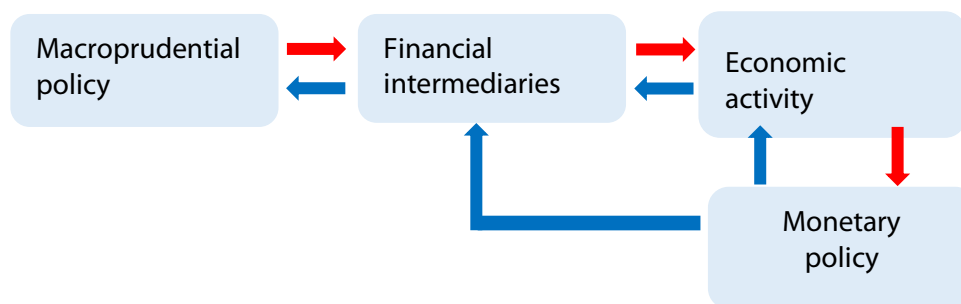
Macroprudential policy seems to offer the leeway to overcome the potential conflicts between price stability and financial stability in compliance with Tinbergen's principle of two instruments for two goals. There are, however, a few stumbling blocks along the way, in particular in the euro area.

The first fundamental fact to be considered is, in the words of Frank Smets (2014, p. 265), that

the relationship between monetary and macroprudential policies also hinges, however, on the 'side effects' that one policy has on the objectives of the other and how perfectly each operates in the pursuit of its own primary goal .

The diagram in Figure 1 sketches the main channels of the two-way relationship between the monetary and the macroprudential domains.

Figure 1: Channels between the monetary and the macroprudential domains



Source: Authors' elaboration

Macroprudential policy impinges on monetary policy by way of its effects on the financial intermediaries and then on economic activity (red arrows). In turn monetary policy impinges on macroprudential policy through two channels (blue arrows): indirectly, i.e. through its effects on economic activity and then on the financial intermediaries, and directly, through the effects of the policy rate and liquidity supply on the financial intermediaries.

The second knot lies in understanding how the above two-way channels actually work, i.e. what are the relevant variables and how they are affected by the respective policy decisions. Indeed, the relevant literature has been constantly growing offering a wide range of theoretical results and empirical findings (e.g. Cecchetti et al., 2009; Smets, 2014; Bassi and Boitani, 2023). Among these, the role played by the **banks' balance sheets** stands out on the basis of the theoretical arguments put forward in the seminal works by Bernake and Blinder (1988) and in subsequent developments (Bernanke, 1993; Woodford, 2010).

A synthetic indicator of the banks' balance sheet that is relevant to the transmission channels in Figure 1 in both ways is the **loan-to-equity (L/E) ratio**, i.e. a measure of the leverage of the banking sector. It also figures prominently among the empirical indicators of financial cycles (Borio, 2012; Borio et al., 2012). The L/E ratio measures the lending capacity of banks and its sustainability at the same time. A rising L/E ratio boosts economic activity but it may also anticipate a banking crisis. When the crisis precipitates the

collapse of the L/E ratio shatters the economy. A booming economy consolidates the L/E ratio, whereas braking the economy may deteriorate it.

The third issue is how, and how well, the objectives of the two policies are defined. If "flexible inflation targeting" (a combination of price and output stability with different weights) provides a sufficiently well-established identification of monetary policy's priorities, on the side of macroprudential policy the translation of the goal of financial stability into objectives and instruments is more in a state of flux (see also section 3 above). In this respect, the institutional setup of the euro area is particularly cumbersome since responsibilities concerning financial stability are shared at the supranational level (ECB and European Systemic Risk Board) and at the level of national institutions, with both objectives and instruments that may vary across jurisdictions.

To a greater extent than in the past, the Basel Agreements now provide an overall common ground, and one advantage of the L/E ratio as focal point of the macroprudential-monetary policy nexus is that it is also the inverse of the **Basel III capital adequacy (CA) ratio** (after risk-weighting assets)⁶. A stylised sequence of events in Figure 1 may start from the macroprudential side by tightening (loosening) the normative CA ratio, with the consequence of braking (spurring) the lending capacity of banks and the level of economic activity.

Therefore, a system where financial stability matters *vis-à-vis* price and economic stability typically supplements the canonical business-cycle indicators of inflation and output with a synthetic indicator of the financial cycle, e.g. the **credit/GDP ratio**. (e.g. Ueda and Valencia, 2012; Smets, 2014; Bassi and Boitani, 2023). The three variables interact, and overall stability is achieved when all three are on target. The two policy authorities are the central bank, which controls the interest rate, and the macroprudential regulator (MPR) which controls the L/E ratio. Next, the classic "assignment problem" to the two policy agencies arises. What is the best allocation of the three objectives across the central bank and the MPR?

An extended analysis of this question exceeds the limits of this paper. As a means to organise ideas, drawing on Smets (2014) and Boitani and Bassi (2023), we can identify four main allocation regimes.

Regime 1: the narrow stabilisation scope of the central bank is maintained, though it may be supplemented with the MPR setting a constraint to the intermediaries' L/E ratio.

Regime 2: the MPR sets a target L/E ratio, but the central bank should actively pursue overall stability.

Regime 3: the central bank still pursues narrow stabilisation, but the MPR acts independently to pursue financial stability (and possibly its spillovers with output)

Regime 4: the central bank and the MPR act jointly to achieve overall stabilisation, and the reciprocal spillovers are taken into account simultaneously in the optimal decision on the respective policy response.

As it may be intuitive, the introduction of an active MPR and the associated specific tool for financial stabilisation may improve the achievement of overall stability with respect to the other regimes. Macroprudential policy tools should be tightened more when the monetary stance becomes accommodative, and vice versa, so as to prevent the building up of excesses. Whereas the regime where central bank and MPR act cooperatively is generally preferred to the one where they act independently, the actual performance also depends on specific circumstances, such as the type of shock and concomitant conditions. Bassi and Boitani (2023) show that **the anchorage of inflation expectations matters**. The central bank+MPR cooperative regime performs better when inflation expectations lose

⁶ The capital adequacy ratio establishes the amount of capital in relation to assets weighed by their riskiness in order to ensure the bank's capacity to withstand adverse shocks.

anchorage, the reason being that this phenomenon amplifies the macro-financial spillovers and hence the reciprocal interferences of the two policies in the non-cooperative regime.

Two final considerations are in order. The first is that all analyses of the nexus between monetary and macroprudential policies agree on the point that the search for the best institutional setup is **highly sensitive to a wide range of contingent factors**, from the financial structure of the economies to the most relevant "frictions" therein, from the origin of instability to the evolution of inflation expectations. The second consideration, more specific to the euro area, is that its **incomplete set of supranational financial institutions further constraints the implementation of the possibly better solution**. As said before, an inconsistency exists between the quest for narrow inflation targeting on the part of the ECB and the resistance towards supranational devolution of micro- and macroprudential regulation.

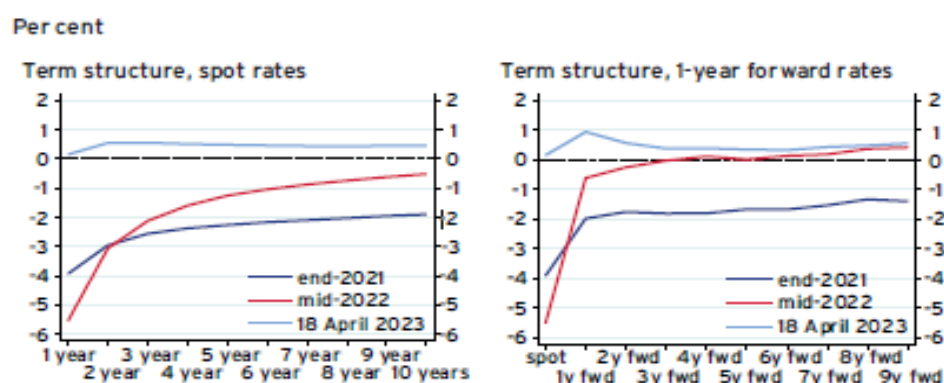
5. IS THE ECB POISED TO FACE THE TRADE-OFF BETWEEN PRICE STABILITY AND FINANCIAL STABILITY?

In Section 3, we made reference to the awareness that the European authorities have about the destabilising effects that the normalisation of monetary policy could have on European sovereign bond markets and the banking sector. However, the ECB appears so confident in its ability to handle potential phases of instability that it has decided to reduce its balance sheet by 15 billion per month on average until June 2023, to then increase the contraction to 25 billion per month from July and to 30 per month from 2024 (at the end of 2024, even the ECB's commitment to reinvest the principal payments from maturing securities purchased under the Pandemic Emergency Purchase Programme will cease).

Most market participants and analysts share the belief that the progressive withdrawal of the ECB from the sovereign bond market could represent a serious problem for the countries of the euro area with the highest public debt, should this occur in a context of stagnant growth. Based on what emerges from the ECB communication, analysts also predict that the contraction of the ECB's balance sheet going on in the next months will be accompanied by two further increases in policy rates of 25 points each, so as to reach 4.25% by the end of July 2023, and at this level (temporarily) halt the cycle of rate hikes. As Ignazio Visco, Governor of the Bank of Italy, notes, this sequence of policy rate hikes has been transmitted fully and smoothly to market interest rates:

From the start of the reduction of monetary accommodation at the beginning of 2022 until mid-April 2023, one-year risk-free rates (measured by overnight index swaps) have picked up from negative levels to 3.7%, while ten-year rates have increased from barely positive values to 3.0%. In real terms, using the rate of inflation implicit in the ILS contracts as a deflator, they currently stand at about 0.2% and 0.5%, respectively, from around -4% and -2% at the end of 2021 (Visco, 2023, p. 12; see Figure 2).

Figure 2: Real interest rates in the euro area



Source: Visco (2023)

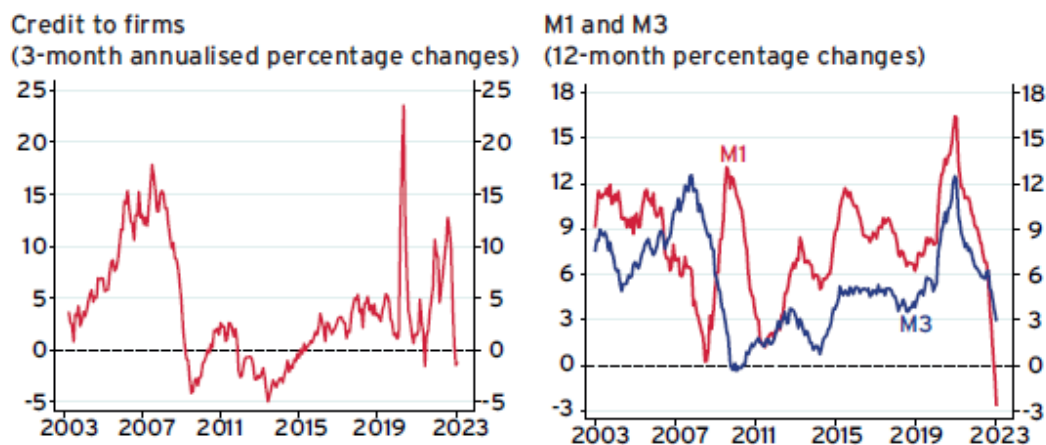
Note: nominal OIS interest rates deflated by the corresponding ILS rates.

Rising interest rates are reducing the value of banks' obligations portfolios, thereby deteriorating their capital ratios. This forces banks to allocate profits to reserves to strengthen them, also in anticipation of the entry into force of the Basel III reform of the output floor. Furthermore, most Targeted Longer Term Refinancing Operations (TLTRO) will expire next June, thus putting an end to a very long period in which liquidity was very abundant and at very low cost. **By contracting liquidity, the ECB will make competition among banks for access to it fiercer and create the conditions for a credit crunch.** Actually, the monetary tightening of last October already caused the cost of liquidity for the banks to rise starting from 23 November, and the latest ECB Bulletin showed that 27% of European banks have already contracted lending. As emphasised by Visco (2023),

“on the one hand, the three-month (annualised) growth of loans to firms in the euro area became negative in January 2023 (-1.1% in February), from a peak of almost 13% in August 2022, while loans to households also continued to decelerate. On the other hand, M3 is slowing down markedly (2.9% in February 2023 on an annual basis, from 6.3% in September 2022) and the rate of change of M1 turned negative in January 2023 (-2.7% in February, a historical minimum). When assessed in real terms, the dynamics of both aggregates are in deeply negative territory and at unprecedented lows” (p. 13; see Figure 3).

Figure 3: Credit and money growth in the euro area

Monthly data



Source: Visco (2023)

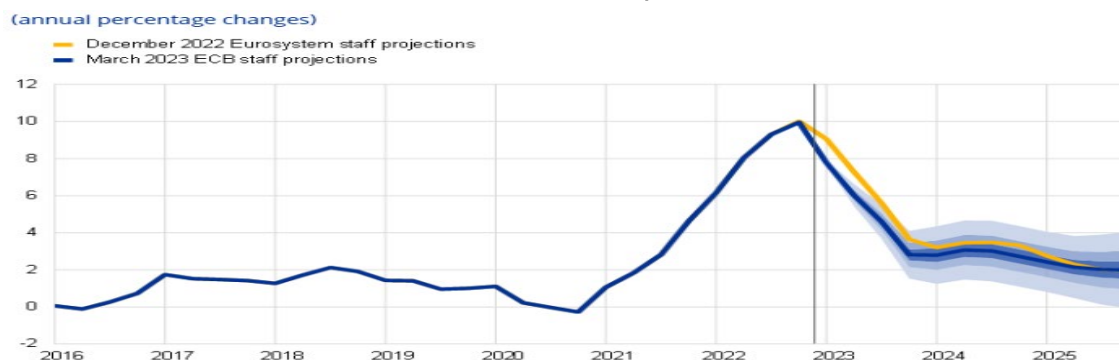
Although there are still no signs in the euro area of a significant increase in the number of firms that default on their debt or struggle to service it, in an environment characterised by shrinking liquidity and rising interest rates, this number is expected to soon increase, forcing banks to allocate more resources to reserves. Moreover, if inflation does not fall in the euro area according to the speed and the timing envisaged by the ECB, and the latter insists on reducing its balance sheet, raising interest rates and contracting liquidity in order to accelerate the disinflationary process, then **the current slowdown could be transformed into a recession, with an increasing risk that the financial instability inherent in the situation described above could materialise.**

The substantial optimism about the possibility of completing the disinflationary process in the euro area in a reasonable time without causing a recession, but rather in a scenario of growth, albeit low, is also publicly shared by the ECB's top officials (see, e.g., Lane, 2023, and Figure 4), although the latter repeat on every occasion that the great uncertainty of the economic and geopolitical framework imposes a data-dependent approach in which the ECB's policy instruments are recalibrated from time to time in light of incoming economic and financial data.

This optimism is motivated by the observation that the supply chain disruptions due to the pandemic are in the process of being completely resolved, and above all that the recent counter-shock to energy prices has eliminated the main driver of European inflation and will soon push core inflation down in the euro area. It is also argued that these supply-side developments are reinforced by what is occurring to aggregate demand, which is contained by the impact that the increase in interest rates is having on the

expenditures of households and firms,⁷ to which one should add the loss of purchasing power that consumers are incurring because of inflation.

Figure 4: Euro area Harmonised index of consumer price (HICP) inflation



Source: ECB

Notes: The vertical line indicates the start of the current projection horizon. The ranges shown around the central projections are based on past projection errors, after adjustment for outliers. The bands, from darkest to lightest, depict the 30%, 60% and 90% probabilities that the outcome of HICP inflation will fall within the respective intervals.

In order for these depressive effects not to cause a fall in aggregate demand and lead to a recession, they must be offset by positive income effects. One may be due to the decrease in the prices of imported energy. Others may be due to the moderately expansive fiscal policies conducted by the governments of the euro area, to a growing global economy supportive of euro area's exports, and —possibly— to the desire of European consumers to spend what is left of the savings accumulated during the pandemic. **As one can see, the trajectory that the euro area economy should follow in the near future to bring inflation down quickly without causing a recession is a very narrow path, almost a razor's edge.**

Apart from the great uncertainty associated to geopolitical developments, which could easily overturn all predictions concerning the European economy, another important element of uncertainty is linked to **the evolution of wages in response to the rapid increase in prices that has taken place in the last two years in the euro area.** Indeed, this increase has led not only to a substantial erosion of the purchasing power of wages, but also to a redistribution of added value in almost all sectors towards profits and away from labour (see Figure 5):

Unit profits increased by 9.4% in the fourth quarter of 2022, year-on-year, and contributed more than half the domestic price pressures in that quarter, while unit labour costs increased by 4.7% and contributed less than half (Arce et al. 2023).

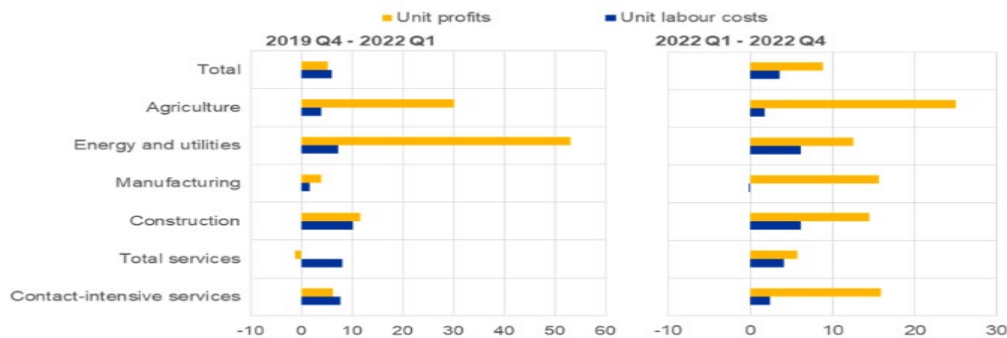
Considering that the unemployment rate is at its lowest in the euro area and that labour shortages are reported with increasing frequency (particularly in those services in high demand after the pandemic), it is not surprising that workers use their bargaining power to rebuild their real wages, with inevitable consequences on the trend of core inflation. Indeed, it should be borne in mind that services inflation accounts for almost two-thirds of core inflation and that wages represent around 40% of direct input costs for services providers. It is therefore no coincidence that in this phase the ECB's top officials are paying particular attention to the developments of wages, for fear that what the ECB's President has recently defined a "tit-for-tat" dynamics will be triggered (Lagarde 2023b), namely a mutually reinforcing

⁷ As far as firms are concerned, it is often overlooked that the increase in interest rates also represents an increase in costs for many of them, which can therefore have an upward impact on the prices of their products.

process in which higher profit margins lead to higher nominal wages and vice versa, causing an upward price spiral and pushing long-term inflation expectations away from the 2% anchor.

Figure 5: Sectoral wage and profit developments

(percentage changes over the indicated period)



Source: Arce et al. (2023)

Notes: Unit profits correspond to gross operating surplus over real value added. Contact-intensive services include trade, transport, accommodation and food services as well as arts, entertainment, recreation and other services. Latest observations: 2022 Q4

The ECB is exerting its moral suasion in the hope that the recovery of the purchasing power lost by wages in the last two years will take place only gradually over time allowing for a smooth return of inflation to the target value of 2% in 2025. This raises the question of how the ECB will react if its auspice will be substantially disregarded, a possibility which cannot be excluded as time goes by. If in the second part of this year inflation will remain far from the 3% envisaged by the ECB for the end of 2023, the dilemma will arise of whether to accommodate higher inflation or pushing forward with rate hikes, balance sheet reductions and liquidity cuts for banks. This could make it likely to cause a recession that could easily assume the characteristics of stagflation. **The latter scenario would bring with it serious risks of financial instability**, with the involvement first of those countries with higher public debt and/or whose banking system is more exposed to sovereign risk or to the crisis of interest rate sensitive sectors such as the real estate one.

These considerations are connected with the observation expounded in the previous sections that the impact of monetary policy decisions on financial stability depends also on the macroprudential measures in place. The new stress-test results on the adequacy of banks' capital will be published by the European Banking Authority at the end of July 2023. The latest assessment in 2021 was run against a negative scenario that differed remarkably from those discussed in this section as it assumed a prolonged COVID-19 impact and a low interest rate environment. The macroprudential stress tests conducted by the ECB in October 2021 for 2021-23 were based on a baseline scenario reflecting a strong rebound in economic activity in 2021 and an adverse scenario assuming a prolonged COVID-19 scenario in a "lower for longer" interest rate environment. Neither of the exercises run in 2021 covered a stagflation scenario which, as we noted in a previous report to the European Parliament, was not considered likely at the time (Bonatti et al., 2021).

In a [blog post](#) in December 2022, Luis de Guindos, Vice-President of the ECB, and Andrea Enria, Chair of the ECB Supervisory Board, maintained that *"the banking sector is sound enough to handle the effects of rising rates on their balance sheets. However, banks must prepare for potential longer-term effects related to monetary policy normalisation"*. Their scenarios included a flattening of the yield curve (thereby reflecting higher short-term interest rates that successfully reduce inflation over a short horizon) and a steepening of the yield curve (consistent with a rapid fall of inflation due to medium-term concerns about the world economy). The resilience of the European banking sector appears to be confirmed also under a baseline

scenario of an economic slowdown in 2023 with the risk of a shallow recession, although bank-specific situations may require interventions.

Under the flattening scenario, few banks are assessed as subject to suffer from a significant increase in funding cost, whereas the cost of risk (i.e., higher ratios of provisions over the year to the average volume of loans in the year) matters in case of a steepening scenario. More importantly, they concluded that

“the models banks use to manage assets and liabilities were often calibrated in environments of low rates, and don’t capture the shifts in consumer preferences and behaviours that typically take place as rates rise, such as deposit withdrawals. Also, the frequency of validation, back-testing and recalibration of those models is not satisfactory.”

They also noted *“deficiencies with respect to the monitoring of risks arising from derivative hedging transactions, (...) the measurement and management of risks related to government bonds and other instruments, (...) the identification of, and preparation for, potential second-round effects and structural changes related to the normalisation of interest rates”*.

In our view, it is fair to conclude that their account of the situation in the banking sector and our account of the possible scenario ahead **make it very likely that the ECB will have to take into account financial risks in calibrating the raise of interest rates and the speed of the quantitative tightening.**

6. CONCLUSION

President Lagarde recently stated (2023b):

"I have made clear that there is no trade-off between price stability and financial stability."

We have argued that under certain circumstances this trade-off would in fact arise. The ECB has so far depicted a baseline scenario that could be considered as relatively benign, though with some tensions. The ECB considers it likely to complete the disinflationary process in the euro area in a reasonable time without causing a recession, but rather in a scenario of growth, albeit low. We have warned that the most adverse scenario that could emerge, however, would be quite unique, given the unusual characteristics of stagflation.

This does not mean that the ECB will be taken by surprise or unwilling to intervene. In fact, it is true that, immediately after the sentence quoted above, the ECB's President specified that

"we have plenty of tools to provide liquidity support to the financial system if needed and to preserve the smooth transmission of monetary policy."

The ECB certainly has the tools and capacity to provide liquidity to the financial system in emergency situations, although the incompleteness of the Banking Union would make it more challenging in the event of a major crisis. A well-established principle of modern central banking, though not easily understood, is the so called "decoupling", whereby the central bank can manage changes (hikes) in the policy rate and changes (extensions) in liquidity supply one independently of the other. Similarly, the TPI may be activated if the risks of fragmentation linked to a sovereign debt crisis create obstacles to the "smooth transmission of monetary policy", though the political knots linked to its implementation would make its use problematic. It is therefore arguable that the availability of such tools might save the ECB from surrendering to the trade-off between price stability and financial stability.

We have also highlighted that this auspice crucially depends also on the quality of (the design and implementation of) the relationship between monetary policy and macroprudential policy. The adequacy of the macroprudential policy provisions, in turn, rest on the ability to identify the correct set of adverse conditions that affect both financial intermediaries and the economy, as well as their reinforcing interactions. Because of the fragmentation of the macroprudential arm and the limitations in the current management of banks in the euro area, **the materialisation of a hard stagflation scenario would have the potential to create conflictual objectives for the monetary authorities**, severely testing the resilience of the banking sector, and, we add, the integrity of the euro area once again.

REFERENCES

- Angeloni, I., Kashyap, A., Mojon, B. (2003). *Monetary Policy Transmission in the Euro Area*, Cambridge, Cambridge University Press.
- Arce, O., Hahn, E, Koester, G. (2023). "How tit-for-tat inflation can make everyone poorer", The ECB Blog, 30 March.
<https://www.ecb.europa.eu/press/blog/date/2023/html/ecb.blog.230330~00e522ecb5.en.html>
- Arce-Alfaro, G., Blagov, B. (2022). "Financial Integration or Financial Fragmentation? A Euro Area Perspective", *Economic Modelling*, 114.
- Bassi, F., Boitani, A. (2023). "Monetary and Macroprudential Policy: The Multiplier Effects of Cooperation", Catholic University of Milan, mimeo.
- Benigno, P., Canofari, P., Di Bartolomeo, G., Messori, M. (2021), "Financial Dominance in the Pandemic and Post Pandemic European Economy", Monetary Dialogue Papers, European Parliament, September 2021.
- Bernanke, B. (1993). "Credit in the Macroeconomy", *Federal Reserve Bank of New York Quarterly Review*, 18, pp. 50-70.
- Bernanke, B., Blinder, A. (1988). "Credit, Money, and Aggregate Demand", *Papers and Proceedings of the American Economic Association, American Economic Review*, 78, 435-439.
- Bernanke, B. S., Gertler, M. (2001). "Should Central Banks Respond to Movements in Asset Prices?", *American Economic Review, Papers and Proceedings of the American Economic Association*, 91, pp.253-257.
- Blanchard, O. J. (2000). "What Do We Know about Macroeconomics that Fisher and Wicksell Did Not Know?", *Quarterly Journal of Economics*, 115, pp.1375-1409.
- Bonatti L., Fracasso A. "Is High Inflation the New Challenge for Central Banks?", Monetary Dialogue Papers, European Parliament, September 2021.
https://www.europarl.europa.eu/cmsdata/239446/1e_QA0821266ENN.pdf
- Borio, C. (2008). "The Financial Turmoil of 2007-?: A Preliminary Assessment and Some Policy Considerations", BIS Working Paper, No. 251.
- Borio, C. (2012). "The Financial Cycle and Macroeconomics: What Have We Learnt?", BIS Working Paper, n. 395.
- Borio, C., Drehmann, M., Tsatsaronis, K. (2012). "Characterising the Financial Cycle: Don't Lose Sight of the Medium Term!", BIS Working Papers, n. 380.
- Brunnermeier, M.K., James, H., Landau, J.P. (2016). *The Euro and the Battle of Ideas*, Princeton: Princeton University Press.
- Buiter, W., Corsetti, G., Roubini, N. (1993). "Excessive Deficits: Sense and Nonsense in the Treaty of Maastricht", *Economic Policy*, vol.16, pp.58-87.
- Buti, M., Sapir A. (1998). *Economic Policy in EMU*, Oxford, Clarendon Press.
- Calomiris, C. (2023). "That 80s Feeling: How to Get Serious about Bank Reform this Time and Why We Won't" *Vox-EU*, 27 March.
<https://cepr.org/voxeu/columns/80s-feeling-how-get-serious-about-bank-reform-time-and-why-we-wont>

- Cecchetti, S.G., Disyatat, P., Kohler M. (2009). "Integrating Financial Stability: New Models for a New Challenge", BIS-ECB Workshop on "Monetary Policy and Financial Stability", September, Basel.
- Collard, F., Dellas, H., Diba, B., Loisel, O. (2013). "Optimal Monetary and Prudential Policies." Mimeo, University of Bern
- Crockett, A. (2000). "Marrying the Micro- and Macro-Prudential Dimensions of Financial Stability." Remarks before the Eleventh International Conference of Banking Supervisors, Basel, Switzerland, September 20–21.
- De Grauwe, P. (2013). "Design Failures in the Eurozone. Can They Be Fixed?", European Commission, Fellowship Initiative 'The Future of the euro', European Economy, Economic Papers, n. 491.
- Della Posta, P. Tamborini, R. (2022). "The Existential Trilemma of EMU in a Model of Fiscal Target Zone", *Oxford Open Economics*, 1, pp. 1-16.
<https://academic.oup.com/ooec/article/doi/10.1093/ooec/odac002/6546693>.
- Draghi, M. (2012). Verbatim of the remarks made by Mario Draghi, President of the European Central Bank at the Global Investment Conference in London, 26 July 2012.
<https://www.ecb.europa.eu/press/key/date/2012/html/sp120726.en.html>
- Eisenschmidt, J., Kedan, D., Tietz, R. (2018). "Measuring Fragmentation in the Euro Area Unsecured Overnight Interbank Money Market: A Monetary Policy Transmission Approach", published as part of the ECB Economic Bulletin, n. 5.
- European Central Bank (2021). "The Role of Financial Stability Considerations in Monetary Policy and the Interaction With Macroprudential Policy in the Euro Area", Occasional Paper Series, n. 272.
<https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op272~dd8168a8cc.en.pdf>
- European Central Bank (2022). "The Transmission Protection Instrument", Press release, 21 July.
<https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220721~973e6e7273.en.html>
- European Parliament (2020a). "Financial Stability in the Euro Area: Assessment of Risks and Policy Options", Monetary Dialogue Papers, February.
[https://www.europarl.europa.eu/RegData/etudes/STUD/2020/642376/IPOL_STU\(2020\)642376_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/642376/IPOL_STU(2020)642376_EN.pdf)
- European Parliament (2020b). "The ECB's Asset Purchase Programmes: Experience and Future Perspectives", Monetary Dialogue Papers, September.
<https://www.europarl.europa.eu/cmsdata/211589/Topic%202%20Compilation.pdf>
- European Parliament (2021), "Recalibrated Monetary Policy Instruments to Address the Economic Fallout from COVID-19", Monetary Dialogue Papers, March.
[https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662899/IPOL_STU\(2021\)662899_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662899/IPOL_STU(2021)662899_EN.pdf)
- Feldstein, M. (1997). "The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability", *Journal of Economic Perspectives*, 11, pp.23-42.
- Goodfriend, M., King, R.G. (1997). "The New Neoclassical Synthesis and the Role of Monetary Policy", in Bernanke B.S., Rotemberg J.J. (eds.), *NBER Macroeconomics Annual*, Cambridge, Mass., MIT Press.
- Lagarde, C. (2023a). "Monetary Policy Statement, Press Conference", 16 March.
<https://www.ecb.europa.eu/press/pressconf/2023/html/ecb.is230316~6c10b087b5.en.html>
- Lagarde, C. (2023b). "The path ahead", speech at "The ECB and Its Watchers XXIII" conference, Frankfurt am Main, 22 March

<https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp230322~306119d102.en.html>

- Lane, P.R. (2023). "Inflation and monetary policy", speech at the XII. New Paradigm Workshop Forum New Economy, Berlin, 8 May.
https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp230322_1~230d49064b.en.pdf
- International Monetary Fund (2023), *Global Financial Stability Report*, April.
- Kenen, P. B. (1995). *Economic and Monetary Union in Europe. Moving Beyond Maastricht*, Cambridge, U.K., Cambridge University Press.
- Lagarde, C. (2023). Monetary Policy Statement, Press Conference, 16 March.
<https://www.ecb.europa.eu/press/pressconf/2023/html/ecb.is230316~6c10b087b5.en.html>
- Leijonhufvud, A. (2007). "Monetary and Financial Stability", *Lectio Magistralis*, University of Trento, October 1; CEPR Policy Insight, n. 14.
- Minsky, H. P. (1982). *Can It Happen Again? Essays on Instability and Finance*, New York, M.E. Sharpe
- Schnabel, I. (2020). "The Shadow of Fiscal Dominance: Misconceptions, Perceptions and Perspectives", Speech at the Centre for European Reform and the Eurofi Financial Forum, Berlin, 19 September.
- Schnabel I. (2021), "Monetary policy and financial stability", Speech at the fifth annual conference of the European Systemic Risk Board, Frankfurt a. M. 8 December.
https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp211208_2~97c82f5cfb.en.html
- Schnabel, I. (2023). "Monetary and Financial Stability – Can they be Separated?", Speech at the Conference on Financial Stability and Monetary Policy in the honour of Charles Goodhart, London, 19 May. <https://www.bis.org/review/r230522i.htm>
- Smets, F. (2014). "Financial Stability and Monetary Policy: How Closely Interlinked?", *International Journal of Central Banking*, 10, pp. 263-300.
- Stiglitz, J. E. (2014). "Reconstructing Macroeconomic Theory to Manage Economic Policy", NBER Working Paper, n. 20517; in Laurent E., Le Cacheaux J. (eds.), *Fruitful Economics. Papers in honor of and by Jean-Paul Fitoussi*, London: Palgrave Macmillan, pp. 20-56.
- Trichet, J. C. (2015). Testimony before the Joint Committee of Inquiry into the Banking Crisis of the Irish Parliament, 30 April 2015.
<https://inquiries.oireachtas.ie/banking/hearings/jean-claude-trichet-iea-event-not-an-official-inquiry-hearing/>
- Ueda, K., Valencia F. (2012). "Central Bank Independence and Macro-prudential Regulation." IMF Working Paper n.101.
- Visco, I. (2023). "Monetary Policy and the Return of Inflation: Questions, Charts and Tentative Answers", CEPR Policy Insight n. 122.
<https://cepr.org/publications/policy-insight-122-monetary-policy-and-return-inflation-questions-charts-and-tentative>
- White, W.R. (2006). "Is Price Stability Enough?", BIS Working Papers, no. 205.
- Woodford, M. (2010). "Financial Intermediation and Macroeconomic Analysis", *Journal of Economic Perspectives*, vol. 24, pp. 21-44.

- Woodford, M. (2012). "Inflation Targeting and Financial Stability." *Economic Review* (Sveriges Riksbank) vol. 1, 7–32.
- Wyplosz, C. (2014). "The Eurozone Crisis: A Near-Perfect Case of Mismanagement", *Journal of Applied Economics*, 33, pp. 2–13.
- Wyplosz, C. (2022). "The ECB's New Definition of Price Stability: Better but Short of Specifics", *Journal of Economic Policy-Politica Economica*, early access. [doi: 10.1429/103967](https://doi.org/10.1429/103967)

We argue that a hard stagflation scenario is still possible. This would have the potential to create a conflict between price stability and financial stability. We therefore address four questions. Why should central banks be concerned with financial stability? What financial imbalances should central banks be worried about? Are monetary policy and macroprudential regulation two tools for two goals? Is the ECB poised to face the price stability vs. financial stability trade-off?

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