Financial Dominance in the Pandemic and Post-Pandemic European Economy

**Pierpaolo Benigno, Paolo Canofari,
Giovanni Di Bartolomeo, Marcello Messori**

LUISS

Disclaimer

This paper was prepared for the European Parliament's Committee on Economic and Monetary Affairs (ECON) as an input to the Monetary Dialogue of September 2021 between ECON and the President of the European Central Bank. The original paper is available on the European Parliament's webpage, as part of a series of papers on "Beyond the Pandemic: Avoiding the Risk of Financial Dominance and Disorderly Market Reactions":

Financial Dominance in the Pandemic and Post-Pandemic European Economy

EN

Financial Dominance in the Pandemic and Post Pandemic European Economy

Monetary Dialogue Papers
September 2021

Abstract

Differently from past episodes, the European institutions responded to the pandemic shock with an appropriate policy mix. However, the expansionary convergence between monetary and fiscal policies is strengthening the role and the possible distortionary effects of financial dominance. Due to the consequent growing imbalances in financial markets, European institutions could deem it necessary to abandon the current policy approach and to re-attribute the function of the "only game in town" to monetary policy. However, in the post-pandemic context, the ECB could hardly act again as a last-resort player. Hence, it is convenient to pursue the policies that are compatible with sustainable post-pandemic development.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

APP   Asset purchase programme

EBA   European Banking Authority

ECB   European Central Bank

ELB   Effective lower bound

EU   European Union

GDP   Gross domestic product

LTRO   Longer-term refinancing operations

OECD   Organisation for Economic Co-operation and Development

OMT   Outright monetary transactions

PEPP   Pandemic emergency purchase programme

TLTRO   Targeted longer-term refinancing operations

ZLB   Zero lower bound

EXECUTIVE SUMMARY

- **Financial dominance** is the condition under which actors in financial markets (financial wealth owners, fund seekers, intermediaries) can influence and/or exploit policy interventions and financial regulation to improve their balance sheets. In this sense, financial dominance introduces distortions in the working of financial markets. The mere possibility of these distortions becomes a self-fulfilling prophecy.

- **Fiscal dominance** is a special case of financial dominance for which a large player – such as the treasury – builds up unsustainable deficit and debt positions that lead to central bank intervention. Fiscal dominance can incentivise highly indebted countries to adopt opportunistic behaviour, that is, to avoid costly adjustments in their government balance sheets and to continue building up more imbalances.

- **The pandemic shock has required an unprecedented policy response involving abundant fiscal and/or liquidity support to cope with three areas**: i) the productive sectors mainly affected by the shock, to meet the flows of payments and to limit the related bankruptcy of potentially efficient firms; ii) the various lenders to these sectors, to avoid systemic problems in the banking sector, the collapse of financial markets, and a credit crunch; iii) the unemployed workers, to mitigate the negative social consequences of the pandemic.

- **The European "policy mix" has allowed for a convergent expansion both of monetary policy and of national and central fiscal policies to cope with the challenges of the pandemic shock**. Government intervention has taken the form of fiscal transfers, public guarantees, and public purchases. Fiscal policymakers have strongly increased their national debts. The European Union (EU) has for the first time implemented a centralised fiscal policy response through the Next Generation-EU programme. At the same time, the European Central Bank (ECB) has largely strengthened the already expansionary stance of its monetary policies to provide abundant liquidity to the banking sector and to support the implementation of expansionary national fiscal policies.

- **The new European policy mix could result in a fiscal dominance situation**, in which monetary policy will be constrained to keep interest rates low or to continue asset purchase programmes in accordance with the current and future (national) fiscal policy choices unless there will be a robust post-pandemic recovery. This recovery could be enhanced by a successful implementation of the Next Generation-EU programme.

- **If the monetary and fiscal stance is not abandoned too soon and too abruptly, implemented investment policies will be able to sustain the recovery by spurring productivity gains and growth in the EU's weakest countries**. In this scenario, monetary policy could return to a normal stance by lifting nominal rates at the appropriate speed and, at the same time, by reducing its holdings of government assets without creating unmanageable stress on sovereign debts in the most indebted countries of the euro area.

- **The lesson for the future is that the return to normality should not take the form of the pre-pandemic model** with monetary policy as the "only game in town" and the national fiscal policies constrained by the rules of the 'Stability and Growth Pact'. A centralised fiscal policy with a union debt is more appropriate to couple with monetary policy for macroeconomic stabilisation and to limit conditions for financial dominance.

1. INTRODUCTION

To provide a proper definition of financial dominance it is appropriate to begin with an abstract approach maintaining that financial markets involve three different groups of agents: financial wealth owners (e.g., households and institutional and professional investors); fund seekers (e.g., firms and households); financial intermediaries (e.g., banks and various types of non-bank financial intermediaries). Wealth owners provide funds, fund seekers demand for them, and intermediaries channel funds from the former to the latter. The banking sector and the non-bank credit suppliers reallocate financial funds by creating means of payments (deposits) that are based on debt contracts with limited liabilities. These two kinds of agents also compete with other financial intermediaries by offering services to fund seekers to ease the issuances of equities and debt instruments in regulated or unregulated capital markets. Some intermediaries also aggregate or facilitate the demand for assets by wealth owners.

Debt contracts and other debt instruments involve borrowers' promises to repay fixed or variable amounts of liquidity at given or recurrent future dates; equities involve fund seekers' substantial commitment to distribute a portion of their returns above a given threshold. These promises of payment are usually contingent on the occurrence of future events, and specifically on the consequent ability of each fund seeker to generate a stream of revenues apt to match her contractual duties or expected returns at the appropriate time. Therefore, these revenues are uncertain[1].

When unfavourable future states imply that revenues cashed by fund seekers are not sufficient to repay the contractual promises to the lenders and bondholders or to transfer the expected dividends to the shareholders, some of the intermediaries and wealth owners should bear the losses or the lack of gains. In the case of loans' securitisation and of financial instruments exchangeable in capital markets, losses (or missed gains) are not necessarily experienced by the original lenders or the original subscribers of bonds and equities. They can be partially or totally transferred to other wealth owners or intermediaries who act as buyers on the demand side of the different segments of capital markets. In any case, the set of financial wealth owners is penalised. The negative consequences of contractual insolvencies or low returns also severely affect the current and future revenues of the different types of financial intermediaries and the current and future incomes of the fund seekers. In this respect, the obvious implication is that losses or lack of gains and, more generally, the variance in the amount and allocation of actual net revenues are an intrinsic feature in the working of financial markets due to the inherent uncertainty in the future payoffs of financed projects.

Financial dominance is then the condition under which one or more of the three groups of agents mentioned above can influence and/or exploit policy interventions and financial regulation to improve their balance sheets[2]. Financial dominance thus affects the working of financial markets by exploiting policy interventions and changes in financial regulation with the aim of reducing market losses or improving market gains obtained by specific agents or groups of agents. In this sense, for good or bad, financial dominance introduces a distortion in the working of financial markets. The mere possibility of this distortion becomes a self-fulfilling prophecy. The expectation of some favourable policy interventions or change in financial regulation incentivises several agents, who exercise significant market power, to build up larger and riskier positions; and, sooner or later, these positions eventually lead to instability, making a direct or indirect policy intervention or re-regulation in financial markets

---

[1] Uncertainty arises for several reasons, e.g., the specific riskiness of each of the projects financed and undertaken, the future macroeconomic and social scenario, the reactions of policymakers to external or endogenous shocks, and so on.

[2] Our definition of financial dominance is broader than that of Brunnermeier (2016), who refers only to the intermediary sector that pursues ex ante undercapitalisation out of fear that losses will be pushed onto it.

unavoidable.

Our definition of financial dominance encompasses as a special case - that of fiscal dominance, for the treasury belongs, as a large player, to one of the three groups of agents involved in financial markets, the fund seekers. In a fiscal dominance situation, the treasury builds unsustainable deficit and debt positions, which eventually lead to central bank intervention that improves the treasury's financial position through lower interest rates. The treasury's behaviour thus leads to a financial dominance situation generalising a case of fiscal dominance.

The evolution of financial markets in the most developed economic areas during the last forty years has seen the growing importance of financial dominance. Since the 1980s, financial markets have augmented their quantitative and qualitative weight in the advanced economic systems because of the larger amount of pure financial transactions, the increasing number and sophistication of the instruments traded, the more robust interconnections with the real economy, the higher variety of agents involved, and the dominant market positions occupied by a small number of financial intermediaries.

The oligopolistic structure of the most developed financial markets and the exclusive circulation in these markets of a significant and growing portion of the existing stock of wealth have incentivised speculative behaviour and caused inefficiencies and a higher probability of financial instability. Moreover, the financial crises have strengthened their potential contagion of the real economy. Hence, policymakers and regulators have become more and more concerned about the possible negative impact of financial spill-overs on macro-stability and have boosted their propensity to intervene in the financial markets. The shared expectations of ex post monetary or fiscal policies' adjustments or regulatory interventions have also strengthened the short-term speculative opportunities, so that overly accommodative policies or new rules have contributed to building up more significant financial imbalances.

Let us emphasise that the growing importance of the financial markets and the potential vicious circle between financial instability and policy (or regulation) interventions are crucial but insufficient factors for determining financial dominance. The latter has progressively taken the centre stage, when the behaviour of one or more of the groups acting in the financial markets has obliged policymakers and/or regulators to intervene with initiatives aimed at avoiding negative consequences in the functioning of the market. By pursuing market stabilisation these initiatives produce – as a side effect – ex post benefits either for fund seekers or for wealth owners and financial intermediaries. However, they also introduce distortions in the financial markets, which incentivise agents to behave ex ante in a non-appropriate way.

The reference to some features of the 2007-2009 crisis exemplifies the economic consequences of financial dominance[3]. Unregulated and oligopolistic financial markets constrained the actions of policymakers and regulators and jeopardised the achievement of their objectives. Monetary policy approached or hit interest rates' zero lower bound (ZLB); bailouts of national banking sectors and of public balance sheets as well as the strengthening of automatic stabilisers caused a general increase in government deficits, so that fiscal policy lost its ammunition, at least in the euro area; and, even if financial regulators and supervisors progressively introduced liquidity buffers and more severe capital requirements, regulation was unable to fully comply with market evolution, which, in the case of the euro area, doubled the incidence of non-bank loans and corporate bonds on total financing but

---

[3] It should be noted that there were important episodes of financial dominance before the policy reactions to the 2007-2009 international financial and "real" crises. Here, it suffices to mention the monetary policy stance during the time of Alan Greenspan serving as the Chairman of the Federal Reserve, after the attack on the Twin Towers (2001-2005).

remained too dependent on banking activity (see Schnabel, 2020).

In this paper, we are mainly interested in the policy and regulatory interventions in the European Union's (EU's) financial markets. As is well known, during the international financial crisis, several EU countries dramatically increased their government deficits to bail out their national banking sectors and other non-bank financial intermediaries on the brink of systemic bankruptcy. The most fragile of the countries in the euro area, e.g., Ireland, Portugal and Spain, were unable to overcome the consequent debt imbalances in their national balance sheets. Hence, in the following years, these countries were obliged to make recourse to a European aid programme and/or to severely adjust their fiscal policy triggering off a new long economic recession. The impact was a dramatic increase in financial instability that negatively affected economic activity. In the euro area, during the second half of 2011, financial dominance also strengthened the "doom loop" between the sovereign debt and the financial crises.

The rest of this paper is organised as follows. Section 2 specifies the important role played by financial dominance with specific reference to its interaction with policies during the euro area's 2010-2013 crisis and the subsequent pre-pandemic period (2014-2019). This analysis highlights the complex relationship between financial and fiscal dominance in the euro area. Section 3 shows how the pandemic shock has redefined the policy mix and regulation in the same area; it also explains how these changes deeply affected and will affect the role of financial dominance. Section 4 offers a stylised model to analytically illustrate our arguments. Finally, the Conclusions argue that financial stability and sustainable development in the post-pandemic period can be achieved by satisfying at least two conditions: i) a new definition of fiscal rules, and ii) a different organisation of European financial markets. Both these conditions matter to financial dominance.

2. PRE-PANDEMIC FINANCIAL AND FISCAL DOMINANCE

The dramatic accumulation of government debt in Greece, the collapse of the Irish banking sector and the related government intervention to avoid a systemic financial crisis, as well as the Portuguese vicious circle between the current account imbalances and the disequilibria in the government balance sheet, heralded the euro area sovereign debt crisis (end of 2009 – spring 2011). As a policy reaction, the European institutions agreed on a loose interpretation of Article 122 of the Treaty on the Functioning of the European Union and launched a European aid programme. However, the excessive binding constraints imposed by the so-called *Troika* to the countries under aid programmes and the contagion of Italy and Spain worsened the European sovereign debt crisis during the summer of 2011[4].

In the meantime, the banking sector continued to play a dominant and problematic role in the European financial markets. This sector was unable to liquidate the troubled assets accumulated during the international financial crisis, was hit by the insolvency of a growing portion of its borrowers and was overwhelmed by the accounting values attributed to the stock of government bonds issued by fragile countries of the euro area held in its balance sheet. The vicious interaction between the sovereign debt crisis and the liquidity or insolvency crisis of a large part of the banking sector of the euro area ("doom loop") led the area to the brink of a breakdown.

The doom loop was temporarily overcome by the initiatives taken by the European Central Bank (ECB). At the beginning of December 2011 and at the end of February 2012, the ECB implemented two innovative rounds of open market operations: the so-called longer-term refinancing operations (LTRO). These operations were characterised by an ECB's supply function with infinite elasticity at a low and fixed policy interest rate and with weak collateral requirements. The European banking sector exploited this opportunity by demanding more than EUR 1 trillion of liquidity from the ECB. However, this huge amount of additional liquidity was largely hoarded in the banks' balance sheets without significantly improving their lending activity[5].

Between the end of 2011 and March 2012, European fiscal rules became more severe due to the implementation of the "Six Pack" and the so-called "Fiscal Compact". It followed that, during the summer of 2012, there was a revival of the "doom loop" and the survival of the euro area was at risk again. Even in this case, a temporary solution was provided by the ECB. At the end of July 2012, Mario Draghi made his "whatever it takes" statement the premise for the approval of the outright monetary transactions (OMT). Since the beginning of September 2012, OMT has allowed the ECB to purchase an unlimited amount of short- and medium-term government bonds issued by countries of the euro area that were on the brink of debt unsustainability and were already enrolled in a European aid programme. The mere announcement of OMT was sufficient to lower yields on distressed sovereign bonds without any actual change in the monetary policy stance[6].

In our reading, the LTRO and OMT initiatives opened a new phase of the ECB's proactive intervention driven mainly by two reasons. The first was the awareness of being "the only player in town" to offset the recessionary effects of the crisis. National fiscal policies were constrained by centralised rules that implied a restrictive or neutral fiscal stance in the aggregate, even after the flexibility introduced by the European Commission's Communication from mid-January 2015 to March 2020. The second reason resulted from a form of fiscal dominance: the debt positions of countries with loose fiscal policies would have been unsustainable and on the brink of default, putting at risk the survival of the euro area,

---

[4]   See Baldwin and Giavazzi (2015) and Messori (2021).

[5]   See, e.g., Belke (2012).

[6]   See Messori (2021: 1-25); see also De Grauwe and Ji (2013).

without a short-term expansionary monetary policy.

The two reasons just underlined justified the ECB's recourse to unconventional monetary policies as a reaction to the risk of deflation in 2014 and as substantial (implicit) support for the sustainability of government debts. It suffices to recall the first targeted longer-term refinancing operations (TLTRO: summer 2014 – spring 2016); the quantitative easing with the asset purchase programme (APP: March 2015); and the combinations of an improved APP and a more effective form of TLTRO (April 2016). They also explain the ECB's unexpected decision to re-open a monthly APP in November 2019 as a response to the risk of a new stagnation[7].

The long phase of monetary intervention dramatically increased the amount of liquidity pumped into the euro area in the 2011-2012 and 2015-2018 periods, and – in turn – the augmented liquidity in circulation had a strong impact in terms of European financial dominance. It is well known that the trends in equity prices and the shapes of the curves representing the term structure of interest rates are affected by the current and expected macroeconomic cyclical phases, as well as by many idiosyncratic financial factors. In this last respect, it should be recalled that the banking regulation of the euro area recorded dramatic changes (December 2012 – mid-2014). A main change was due to the implementation of the Banking Union, which is based on centralised supervision (the attribution of the single supervisory mechanism to the ECB) and on a partially centralised resolution mechanism incorporating a strong bail-in process; another important change was due to the approval new capital requirements under Basel III and second pillar rules (see, e.g.: Enria et al. 2016; Micossi, 2017). Moreover, in the following years, European financial markets were characterised by the growing importance of non-bank credit suppliers and corporate bonds (see above).

Due to these elements, it would be too naïve to look for strong and regular correlations between the amount of liquidity injected into a given economic system and the performance in the various segments of its financial market. However, Figure 1 shows that the LTRO, the OMT, the announcement of ECB's unconventional monetary policies, and the strengthening of these same policies by mid-2016 had a positive effect on the equity prices in the stock markets of the euro area. Moreover, Figure 2 shows that the approval of the OMT, the first substantial announcement (fall 2014) and – then – the implementation of the various forms of APP determined a downward shift and a reduced slope of the curve representing the term structure of interest rates in the euro area.

---

[7]   See Benigno *et al.* (2020).

Figure 1: Monetary policy and stock market in the euro area

Figure 2: Monetary policy and the term structure of interest rates in the euro area

Source: European Central Bank.

Notes: In the yield curves, only AAA rated bonds are considered.

These trends obviously affected the balance sheet of the different groups of agents involved in the financial markets. Fund seekers, shareholders, and the part of bondholders trading for capital gains benefitted from the expansionary monetary pol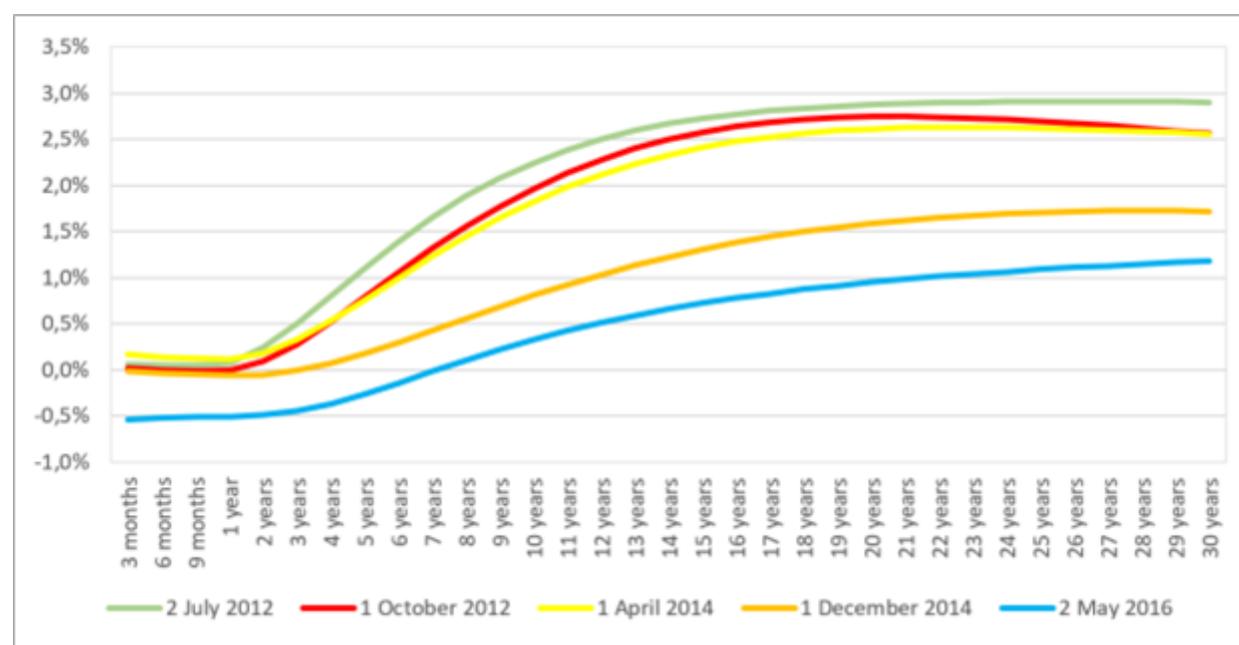icy, which implied recurrent decreases in interest rates and inflated asset prices. Specifically, from August 2012 to the end of 2019, the most fragile countries of the euro area not involved in a European aid programme had the possibility to issue government bonds at much lower interest rates than those paid in the June-November 2011 period and in July 2012. Moreover, from the end of 2014 to the end of 2019, the euro-area "core" countries experienced decreasing interest rates on their government bonds that reached a negative effective lower bound (ELB), first for the shortest maturity, and then for a growing portion of the medium-/long-term expiry dates. In parallel, neglecting asymmetric shocks (such as Italy's political uncertainty in 2018), the government bonds of the most fragile countries of the euro area enjoyed a reduction in their spreads towards those of the "core" countries along the curve of the interest rates' term structure.

Figure 3 offers rough and partial empirical evidence of the last observations by comparing, in the 2010-2019 period, the dynamics of German and Italian interest rates on 10-year government bonds. It follows that fiscal dominance allowed fragile euro area countries with very limited spending capacity in terms of the European fiscal rules to fully exploit the fiscal flexibility offered by the European Commission at the beginning of 2015 without worsening (and often improving) the short-/medium-term sustainability of their government debts. Government debts that were perceived to be on an unsustainable path at October 2011's interest rates became sustainable at May 2016's interest rates.

Figure 3: Quarterly 10-year government bond yields (Germany – Italy)
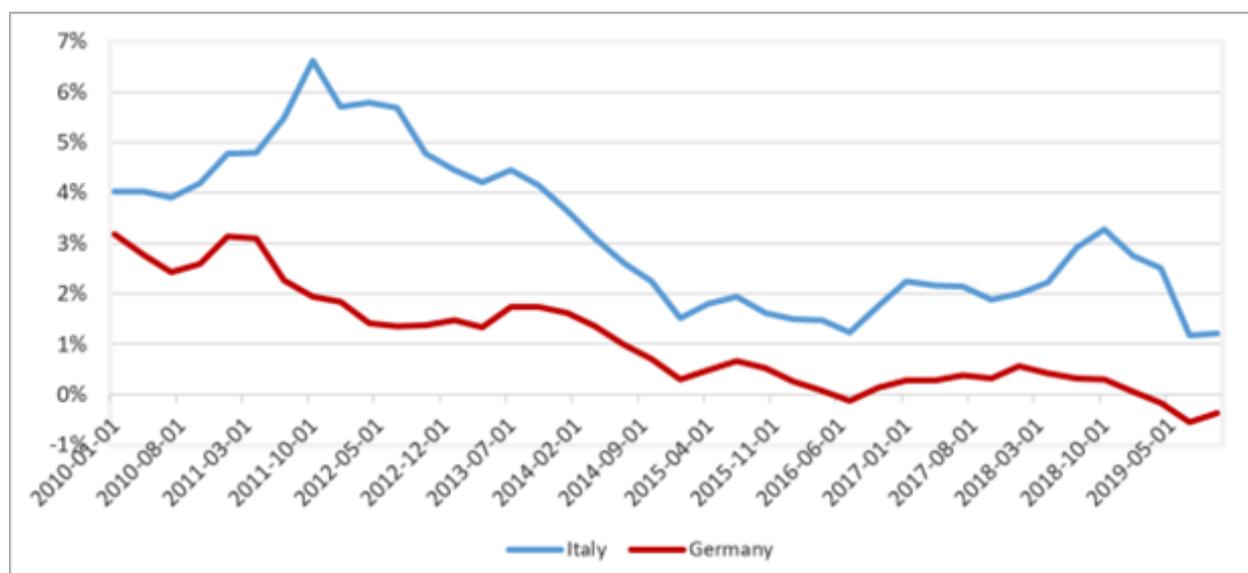
Source: Italy: OECD, Long-Term Government Bond Yields: 10-year: Main (Including Benchmark) for Italy, retrieved from FRED, St. Louis Fed; https://fred.stlouisfed.org/series/IRLTLT01ITM156N. Germany: OECD, Long-Term Government Bond Yields: 10-year: Main (Including Benchmark), retrieved from FRED, St. Louis Fed; https://fred.stlouisfed.org/series/IRLTLT01DEM156N.

Our analysis thus shows that, in the medium/long term, financial dominance can incentivise the highly indebted countries of the euro area to adopt an opportunistic behaviour, that is, to avoid costly adjustments in their government balance sheets and perhaps to continue building up more imbalances. However, our analysis also shows that this possible distortion does not imply that fiscal dominance and, more broadly, financial dominance necessarily led to a negative- or to a zero-sum game, where improvements in the balance sheet of some agents correspond to bigger or correspondent losses in the balance sheet of other agents in the same markets. For instance, the

recurrent decreases in interest rates on European bonds implied not only short-term benefits for the governments of the most fragile countries of the euro area and to issuers of corporate bonds, but also large capital gains for that part of financial wealth owners whose portfolios had stocked a significant amount of these assets. Mainly from the end of 2014 to the beginning of 2020, various banking groups of the euro area safeguarded their returns by making recourse to a kind of carry trade: they borrowed at negative or zero interest rates from the ECB (thanks to the TLTRO II and III)[8], purchased bonds with positive returns relative to the cost of borrowing, and selling these same bonds at higher market prices (thanks to APP).

It is worth noting that the positive-sum game that financial dominance can directly offer to active financial wealth owners, fund seekers and financial intermediaries, is not Pareto-improving even in the short term. That other part of the financial wealth owners who hold fixed income assets at maturity and the management of technical reserves by insurance companies are negatively affected by a very low level in the time structure of interest rates; and the same applies to traditional banks whose balance sheets are largely based on interest margins. However, the impact of financial dominance can become indirectly positive for these agents too. It is sufficient to consider two aspects. The low level of the term structure of interest rates in the euro area structurally depends on the positive imbalance between aggregate savings and aggregate investments; hence, an expansionary monetary policy simply implements this structural trend in the short term to mitigate its recessionary impact. Moreover, this mitigation decreases the risk of collapse of financial markets and the probability of a credit crunch of the real economy, which are induced by strong recessions. Hence, indirectly, financial dominance can limit the more sizable losses that all the three groups operating in the financial markets would face if no policy or regulatory interventions were made.

Our conclusion is that, in terms of short-term cost-benefit analysis, there is an important financial multiplier (both for losses and gains) that makes the monetary policy and the regulatory adjustments due to financial dominance not only unavoidable but also desirable.

This conclusion would appear to contradict our statement on the distortionary impact of financial dominance only if we overlooked the distinctions between the short term and the long term or between ex ante and ex post. In the medium/long term, even a short-term positive-sum game can turn into a negative-sum one. It is sufficient to recall that, in improving the current balance sheet of a given agent or group of agents, policy or regulatory interventions should dis-incentivise structural adjustments of this same balance. The consequent reproduction of the disequilibrium can flow into a medium-/long-term condition so unstable as to become unmanageable. Hence, whereas financial dominance can play the role of stabiliser in the short term, it risks becoming a source of irreversible instability in the medium/long term. The probability of this outcome will be strengthened if we refer to the ex ante and ex post distinction. We have already emphasised that financial dominance could trigger a self-fulfilling prophecy: the expectation that a policy or a regulatory intervention makes it worthwhile for various agents to select riskier behaviour, given that the larger – even if low-probability – benefits would be privatised while the high-probability losses would be totally or partially absorbed by policy or regulatory adjustments. The consequent selection of riskier behaviour increases the medium-/long-term trend towards an irreversible unstable condition.

Our other conclusion is that, in the medium/long term, implications of financial dominance are quite distortionary. They can lengthen recessions and weaken the subsequent recoveries by creating financial cycles of wider magnitude than the standard business cycles. Therefore, it is important to – at least partially – protect the economic system from the medium-/long-term destabilising effects of

---

[8] See Benigno et al. (2020) and (2021).

financial dominance. In this respect, a potentially effective tool could be offered by micro- and macro-prudential regulation. Financial regulatory interventions should ensure that various types of banks and non-bank credit suppliers be sufficiently capitalised to bear losses due to extreme events. These same interventions should force intermediaries to reduce their leverage and to keep the current and prospective riskiness of their assets under strict control. Supervisors should be able to apply these general principles to the specificities of each financial intermediary.

As shown by the initiatives taken in the 2014-2019 period, the euro area improved its micro- and macro-financial regulation. We have already outlined the main elements of the Banking Union, and we have recalled the EU's adoption of the international banking rules on the first and second pillars. The ECB started its new role within the single supervisory mechanism (November 2014) by previously checking the situation of the banking sector of the euro area (the Comprehensive Assessment, managed in cooperation with the European Banking Authority, EBA), by planning regular stress tests together with the EBA in the subsequent years, and by implementing a new yearly prudential assessment of each significant euro area bank (the so-called Supervisory Review and Evaluation Process, SREP). Moreover, to fill the gaps and overcome the problems created by this new regulatory and supervisory setting, the European institutions developed and approved the so-called "banking package" with the aim of strengthening capital requirements and resolution processes (2016-2019). Finally, the European Commission launched the Capital Markets Union to stimulate and accompany the development of the non-bank segments of the financial markets of the euro area.

It would be possible to raise various criticisms of the 2014-2019 evolution in European financial regulation. The Banking Union process has remained incomplete due to the analytically inconsistent opposition between risk sharing and risk reduction, and the 2019 "banking package" has been unable to overcome this ill-founded opposition[9]. Moreover, despite the rich legal framework constructed by the Capital Markets Union, euro area banks have continued to submit to more constraining rules unlike their non-bank competitors in credit markets; and, more generally, this new legal framework has not been sufficient to adequately enlarge the European capital markets by developing the activity of a rich set of non-bank financial intermediaries[10]. However, despite criticisms, it should be recognised that the macroprudential regulation of the euro area has been appropriately counter-cyclical from mid-2007 to 2017: sufficiently loose during the 2011-2013 recession, sufficiently tight during the 2015-2017 expansion. The proof is that the banking sector of the euro area and a significant part of non-bank intermediaries approached the pandemic shock with stronger fundamentals than those characterising their balance sheets before the 2007-2009 international financial crisis.

---

[9]   See Draghi (2017), European Commission (2017), and ECB (2020).
[10]   See Lannoo and Thomadakis (2019).

3. FINANCIAL AND FISCAL DOMINANCE DURING THE PANDEMIC

The first COVID-19 pandemic wave hit the world economy between the winter of 2019 and the spring of 2020, then hindered the recovery in the fall and winter of 2020-21 and is still threatening current economic perspectives (summer of 2021). The COVID-19 pandemic is a shock of an unprecedented nature with two distinguishing features: exogeneity and a peculiar form of asymmetry. Being an infectious disease, the COVID-19 shock is completely exogenous, although it bears important economic consequences beyond its dramatic effects on human life. It is however different from standard exogenous supply or demand shocks, which usually affect sectors of the economy in a symmetric way (see Woodford, 2020).

The asymmetry of the pandemic impact can be mainly explained by the fact that some sectors of various economies were directly affected by lockdowns or other forms of restriction, which immediately generated zeroing or missing revenues. These sectors were thus unable to cover their fixed and variable costs and were forced to stop or dramatically reduce their demand for the different inputs of their productions. Like a cascade, this first impact resulted in missing revenues for other sectors and decreasing demand for labour units and other goods in the national markets as well in the international value chains. Moreover, the fall in the purchasing power of the weakest part of the population, the binding constraints in daily life, and the growing uncertainty negatively affected private consumption and investment.

The overall effects in each economic system were highly multiplicative and generated important contractions in aggregate demand and employment and in aggregate output. In principle, dramatic decreases in demand and supply should have been partially counterbalanced by the fact that the pandemic emergency induced a larger public demand for specific medical equipment and a growing need for various forms of health assistance. However, market and institutional bottlenecks hindered an adequate and cooperative response from the international supply components to this growing demand. Moreover, the magnitude of the net negative effects in each economic system was largely dependent on the productive specialisation and the position in international value chains (ECB, 2019; OECD, 2021; Stiglitz, 2020).

These factors are sufficient to explain why the exogenous pandemic shock has had asymmetric impacts and entailed policy responses that, to meet the challenge, have been quite different from the usual policies implemented to stabilise the economy under more standard types of disturbances.

The new policy responses have involved abundant financial and/or liquidity support to cope with three areas[11].

i)   The productive sectors mainly affected by the shock, to meet their flows of payments and to limit the bankruptcy of potentially efficient firms.

ii) The various lenders to these sectors, to avoid systemic problems in the banking sector, the collapse of financial markets, and a credit crunch.

iii) The unemployed workers, to mitigate the negative social consequences of the pandemic.

However, due to the highly multiplicative impact of the economic contraction, these transfers and guarantees have been rapidly extended to a large part of the economic systems. At the same time, substantial government funds have been utilised to improve and rationalise the demand for and the supply of medical assistance and equipment. In all the above-described cases, government

---

[11]   See, among others, Di Bartolomeo et al. (2020), Schivardi and Romano (2020), and Pfeiffer et al. (2020).

intervention took the form of fiscal transfers, public guarantees, and public purchases. Therefore, fiscal policymakers have significantly increased their national debts. At the same time, central banks have largely strengthened the already expansionary stance of their monetary policies to provide abundant liquidity to their banking sector (also as a bridge, in conjunction with government-guaranteed programmes, to the most vulnerable productive sectors) and to support the implementation of expansionary fiscal policies.

In principle, if an economic system was at full productive capacity and with available fiscal capacity before the pandemic shock, there would have been no need of specific monetary policy interventions. However, at least in the EU and euro area in 2018-2019, the economies of many Member States were growing in a subdued way or falling into stagnation; moreover, the pandemic shock was particularly strong in some of the Member States with the worst track record in terms of growth rates and fiscal capacity [12]. Hence, since the beginning of the pandemic, a strongly accommodative monetary policy has been fundamental to alleviate the fiscal burden in the weakest countries of the euro area. By keeping nominal interest rates close to zero or even negative, the ECB has lowered the financing cost on the growing government debt; and by purchasing a significant part of this additional debt in the secondary segments of the financial markets, it has provided an implicit guarantee in terms of market access and lower risk premia even for the weakest countries (Benigno et al., 2020).

The prompt European policy responses triggered by the pandemic shock have determined an innovative convergence between monetary and fiscal policies [13]. A narrative of the evolution of this new policy approach can be summarised by the following points:

1. In 2020, between March and June, the ECB strengthened its APP and started an emergency programme of government debt purchases labelled as "pandemic emergency purchase programme" (PEPP). Moreover, it restarted the LTRO programme and significantly expanded the ongoing TLTRO III to improve the liquidity provision of the euro-area banking sector.

2. Meanwhile, the Commission decided to suspend its fiscal rules, previously set by the 2011-2013 changes in the "Stability and Growth Pact", and to approve the first version of the "Temporary Framework" aimed at weakening the rules on state aid and other European regulations.

3. The Commission also launched a centralised European fiscal policy for emergency. In spring 2020, it offered more than EUR 500 billion to temporarily protect unemployed workers, to cover health care expenditure up to 2% of national gross domestic products (GDPs) without any conditionality, and to guarantee the financing of new investments.

4. Finally, the Commission reacted in an extraordinary manner to the pandemic: it launched the Next Generation – EU (NG-EU), which was approved by the European Parliament in autumn 2020 and came into effect in summer 2021 [14]. NG-EU is financed by the EU's market indebtedness and offers European long-term loans and permanent transfers to Member States mainly in proportion to the national weaknesses that preceded and were caused by COVID-19. Although it is designed as a one-shot process, this initiative nevertheless leads to the first redistribution of financial resources from the "core" to the fragile countries of the euro area (Buti and Messori, 2020a, 2020b).

---

[12] The country impact of the pandemic shock depends on the temporal sequence of epidemiological events, the reaction capacity of national health systems, and production specialisation. The lack of "fiscal capacity" is instead due to the pre-existing high levels of public debt.

[13] It is innovative because it is very different from the response given during the financial crisis and because it leads to an articulation of policies (see Benigno et al., 2021; Messori 2021).

[14] See Bańkowski et al. (2021), Di Bartolomeo and D'Imperio (2021) and Pfeiffer et al. (2021).

5. This set of initiatives, which was further strengthened by the ECB and refined by the Commission during the winter of 2020-21, allowed all the euro area Member States to strongly expand their national fiscal policies despite the consequent significant increases in government deficits and debt. The support offered by the APP/PEPP has put under full control any factor of instability in the management of government balance sheets.

The implication of these five points is that the European "policy mix" has allowed for a convergent expansion both of monetary policy and of national and central fiscal policies. The expansionary coordination between these three policies, that is, two fiscal and one monetary, has been instrumental for coping with the challenges of the pandemic shock. Two key features should be further stressed.

1. The implementation of a centralised fiscal policy in the EU could become a crucial innovation, even if it was conceived as a one-shot initiative.

2. This innovation could become even more important, considering that the euro area has never experienced a simultaneous expansionary implementation of monetary and fiscal policies.

These two features [15] are instrumental in addressing the role of financial dominance and its possible interaction with monetary and fiscal policies during the pandemic and the post-pandemic phase.

It is apparent that the pandemic shock has pushed monetary supremacy out of the spotlight and that monetary policy has quit being "the only game in town". Nevertheless, as we will show, a revival of the monetary supremacy cannot be fully disregarded in the post-pandemic European economy. The role that the pandemic shock has left to fiscal policies is more debatable. As we already discussed at the beginning of this section, in principle, the pandemic shock should have required a mix of fiscal transfers and government purchases and not necessarily a monetary policy accommodation. However, the descriptive evidence and our previous comments suggest that the ECB's recent initiatives reflect an unavoidable subordination of monetary policy to fiscal policy (that is, fiscal dominance). In fact, PEPP and APP have been crucial in allowing the expansionary national fiscal policies in euro area Member States without available fiscal capacity. Despite the suspension of the Stability and Growth Pact, in 2020-21 a sovereign debt crisis for the high-debt countries of the euro area would have likely happened if the ECB had not launched the PEPP and thus had not covered the additional government debt issuances caused by the national fiscal responses to the pandemic. Such a crisis would have caused a dramatic additional burden on the pandemic shock and would have prevented any successful policy response [16].

A reasonable conclusion seems to be that the new European policy mix is still characterised by some sort of subordination of monetary policy to (national) fiscal policies with the already analysed consequences in terms of financial markets' instability (financial dominance). However, to assess whether the current policy mix will result in a medium-/long-term financial dominance situation in which monetary policy is constrained by the current and future (national) fiscal policy choices, it is necessary to specify the EU's post-pandemic economic perspectives.

Looking forward, let us refer to a potential scenario characterised by a robust growth path enhanced by the NG-EU programme. Let us assume that, if the overall accommodative monetary and fiscal stance was not abandoned too soon and too abruptly, the implemented investment policies would be able to sustain the recovery by spurring productivity gains and growth in the EU's weakest countries. In this

---

[15] Already addressed in various contributions. See, e.g., various papers collected in Messori (2021) and previous ECON's "Monetary Dialogue Papers" (see European Parliament, 2020, 2021).

[16] In this respect, it must be remembered that the ECB does not completely guarantee countries' debt, if not under the conditionality of the OMT programme. This feature of the euro area makes monetary accommodation, through the various types of asset purchase programmes, a necessary tool.

scenario, the ECB's monetary policy could go back to a normal stance by lifting nominal rates at the appropriate speed and, at the same time, by reducing their holdings of government debt without creating unmanageable stress on sovereign debts even in the most indebted countries of the euro area. Conversely, if the NG-EU policies were unsuccessful or the economies of the euro area were hit by additional negative shocks, the economic perspective of the euro area would worsen. The first possibility would be the re-affirmation of fiscal dominance, binding the ECB to keep policy interest rates low and/or to continue its asset purchase programmes. A second possibility would be a return to monetary supremacy, characterised by a restrictive monetary policy stance and a "sudden stop" in expansionary fiscal policies of the most fragile countries of the euro area. The implementation of this latter possibility would imply orderly or disorderly government debt restructuring of distressed euro area countries unless further centralisation of fiscal policy and some related form of debt mutualisation occurred.

The convergence between expansionary fiscal and monetary policies during the pandemic and its possible evolution in post-pandemic economic growth or monetary policy adjustments might be compatible with more general conditions of financial dominance on top of the possible fiscal dominance, as underlined above. Conversely, a return to monetary supremacy would also put financial dominance in the background.

We have already shown in Section 2 that an expansionary monetary policy, characterised by recurrent decreases in the ELB and increases in the amount of liquidity pumped into the economic system, positively affects the balance sheets of a large part of agents involved in financial markets (such as fund seekers, shareholders and bondholders trading for capital gains). Hence, the ECB's improvement in the expansionary stance of its monetary policy during the pandemic shock has reproduced favourable conditions for financial dominance. Moreover, in 2020, European financial regulators and supervisors eased some prudential and accounting rules as well as several supervisory requirements (Benigno et al., 2021), which could have led to larger risk-taking positions.

The reference to the EU's fiscal policies in 2020-21 allows us to strengthen the analysis. At the national level, EU Member States have implemented their expansionary fiscal policy by dramatically increasing the amount of government transfers to firms and households and by offering generous public guarantees to lending activities. Moreover, these transfers have gradually involved groups of agents not directly affected by the pandemic shock and its economic consequences. Hence, as suggested by the empirical evidence, the strong expansionary stance of national fiscal policies has significantly contributed to increasing Europe's financial wealth managed by households and financial intermediaries.

This trend has been strengthened by two additional and somewhat contradictory factors: the uncertainty that has decreased the various types of agents' propensity to consume and to invest during the 2020 economic depression and the first half of 2021 transition; and the expansionary stance of the new centralised fiscal policies in the EU that have supported the rapid economic rebounds of some of the most fragile Member States and have signalled the room for a short-term recovery and for medium-term sustainable development. At least in the short term, the factors described have positively affected the balance sheets of a large part of agents involved in financial markets. Fund seekers, shareholders, active bondholders and financial intermediaries have had the opportunity to improve their economic conditions thanks to national and centralised expansionary fiscal policies. In this respect, it is sufficient to look at the price dynamics in the European stock and bond markets (see Figure 4).

During the 2020-21 period, in both stock and bond markets financial investors are enjoying abnormal positive returns and capital gains despite the economic depression. However, these favourable opportunities have not been exploited by a whole set of agents involved in the EU's financial markets.

As shown in Table 1, in the aggregate, European wealth owners have decided to allocate the prevailing part of their financial portfolios to liquid securities (mainly bank deposits). In the medium/long term, this average composition of European financial portfolios could become a serious distortion. The prevailing choice of investing in liquid securities responds to a precautionary attitude that can be fully understandable at the individual level. However, from the macroeconomic point of view, this same choice hinders the possibility to directly finance the real economy; and, thus, it does not contribute to the transformation of the EU's current rebound in a rapid recovery and in consequent medium-/long-term sustainable development.

This implication greatly matters in terms of financial dominance. Strong economic growth is the only way for European financial wealth owners and fund seekers not to be fully dependent on the ECB's monetary policy decisions and, vice versa, for monetary policy not to be constrained by financial dominance. In the absence of this growth, either increases in policy interest rates or decreases in the amount of liquidity pumped into the economic system would imply severe corrections in the stock and bond markets, which, in turn, would have destabilising effects in the financial markets even for fixed-income and risk-averse investors. Alternatively, be that as it may, the return to fiscal dominance would worsen long-term distortions in financial markets. Instead, strong economic growth could allow the ECB's monetary policy to gradually return to a normal stance without producing unmanageable instability.

Figure 4: Stock and bond markets in the euro area
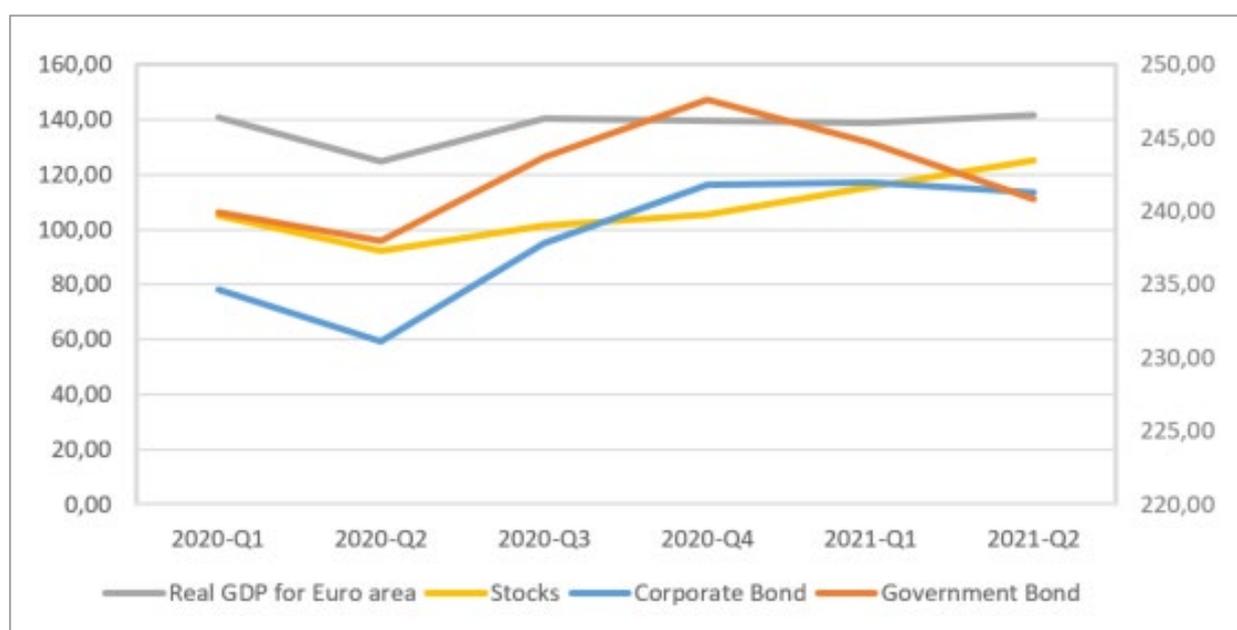
Source: Corporate Bond and Government Bond: S&P Global. Real GDP for the euro area: Eurostat, Real Gross Domestic Product (Euro/ECU series) for Euro area (19 countries), retrieved from FRED, St. Louis Fed; https://fred.stlouisfed.org/series/CLVMEURSCAB1GQEA19. Stocks: OECD, Total Share Prices for All Shares for the Euro Area, retrieved from FRED, St. Louis Fed; https://fred.stlouisfed.org/series/SPASTT01EZM661N.

Notes: The left-vertical scale indicates real GDP and stock price index. The right-vertical scale refers to price indexes of corporate and government bonds. These last price indexes, which include public and private bonds listed in regulated markets. The trend of all variables is based on quarterly average values.

Table 1: Households' financial portfolio composition in the euro area

Quarter	Deposit and Currency	Debt Securities	Equity and investment Fund Share	Insurance Pension and Standardized Guarantee	Other Financial Assets
2017 Q4	32,89%	2,69%	28,61%	33,56%	2,25%
2018 Q4	34,35%	2,49%	26,92%	34,05%	2,18%
2019 Q4	33,49%	2,14%	27,78%	34,56%	2,03%
2020 Q4	34,37%	1,89%	26,80%	34,72%	2,22%
2021 Q1	34,33%	1,79%	27,79%	33,79%	2,30%

Source: Authors' elaboration of European Central Bank data.

Note: Values are expressed as % total financial assets.

4. A STYLISED ANALYTICAL ILLUSTRATION

To offer an analytical and stylised response to the scenarios previously outlined, we build a model which aims at capturing some crucial interactions between financial dominance and the policy mix in the euro area. The model extends Smets (2014) to account for the effects of monetary and fiscal policies on aggregate financial stability. To simplify matters, as in Smets (2014) and Ueda and Valencia (2014), significant interactions are reduced to the idea that macroprudential instruments, in a broad sense, positively affect credit growth (or negatively affect the cost of finance.) Hence, an increase of capital requirements (or a lowering in the threshold for leverage) raises the cost of capital, which in turn reduces instability due to financial dominance at the cost of output reductions. We extend the framework to also cope with fiscal dominance in a stylised monetary union where financial stability is the union's public good.

We assume two different kinds of countries (or group of countries). For the sake of brevity, we refer to them as the "core" and the "periphery". Increases in public expenditure in the core do not undermine the union's financial stability, while increases in public expenditure in the periphery might create tensions in the financial markets. The simple idea is that deficit increases in countries with high levels of government debt (limited fiscal capacity) raises the risk of financial instability related to financial dominance (cf. Section 2). However, in the short run, these risks can be attenuated by accommodative active monetary policies, which reduce the riskiness of fiscal policy on financial markets at the cost in terms of resource misallocation[17].

Introducing a pandemic shock, we investigate the effects of coordinated policies when all fiscal instruments are fully available. Then, we compare this solution to the cases where the periphery fiscal capacity is bounded and/or a potential transfer from the core to the periphery is available to mimic the effects of the NG-EU (cf. Section 3)[18].

Formally, the stylised model is composed of two equations, which describe the financial stability of the monetary union (θ) and the dynamics of the output gap (x_i) in two subsets of countries (i.e., 'c' core and 'p' periphery)[19]:

(1) $\qquad \theta = -(p - p^e) + \rho_p g_p + \delta$

(2) $\qquad x_i = (p - p^e) + g_i + tr_i + \delta - u \qquad i \in \{c, p\}$

Equation (1) is the ex post leverage augmented by the effects of instability due to excessive deficits (g_p) in the periphery. Parameter ρ_p captures the importance of fiscal dominance for the achievement of financial stability. Problems of sovereign debt sustainability and of financial stability reinforce each other due to mutual exposures between the public and the private sectors[20]. Higher unexpected inflation ($p - p^e$) tends to reduce the debt overhang. Variable δ measures the impact of the central bank's unconventional policies and macroprudential regulation on financial stability. Equation (2) determines the output in the core and periphery[21], which is positively affected by inflation surprises, by national fiscal policies and the common macroprudential instruments. In this same equation, tr_i is

---

a potential transfer from the core to the periphery, i.e., $tr_p = tr = -tr_c > 0$, whereas u captures the effects of the pandemic shock[22].

We focus on the interaction between fiscal policies (g_i) and unconventional monetary policies (δ). For the sake of brevity, we then assume that central bank is credibly committed to achieving the inflation target (p^T) as a primary objective, so that $p = p^T = p^e$ is always observed[23]. In our setup, given an expansive fiscal stance, negative values for δ map accommodative monetary actions which reduce the sovereign debt risk in the financial markets. Following Smets (2014) or Ueda and Valencia (2014), one can also think of δ as a macroprudential instrument positively affecting credit growth or negatively affecting the cost of finance. Looser policies (positive δ) increase the union aggregate output and financial instability. We assume that $\rho_p < 1$. As shown by equation (1), this implies that macroprudential instruments are relatively more effective in reducing financial instability compared to restrictive fiscal policies in the periphery, and vice versa.

In the absence of shocks, the economy is in its natural equilibrium. This is illustrated in Figure 5, where the financial stability (FF) and the Periphery Full Employment PFE (PP) loci are drawn. The former locus represents the combinations of macroprudential instruments and periphery fiscal policies that ensure financial stability of the monetary union, that is, $\theta = 0$ (cf. equation (1)).

Figure 5: The pre-pandemic stylised macro-model of a monetary union
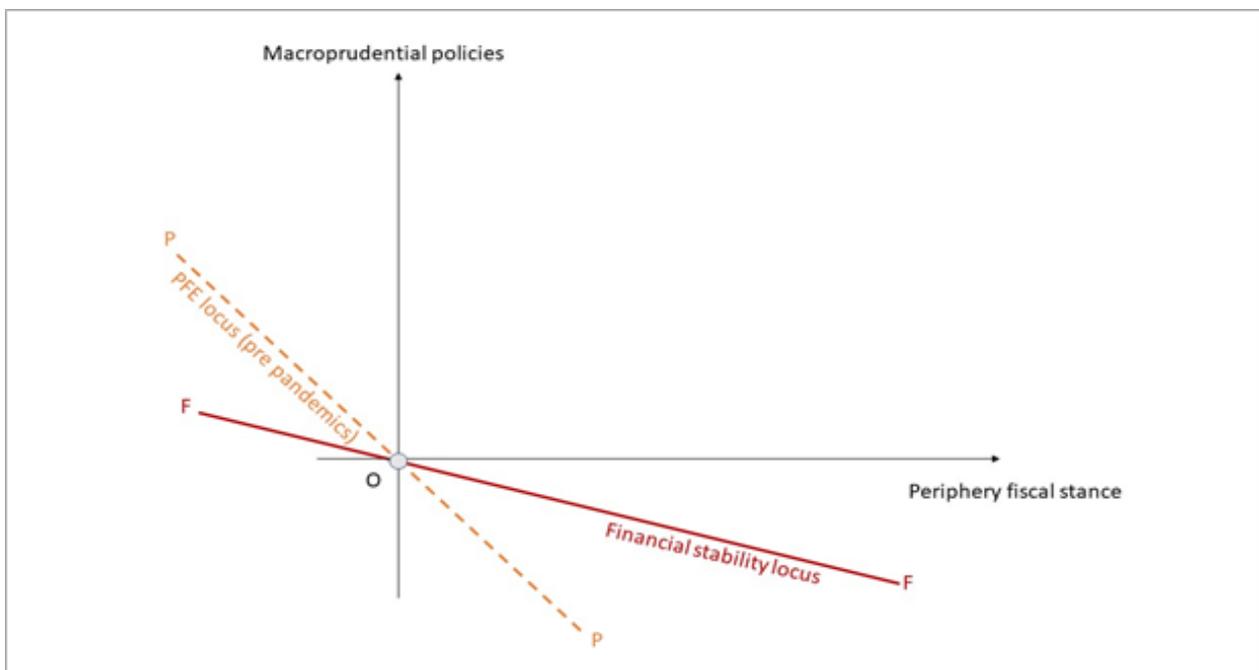
Source: Authors' elaboration.

Notes: The figure illustrates the financial stability conditions in the monetary union (FF) and the zero-output gap in the periphery locus (PP) when there are no shocks (long run). The conditions for the zero-output gap in the core are omitted as it is always stabilised (see below).

---

[22]   The shock could be easily generalised to consider asymmetric effects. This would not affect our analysis.

[23]   Assuming that the inflation rate is not a priority for the central bank does not qualitatively affect our findings. However, besides being inappropriate with respect to the European treaties, it would make the graphical illustration of our analytical results more complex. It is worth noting that we assume that the central bank directly controls the current inflation.

The latter locus represents the combinations that ensure $x_p = 0$. Points below PP and above FF imply negative output gaps and financial instability, respectively[24]. It is worth noting that, for any level of macroprudential instrument (δ) and observed shock (u), a value of g_c can be chosen to stabilise the output in the core country, i.e., $x_c = 0$.

In short, the FF curve indicates that expansive fiscal policies must be accompanied by accommodative monetary policies to ensure financial stability. Expansive fiscal policies which are not accompanied by accommodative monetary policies destabilise the financial markets (point above FF). The PFE curve shows that macroprudential policy easing and expansionary fiscal policies affect the output gap in the same direction, so that expansionary fiscal policies are offset by non-accommodative monetary policies and vice versa. In points above (below) PFE monetary or fiscal policies are too (too little) expansive to warrant the achievement of the full employment.

It is easy to verify that, even if the above-described economy is hit by shocks, the natural equilibrium can be restored with an appropriate assignment of the policy instruments. In line with the target-instrument tradition of Tinbergen and Theil, the equations (1) - (2) represent an economy which is characterised by three fixed targets (i.e., the natural levels for x_c, x_p, θ, equal to zero) and three instruments (i.e., g_c, g_p, and δ.) This possible policy reaction is illustrated in Figure 6, where a shock ($u > 0$) is considered.

Figure 6: The effects of a negative shock (unconstrained fiscal policy)
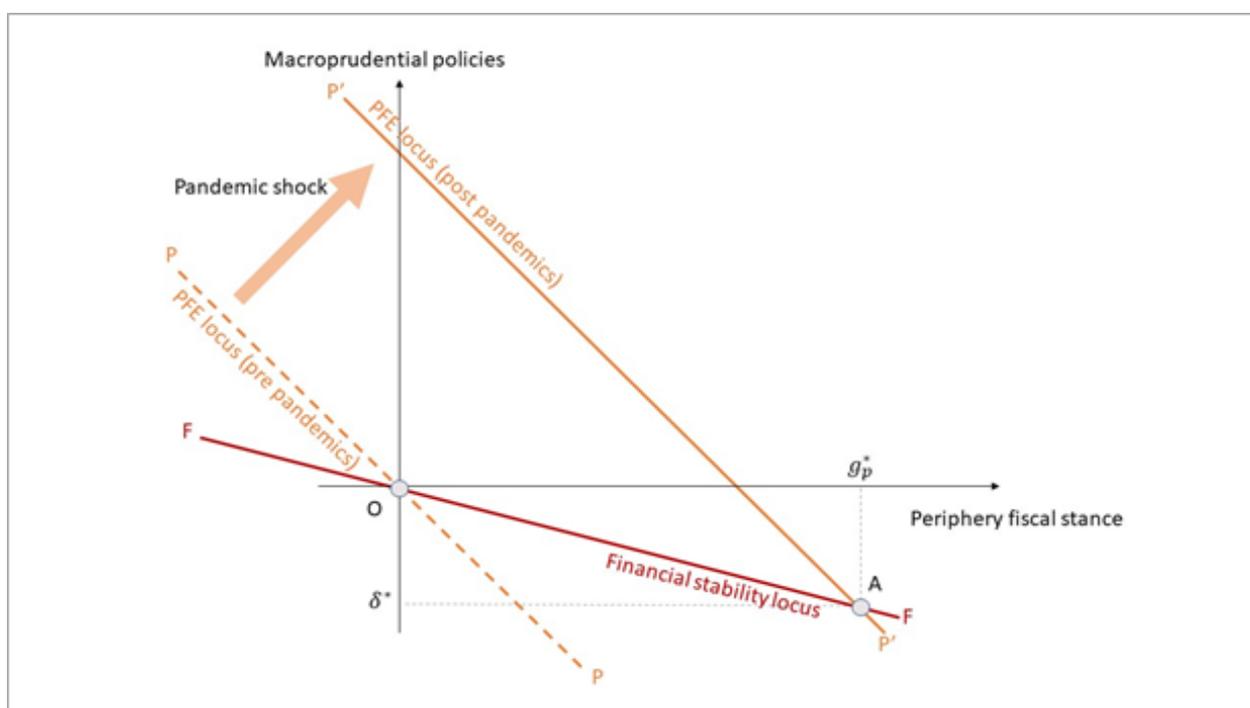
Source: Authors' elaboration.

Notes: The figure illustrates the financial stability conditions in the monetary union (FF) and the zero-output gap in the periphery locus (PP) when the economy is hit by a real shock. It is worth noting that the shock does not affect the financial stability locus.

---

[24] Formally, $FF: \theta = 0 \Leftrightarrow \delta = (p - p^e) - \rho_p g_p$ and $PP: x_p = 0 \Leftrightarrow \delta = -(p - p^e) - g_p - tr_p + u$.

The shock shifts the PP curve upward. Then, as fiscal (monetary) policies are relatively more efficient in stabilising the output gap (financial stability), the optimal assignment requires using an expansionary fiscal stance ($g_p > 0$) to stabilise the pandemic shock and an accommodative monetary policy (reduction of δ) to mitigate the effects of the periphery fiscal expansion on the union's financial stability. By indicating the optimal solution with an asterisk[25], it follows that: $g_p^* > 0$ and $\delta^* < 0$ (note $g_c^* = u - \delta > 0$), and $x_c^* = x_p^* = \theta^* = 0$. This optimal result implies that the deficit of the periphery positively deviates from its long-term equilibrium, whereas monetary policy compensates the possible effects of this deficit by reducing financial instability.

This optimal solution requires, however, that policies and other instruments be set without binding constraints or costs. The optimal fiscal policy (g_p^*) described in the previous figure implies a growing deficit in the periphery with the size of the shock. Hence, if the periphery fiscal stance is constrained by an upper bound, this threshold will more likely be binding in case of a stronger shock, i.e., $\bar{g}_p < g_p^*$. The characteristic of the pandemic shock is its abnormal size so that, in this case, the constraint tends to be binding and the first best cannot be achieved. In our monetary union affected by the pandemic, a constrained second best emerges as the optimal policy.

To introduce a flexible-target approach[26], we define a simple quadratic welfare function:

(3) $\qquad L = \frac{a}{2}(p - p^T)^2 + \frac{1}{2}(x_c^2 + x_p^2) + \frac{b}{2}\theta^2$

Once the policymaker is committed to $p = p^T$, the welfare function (3) shows that there are three targets and two instruments available, given that g_p is constrained by $\bar{g}_p < g_p^*$. The lack of instruments implies that policies are facing trade-offs.

The solution is illustrated in Figure 7. The optimal constrained solution implies that, by assumption, periphery fiscal policy (g_p^C) is smaller than in the case of the optimal unconstrained solution, i.e., $g_p^C = \bar{g}_p < g_p^*$, as the fiscal constraint is binding. In minimising (3) and being constrained by $\bar{g}_p$, the policymaker should choose between stabilising financial instability or reducing the periphery output gap. Indeed, point C' shows that the periphery output gap is minimised under the given constraints, at the cost of allowing the largest financial instability given the size of the shock. In point C'', the opposite happens. Solution C' would be optimal if $b = 0$ in (3), that is, if there were negligible losses due to the financial instability of the monetary union; vice versa C'' would be optimal if $b = \infty$, that is, if there was a very high probability of breakdown of the monetary union due to its financial stability. As to these two extreme cases, a more realistic one is given by a strictly positive but finite b. In this last case, the optimal solution would be in between C' and C'', e.g., in point C. The PP line indicates the optimal use of the macroprudential instrument for any given fiscal constraint. Denoting the optimal constrained policies with g_c^C and δ^C, we observe that $g_c^C < g_c^*$ and $\delta^C < \delta^*$. Although these policies are consistent with $x_c^C = 0$, they lead to financial instability and a recession in the periphery. The sizes of these negative outcomes are proportional to the fiscal space constraint, i.e., $g_p^* - \bar{g}_p$.

In a nutshell, the model illustrates how fiscal constraints can make the pandemic shock adversely hit countries with limited fiscal capacity and create financial instability for the entire monetary area that macroprudential instruments cannot eliminate. The negative effects are proportional to the difference between g_p^* and $\bar{g}_p$. Since g_p^* is dependent on the size of the shock, the existence of an upper limit for the fiscal policy ($\bar{g}_p$) implies that the second-best allocation is more likely the greater the shock.

---

[25] An analytical derivation of the model outcomes is available upon request. Here, we just provide a graphical illustration of our main point.

[26] This approach should be selected as neither the first best nor the second best are achievable through a fixed-target approach when the fiscal constraint is binding.

Figure 7: The effects of a pandemic shock (constrained fiscal policy in the periphery)

Source: Authors' elaboration.

Notes: The figure illustrates the financial stability conditions in the monetary union (FF) and the zero-output gap in the periphery locus (PP) when the economy is hit by a large pandemic shock (so that fiscal policy constraints are binding in the periphery.)

These results help us formulate our main policy conclusion: a transfer from the core to the periphery can be used as an additional policy instrument. In such a case, a positive transfer (proportional to the pandemic shock) can restore the first-best solution. Following the Tinbergen-Theil approach, the intuitive justification of this conclusion is quite trivial, because an additional instrument is introduced re-equilibrating the number of targets and instruments. However, when the transfer also shows a binding upper limit because the shock is too large or because of political unfeasibility, the solution is in between the constrained case and the first best. The core output is fully stabilised, the periphery shows a mild recession, and the union faces a mild risk of financial instability.

The model thus rationalises the idea expressed in Section 3. A policy mix is required to alleviate the cost of shocks in the union. Optimal policies require a coordinated action of fiscal and monetary authorities. The former authority should stabilise the output gap while the latter should keep financial stability under control by specifically offsetting the risk of financial dominance and by keeping inflation under control. However, fiscal constraints require a different policy mix, where a mild risk of financial instability cannot be eliminated, and the periphery suffers heavier negative consequences from the common shock. In this setting, transfers from the core to the periphery can alleviate the negative impact of pandemics. The long-run implications are that the stability of the euro area depends on the instruments that eliminate the constraints on fiscal policies (e.g., high government debt) and/or favour centralised transfers from countries inside the area.

5. CONCLUDING REMARKS

European institutions responded promptly to the pandemic crisis with an appropriate fiscal and monetary policy mix. The Commission has launched pan-European emergency and investment plans, with the most important being based on the NG-EU framework. The expansionary fiscal policy both at the national and central level was anticipated by an accommodative monetary policy. We maintain that, although appropriate, this policy mix might create conditions for strengthened financial and fiscal dominance. In this case, the ECB should be constrained to "rescue" the various financial market actors, among which are the national governments, even in the post-pandemic period. The medium-/long-term consequences could be greater and potentially unmanageable financial instability and, in particular, unsustainable government debts.

The likelihood of this adverse scenario is inversely related to the success of the NG-EU investment plan and other national plans in spurring robust economic growth, specifically for the weakest economies of the euro area. Only robust growth can validate the sustainability of public finances of some European countries at higher nominal interest rates and with the ECB's lower monthly purchase of government bonds, as well as the sustainability of risky financial positions taken by other actors in the financial market. Note that these last positions are necessary for allocating a significant part of European wealth to financial assets issued by productive activities and required to support innovative and environmentally sustainable investments. More generally, a rapprochement between the composition of private financial wealth and the composition of the firms' demand for financing is necessary to support macroeconomic growth and to free public resources, thus allowing for a reduction in government debt and – in the meantime – a reduction in poverty and inequality.

Our considerations emphasise that European institutions should limit the conditions for the reproduction of fiscal and financial dominance as the crucial factor for paving the way for sustainable (macroeconomic, environmental and social) development in the post-pandemic period. In this respect, the lesson to draw for the future is dual.

Regarding the specific risks of fiscal dominance, the return to normality cannot take the form of the pre-pandemic model with monetary policy as "the only game in town" and with the national fiscal policies constrained by the 2011-2013 rules of the Stability and Growth Pact. However, the decisive solution should not be sought in changing the European fiscal rules, or – what is more – in maintaining that centralised fiscal rules are unnecessary in an uncompleted economic and monetary union such as the euro area. It would be better to pursue a two-arm architecture: i) a centralised fiscal policy with a union debt as the most appropriate tool to cope with macroeconomic stabilisation, and ii) a monetary policy able to limit future conditions of fiscal dominance without causing recessionary impacts even in the most fragile economies. As a prerequisite, this design requires to cope with the problem of the sustainability of the highest national government debts through forms of partial mutualisation compatible with the gradual building of a union debt. The long-term alternative is just the restructuring of the most vulnerable national debts.

Regarding the risk of financial dominance, the pre-pandemic bank-centric model should be replaced with the integration of market-based sources of firms' financing possibly exploiting a common European capital market. The resistance to the completion of the Banking Union and to the implementation of the legal setting offered by the Capital Markets Union is often ideological rather than being based on economic arguments (e.g., costs/benefits). For instance, the Banking Union process has remained incomplete due to the ill-founded opposition between risk sharing and risk reduction; and the refusal of several small and medium European firms to make recourse to market debt and to issue equities is due to the protection of rigid property rights and firms' one-person

governance. However, despite criticisms, a glimmer of optimism can be indicated by the conduct of macroprudential monetary rules. These rules were often counter-cyclical and incentivised the majority of European banks to strengthen their capital requirements and to efficiently manage their non-performing exposures.

The pandemic crisis is a great challenge for the global economy, one to which European institutions, unlike in the past, have been able to respond promptly. The newly designed fiscal/monetary mix has contained the pandemic's effects and has proposed to relaunch the economy with the NG-EU. Nevertheless, there is still doubt concerning the post-pandemic evolution associated with the potential reproduction of policies feeding stronger and more distortionary financial and fiscal dominance. In a kind of virtuous/vicious circle, the success/failure of the plan in the long run would be based on a positive/negative possibility to overcoming resistance, often ideological, to completing the union process and to institutionalising the European response to the great global shocks. Needless to say, the virtuous circle is necessary for overcoming the shocks that will be more and more frequent in an increasingly turbulent world economy.

REFERENCES

- Acocella, N., Di Bartolomeo, G. and Tirelli, P. (2007). "Monetary conservatism and fiscal coordination in a monetary union". *Economics Letters*, 94(1): 56-63.

- Baldwin, R. and Giavazzi, F. (2015). *The Eurozone Crisis: A Consensus View of the Causes and a few Possible Remedies*. London: Centre for Economic Policy Research.

- Bańkowski, K., Ferdinandusse, M., Hauptmeier, S., Jacquinot, P. and Valenta, V. (2021). "The macroeconomic impact of the Next Generation EU instrument on the euro area". *Occasional Paper Series*, No. 255, European Central Bank, Frankfurt, Germany.

- Beetsma, R. M. W. J., and Bovenberg, L. A. (1998). "Monetary union without fiscal coordination may discipline policymakers". *Journal of International Economics*, 45(2): 239-258.

- Belke, A. (2012). "3-year LTROs – A first assessment of a non-standard policy measure". European Parliament, Policy Department A: Economic and Scientific Policy.

- Benigno, P., Canofari, P., Di Bartolomeo, G. and Messori, M. (2020). "Theory, evidence, and risks of the ECB's Asset Purchase Programme". Study for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, available at:
  https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/652746/IPOL_IDA(2020)652746_EN.pdf.

- Benigno, P., Canofari, P., Di Bartolomeo, G. and Messori, M. (2021). "The ECB's measures in support of the COVID-19 crisis". Study for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, available at:
  https://www.europarl.europa.eu/cmsdata/230559/LUISS_formatted.pdf.

- Blanchard, O. (2019). "Public debt and low Interest Rates". *American Economic Review*, 109(4): 1197-1229.

- Blanchard, O., Leandro, Á. and Zettelmeyer, J. (2020). "Revisiting the EU fiscal framework in an era of low interest rates". Paper presented at the European Stability Mechanism - Conference Area, 26 February 2020, Luxembourg.

- Brunnermeier, M. (2016). *Financial Dominance*. Paolo Baffi's Lectures on Money and Finca, Bank of Italy, Rome.

- Buti M. and Messori, M. (2020a). "Next Generation EU: An interpretative guide". *SEP Policy Brief*, June, n. 29: 1-12. Now also in Messori M., *Recovery Pathways: The difficult Italian convergence in the Euro Area*, Bocconi University Press, Milan, Italy: 215-226.

- Buti M. and Messori, M. (2020b). "Implementing the Recovery and Resilience Plans: The case of Italy". *SEP Policy Brief*, November, n. 39: 1-18. Now also in Messori M., *Recovery Pathways: The difficult Italian convergence in the Euro Area*, Bocconi University Press, Milan, Italy: 237-245.

- De Grauwe, P., and Ji, Y. (2013). "From panic-driven austerity to symmetric macroeconomic policies in the eurozone". *Journal of Common Market Studies*, 51(S1): 31–41.

- Di Bartolomeo, G., D'Imperio, P. and Felici, F. (2020). "The fiscal response to the Italian COVID-19 crisis: A counterfactual analysis". MEF Internal Staff Document, Ministry of Economy and Finance, Italy, Rome.

- Di Bartolomeo, G. and D'Imperio, P. (2021). "A macroeconomic assessment of the National Recovery and Resilience Plan in Italy". MEF Internal Staff Document, Ministry of Economy and Finance, Italy, Rome.

- Draghi, M. (2017). "European banking supervision three years on". Welcome remarks at the second ECB Forum on Banking Supervision, Frankfurt, 7 November.

- Enria, A., Farkas, A. and Overby, L. L. J. (2016). "Sovereign risk: Black swans and white elephants". *European Economy: Banks, Regulation and the Real Sector*, 2016(1).

- European Central Bank. (2019). "The impact of global value chains on the euro area economy". ECB Working Group on Global Value Chains, ECB Occasional Paper No 221/April 2019

- European Central Bank .(2020). *Financial Stability Review*. Frankfurt, November.

- European Commission. (2017). "Communication to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions on completing the Banking Union". COM (2017) 592 final, 11 October.

- European Parliament. (2020). "The ECB's Asset Purchase Programmes: Experience and Future Perspectives". Study for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, available at: https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652749/IPOL_STU(2020)652749_EN.pdf.

- European Parliament (2021). "Recalibrated monetary policy Instruments to address the economic fallout from COVID-19". Study for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, available at: https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662899/IPOL_STU(2021)662899_EN.pdf.

- Lannoo, K. and Thomadakis, A. (2019), "Rebranding capital markets union: A market finance action plan". CEPS-ECMI Task Force Report, Centre for European Policy Studies, Brussels.

- Messori, M. (2019). "The flexibility game is not worth the new ESM". Luiss School of European Political Economy, Working Paper 15/2019; now also in Messori (2021).

- Messori, M. (2021). *Recovery Pathways: The Difficult Italian Convergence in the Euro Area*. Bocconi University Press, Milan, Italy.

- Micossi, S. (2017). "A blueprint for completing the Banking Union". CEPS Policy Insights, No 2017/42, November 2017, CEPS, Brussels.

- OECD. (2021). "Global value chains: Efficiency and risks in the context of COVID-19". Tackling Coronavirus (COVID-19), Contributing to a Global Effort, OECD, Paris.

- Pfeiffer, P., Roeger, W. and in 't Veld, J. (2020). "The COVID19-pandemic in the EU: Macroeconomic transmission and economic policy response". CEPR, Covid Economics, Vetted and Real-Time Papers, 30: 120-145.

- Pfeiffer, P., Varga, J. and in 't Veld, J. (2021). "Quantifying spillovers of Next Generation EU investment". European Economy, Discussion Paper No. 144.

- Schivardi, F., and Romano, G. (2020). "A simple method to estimate firms' liquidity needs during the COVID-19 crisis with an application to Italy". CEPR, Covid Economics, Vetted and Real-Time Papers, 35: 51-69.

- Schnabel, I. (2020). "Going negative: the ECB's experience". Roundtable on Monetary Policy, Low Interest Rates and Risk Taking at the 35th Congress of the European Economic Association, Frankfurt.

- Smets, F. (2014). "Financial stability and monetary policy: How closely interlinked?" *International Journal of Central Banking*, 10(2):263-300.

- Stiglitz, J. E. (2020), "The pandemic economic crisis, precautionary behaviour, and mobility constraints: An application of the dynamic disequilibrium model with randomness". NBER Working Paper, n. 27992, October.

- Ueda, K., and Valencia, F. (2014). "Central bank independence and macro-prudential regulation". *Economics Letters*, 125(2): 327-330.

- Woodford, M. (2020). "Effective demand failure and the limits of monetary stabilization". National Bureau of Economic Research, Working Paper No. 27768.

Differently from past episodes, the European institutions responded to the pandemic shock with an appropriate policy mix. However, the expansionary convergence between monetary and fiscal policies is strengthening the role and the possible distortionary effects of financial dominance. Due to the consequent growing imbalances in financial markets, European institutions could deem it necessary to abandon the current policy approach and to re-attribute the function of the "only game in town" to monetary policy. However, in the post-pandemic context, the ECB could hardly act again as a last-resort player. Hence, it is convenient to pursue the policies that are compatible with sustainable post-pandemic development.

ANNEX

The stylised model is composed of two equations, which describe the financial stability of the monetary union (θ) and the dynamics of the output gap (x_i) in two subsets of countries of the monetary union ('c' core and 'p' periphery). Formally,[1]

(1A) $\quad \theta = -(p - p^e) + \rho_p g_p + \delta$

(2A) $\quad x_i = (p - p^e) + g_i + tr_i + \delta - u \qquad i \in \{c, p\}$

Equation (1A) describes the ex-post leverage augmented by the effects of instability due to excessive deficits (g_p) in the periphery. The parameter ρ_p captures the relevance of fiscal dominance for the achievement of financial stability. Higher unexpected inflation $(p - p^e)$ tends to reduce the debt overhang. The variable δ measures the impact of the central bank's macroprudential policies or how much the central bank internalises the potential effects on financial stability due to the periphery's fiscal policy. Equation (2A) determines the output in the core and periphery, which is affected by national fiscal policies and the common macroprudential policies. In the equation, u captures the effects of the pandemic shock.[2]

Looser macroprudential policy (δ) increases the union aggregate output and financial instability. One can think of δ as a macroprudential instrument positively affecting credit growth or negatively affecting the cost of finance. We assume that $\rho_p < 1$. This implies that macroprudential policies are relatively more effective in reducing financial instability compared to restrictive fiscal policies in the periphery.

The term tr_i in equation (2A) is a potential transfer from the core to the periphery, i.e., $tr_p = tr = -tr_c > 0$.

We define a simple quadratic welfare function for the monetary union:

(3A) $\quad L = \frac{a}{2}(p - p^T)^2 + \frac{1}{2}(x_c^2 + x_p^2) + \frac{b}{2}\theta^2$

We assume that monetary policy is credibly committed to archiving the inflation target (p^T) as its primary objective, so that $p = p^T = p^e$. Assuming $tr_i = 0$, once the policymaker is committed to $p = p^T$, the welfare function (3) exhibits three fixed targets $(x_c = 0, x_p = 0, \theta = 0)$ and three potential independent instruments (g_c, g_p, δ).

Optimal policies imply:

(4A) $\quad \delta = -\frac{g_c}{2+b} - \frac{1+b\rho_p}{2+b}g_p + \mp\frac{2u}{1+b}$

(5A) $\quad g_c = -\delta + tr + u$

(6A) $\quad g_p = -\frac{1+b\rho_p}{1+b\rho_p^2}\delta - \frac{tr}{1+b\rho_p^2} + \frac{u}{1+b\rho_p^2}$

Solving (4A)-(6A), we get:

---

[1] All variables are expressed as deviation from the long-run (or natural) equilibrium.

[2] The shock can be easily generalised to consider asymmetric effects. This does not affect our analysis.

(4A) $\delta^* = \frac{(u-tr)\rho_p}{1-\rho_p}$

(5A) $g_c^* = \frac{u+(1-2\rho_p)tr}{1-\rho_p}$

(6A) $g_p^* = \frac{u-tr}{1-\rho_p}$

which correspond to the first best (with $tr = 0$), i.e.,

(7A) $\theta^* = x_c^* = x_p^* = 0$

Fixing $g_p = \bar{g}_p < g_p^*$, equation (4A) becomes

(8A) $\delta = -\frac{g_c}{2+b} - \frac{1+b\rho_p}{2+b}\bar{g}_p + \mp\frac{2u}{1+b}$

Solving (5A) and (8A), we obtain

(9A) $\delta^C = -\frac{1+b\rho_p}{1+b}\bar{g}_p - \frac{1}{1+b}tr + \frac{1}{1+b}u$

(10A) $g_c^C = \frac{1+b\rho_p}{1+b}\bar{g}_p + \frac{2+b}{1+b}tr + \frac{b}{1+b}u$

(11A) $g_p^C = \bar{g}_p$

i.e.,

(12A) $\theta^C = -\frac{1-\rho_p}{1+b}\bar{g}_p - \frac{1}{1+b}tr + \frac{1}{1+b}u$

(13A) $x_c^C = 0$

(14A) $x_p^C = \frac{1-b\rho_p}{1+b}b\bar{g}_p + \frac{b}{1+b}tr - \frac{b}{1+b}u$

Equations (12A)-(14A) are the solution illustrated in Figure 7, where $tr = 0$.

Finally, if $g_p = \bar{g}_p < g_p^*$ holds, it will be easy to verify that an optimal transfer can restore the first best, i.e.,

(13A) $tr = u - (1 - \rho_p)$