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# **Stagflation and fragmentation: the euro area at the crossroads**

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Monetary Dialogue Papers, June 2022



# Stagflation and fragmentation: the euro area at the crossroads



Policy Department for Economic, Scientific and Quality of Life Policies  
Directorate-General for Internal Policies

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# Stagflation and fragmentation: the euro area at the crossroads

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## **Abstract**

The euro area may be about to experience something new: fragmentations in its financial markets in a situation characterised by a high inflation rate. In such a scenario, we argue that the euro area has only two options. First, countries facing tight financing conditions could apply for European aid procedures at the European Stability Mechanism to activate the Outright Monetary Transactions programme. Second, these same countries could find protection in the strengthening of a central fiscal capacity and in compliance with new country-specific central fiscal rules. The selection of one of these alternative options would lead to designing a very different architecture for the European Union. We are instead sceptical about the statements recently made by some members of the ECB's Governing Council on the possible utilisation of new monetary policy tools.

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## LIST OF ABBREVIATIONS

<b>APP</b>	Asset purchase programmes
<b>CDS</b>	Credit default swap
<b>ECB</b>	European Central Bank
<b>EFSF</b>	European Financial Stability Facility
<b>EMU</b>	Economic and Monetary Union
<b>ESM</b>	European Stability Mechanism
<b>EU</b>	European Union
<b>GDP</b>	Gross domestic product
<b>HICP</b>	Harmonised index of consumer prices
<b>NGEU</b>	Next Generation – EU
<b>OMT</b>	Outright monetary transactions
<b>PEPP</b>	Pandemic emergency purchase programme
<b>PSPP</b>	Public sector purchase programme
<b>REPO</b>	Repurchase agreement
<b>SURE</b>	Support to mitigate Unemployment Risks in an Emergency
<b>TFEU</b>	Treaty on the Functioning of the European Union
<b>TLTRO</b>	Targeted longer-term refinancing operations
<b>US</b>	United States
<b>WIT</b>	“Whatever It Takes”



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## EXECUTIVE SUMMARY

- **The euro area has experienced recurrent fragmentations in its financial markets.** However, **nowadays the risk of fragmentation is emerging in a specific situation:** a combination of high inflation rate and economic stagnation, the so-called **stagflation**.
- **Descriptive empirical evidence shows that this new risk of fragmentation is pronounced in the euro area sovereign debt markets.** The recent shocks (persistence of the pandemic impact, and the Russian invasion of Ukraine) can worsen the trend.
- **The empirical evidence indicates that these shocks are also increasing the redenomination risks in some fragile countries of the euro area.**
- **Policy tools can limit fragmentation in the euro area and help its fragile countries handle the redenomination risk,** without returning to the distortionary “fiscal dominance” that characterised the 2015-2018 period.
- **In principle, the first policy tool could be offered by the activation of the OMT.** The euro area countries, affected by an illiquidity crisis, should apply for a European aid programme to meet the preventive conditions required to access the OMT.
- **This means that the OMT’s utilisation would imply that a euro area country with liquidity difficulties accepts the stigma and the consequences of the hard conditionality imposed by the ESM for accessing the aid programme.** The ESM could also be entitled to assess ex-ante the insolvency of the applicant’s sovereign debt.
- **Recent unsuccessful initiatives implemented by the ESM indicate that it is unlikely that a euro area country would apply for the ESM’s programmes if it was not on the brink of bankruptcy.** However, in this case, OMT cannot be activated.
- **Given the current high inflation rates in the euro area, it is also unlikely the ECB will propose unconventional and expansionary monetary policy tools again.** The end of the net purchases of government bonds through the PEPP and the APP, and the expected increases in the ECB’s policy interest rates during the upcoming summer testify that, independently of our assessment, programmes such as the PEPP and the PSPP cannot support national expansionary fiscal policies in the euro area and the sustainability of the consequent sovereign debt.
- **It remains that a viable way to reduce the risks of fragmentation and redenomination in the euro area, without returning to “fiscal dominance”, is the strengthening of the EU’s temporary central fiscal capacity.**
- **All the other monetary policy alternatives to offset financial fragmentation would lead to unwanted long-term consequences for the price stability objective.** In this respect, we are somehow sceptical about the statements recently made by authoritative members of the ECB’s Governing Council on the possible utilisation of new monetary policy tools.

## 1. INTRODUCTION

The euro area has experienced recurrent fragmentations in its financial markets. However, in the past this risk arose in contingencies of subdued inflation rates. Nowadays, it could instead emerge in a situation characterised by high inflation, which calls for a restrictive monetary policy that will withdraw the asset purchase programmes and consider raising the policy interest rate. Although the complexity and uncertainty of the current macroeconomic situation require appropriate considerations on the time and pace of monetary policy tightening, it is not impossible that a monetary policy stance consistent with price stability and the achievement of the quantitative inflation target over the medium horizon triggers financial fragmentation in the euro area for their effects on the sovereign debt risk.

In this paper, we argue that to comply with the European Treaties and not to subordinate monetary policy to fiscal policy (fiscal dominance), there are two options to choose from. First, countries facing tight financing conditions could apply for European aid procedures at the European Stability Mechanism (ESM) to activate the outright monetary transactions (OMT) programme. Second, they could be fully protected by the strengthening of a central fiscal capacity and by compliance with new country-specific central fiscal rules.<sup>1</sup> It should be clear, however, that adopting one or the other option would have a profoundly different meaning and would design a different type of architecture for the European Union (EU).

The other monetary policy alternatives would lead to unwanted long-term consequences for the price stability objective. In this respect, we are sceptical about the statements recently made by authoritative members of the European Central Bank's (ECB's) Governing Council. President Christine Lagarde (2022) maintained that "we are ready to use a wide range of instruments to address fragmentation, including the reinvestment of our portfolio held under the pandemic emergency purchase programme." In an April 2022 interview, Executive Board member Isabel Schnabel added that it would be possible to create "tailor-made instruments very quickly" to provide "targeted assistance for individual euro area countries". In our view, these initiatives are either insufficient or ill-grounded in the current economic scenario characterised by high inflation. A significant implementation of these tools would imply returning to "fiscal dominance".

The rest of the paper is structured as follows. Section 2 describes the evolution of stress indicators on the sovereign debt risk and illustrates the connection with financial market fragmentation. Section 3 compares the different roles played by the asset purchase programmes (APP) and the OMT and their possible utilisation in handling financial market fragmentation. Section 4 concludes the paper by delineating the challenges that lie ahead in the various options for conducting monetary policy.

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<sup>1</sup> It is worth mentioning that both options would meet the European Treaties' provisions on the European Central Bank's (ECB's) primary objective (Article 127, TFEU) and on the prohibition on monetary financing (Article 123, TFEU).

## 2. FRAGMENTATION IN THE EMU: LOOKING AT THE DATA

In a monetary union, lack of confidence in national debt sustainability and country-financial market fragmentation are often two sides of the same coin, undermining the transmission mechanisms of monetary policy. Financial fragmentation is driven by a high home bias in the holdings of financial assets and, specifically, in the sovereign-debt concentration in the asset side of national banks' balance sheets. Increases in the default probability of some countries then imply significant expected losses for the relative national banking sectors, which in turn lead to increases in lending rates and cause funding problems for national firms and households. In such cases, monetary policy loses control of its transmission mechanisms, and the policy rate in a monetary union could be unnecessarily high for countries affected by a debt crisis.

The euro area has experienced recurrent fragmentations in its financial markets since the outbreak of the global financial crisis (2007-2009) and the doom-loop between its sovereign debt crisis and the crisis of its banking sector (2010-2013). The partial implementation of the Banking Union and Capital Markets Union processes was unable to overcome the problem, which was worsened by the overburdening of the ECB's role (2015-2018) and the related fiscal and financial "dominance" (see Benigno *et al.*, 2021a). The euro area's financial fragmentation, in place since the start of the COVID-19 pandemic, was reversed by a set of ECB monetary policy ultra-expansionary measures (pandemic emergency purchase programme: PEPP; strengthened targeted longer-term refinancing operations: TLTRO III), and by the EU's decision to implement a central fiscal capacity centred on the temporary Support to mitigate Unemployment Risks in an Emergency (SURE) and, mainly, on the sizeable programmes of the Next Generation – EU (NGEU). This new policy mix avoided the large divergences in the economic cycles across EU countries and any dangerous domino effects.

The 2021 economic rebound in the United States (US) and the euro area signalled that the peak of the most severe economic depression experienced in peacetime in the last two centuries had been overcome in just a few quarters. In the US and – at a slower pace – in the EU, the new phase was supported by increases in aggregate demand. However, the medium-term negative impact of the pandemic on logistics and international value chains, the new waves of COVID-19 in China, and the Russian invasion of Ukraine have determined persistent bottlenecks on the supply-side and a strong increase in the prices of energy, other raw materials and food. In this scenario characterised by high inflation and by a growing and asymmetric risk of economic stagnation,<sup>2</sup> radical uncertainty and lack of confidence in national debt sustainability are again fuelling the fragmentation of financial markets in the euro area.<sup>3</sup> This threat is reinforced by the restrictive stance gradually introduced by the ECB since March 2022 to contrast inflation pressures and to follow the US monetary policy.

The deepening of financial fragmentation and the disruption in the transmission of monetary policy risk becoming medium-term features of the euro area's financial markets. Despite the low effectiveness of a restrictive monetary policy to overcome the supply-side bottlenecks and the geo-political pressures on energy prices, the ECB cannot further postpone its reaction to an inflation rate well above its mandate of price stability and to an increase in the structure of market interest rates due to the contagion from the US. A "wait-and-see" position would put the ECB behind the curve of market

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<sup>2</sup> In April 2022, the euro area's core inflation jumped to 3.5% with a monthly increase of 0.5 percentage points, whereas the estimate of the Harmonized Index of Consumer Prices (HICP) reached 7.4% on a year basis. At the same time, the expected growth rates of the euro area's main countries were significantly revised downwards (see European Commission 2022). It is apparent that, leaving aside the dramatic human and social costs suffered by the Ukrainian people, the EU is paying a higher economic cost than the US because of the war at its eastern border and its high dependence on energy and raw material imports from Russia (and from Ukraine). Hence, although the inflationary threat remains less worrying in the euro area than in the US, the European risk of stagflation is higher.

<sup>3</sup> Since June 2021, the redenomination risk has increased for the euro area's most fragile countries; and various indicators have worsened since April 2022. We will examine the empirical evidence in sub-Sections 2.1, 2.2, and 2.3.

interest rates and would thus de-anchor inflation expectations from the target. The ECB has already ended the net asset purchases based on the PEPP and is closing those based on its 2015 APP. The TLTRO III too will end by June 2022. Moreover, the ECB will increase the policy interest rates by – at least – 50 basis points by the end of this summer and will likely add a further 50-basis-point increase by the end of the year. In this scenario, the euro area Member States with a high stock of public debt could experience tight financing conditions and medium-term liquidity problems.<sup>4</sup>

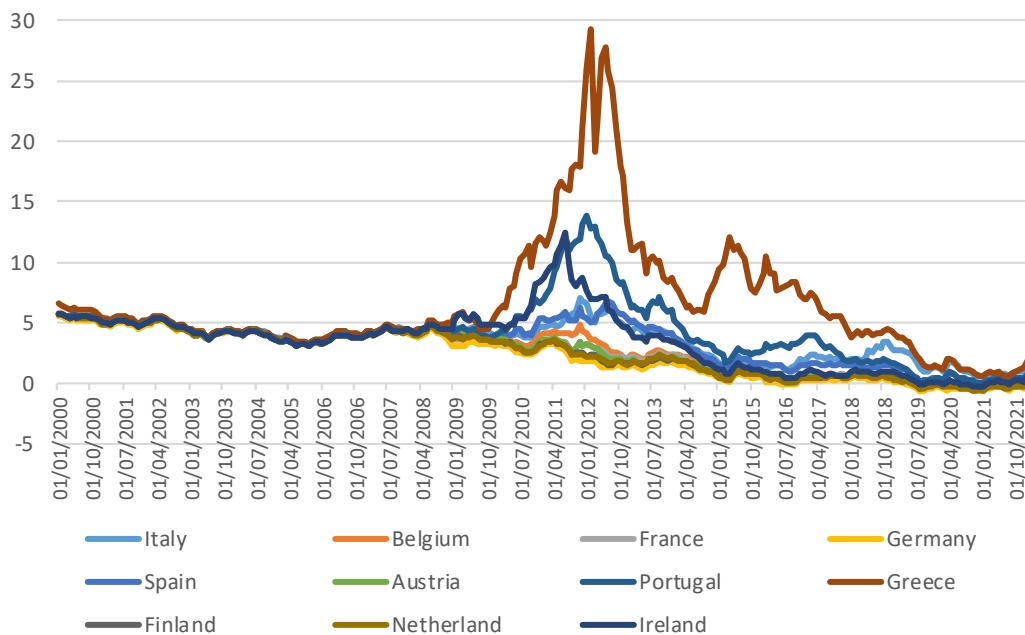
Our assumption is that episodes of stress in a sovereign debt market can produce fragmentation in money and credit markets across euro area countries so that the singleness of monetary policy is impaired, i.e. divergences arise in the transmission mechanisms of monetary policy. Focusing on the last available data, the rest of this section provides indicators of stress in the sovereign debt market and connects them with divergences in money and credit market interest rates across euro area countries. It also qualitatively illustrates the impact of the OMT and the public sector purchase programme (PSPP), which is a specific branch of APP, on the dynamics of the indicators analysed.

## 2.1. Stress in sovereign debt markets

During the European sovereign debt crisis, spreads in the sovereign debt markets increased significantly, reflecting mainly changes in the national default risks.

Figure 1 shows the 10-year sovereign debt yields for eleven countries belonging to the European Economic and Monetary Union (EMU). The increase in interest rates on sovereign debt started in 2009 and was particularly severe for countries such as Greece, Portugal, Ireland, Italy, and Spain. In these countries, the interest rates on sovereign debt reached their peaks in mid-2011 and mid-2012. The fall from the peaks reflects the “whatever it takes” (WIT) announcement in July 2012. Although far from their peaks, these same interest rates increased during the last months of 2021 and the beginning of 2022.

**Figure 1: Sovereign debt yields in the EMU**

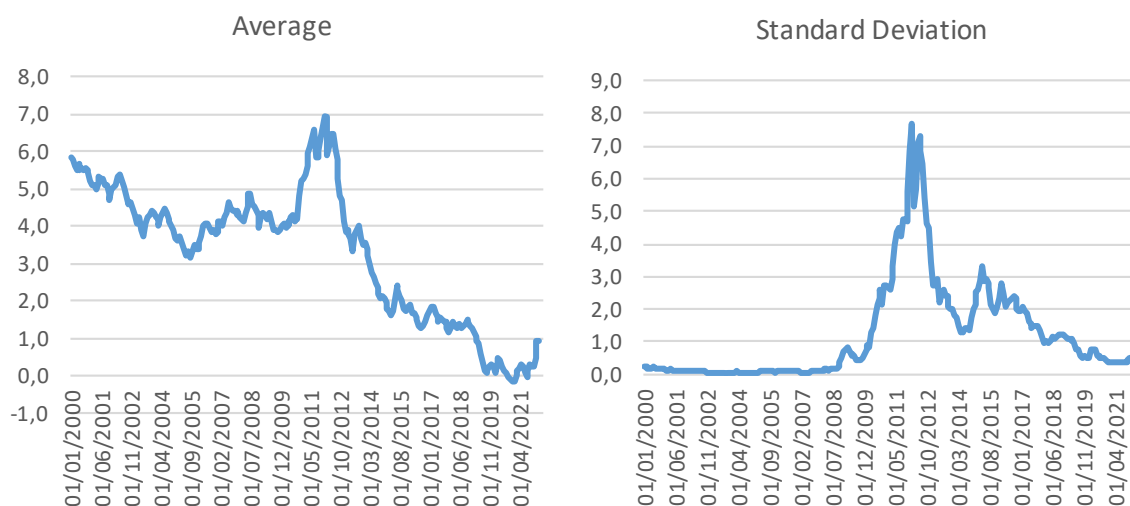


Source: Authors' elaboration of Reuters data.

<sup>4</sup> It is worth stressing that the average duration of the national public debts postpones the liquidity problem. However, the market financing conditions could worsen even in the short term due to negative changes in investor expectations.

Figure 2 shows the average (Panel A) and the standard deviation (Panel B) of the interest rates on 10-year sovereign bonds in the sample of the eleven countries represented in Figure 1. It is interesting to note that this new Figure points out that the standard deviation significantly fell after the WIT announcement, showing the sudden decrease in the default risk for several countries. Conversely, the more gradual fall in the average sovereign debt yields in the area reflects the impact of conventional and unconventional monetary policies.

**Figure 2: Sovereign debt yields: mean and dispersion**

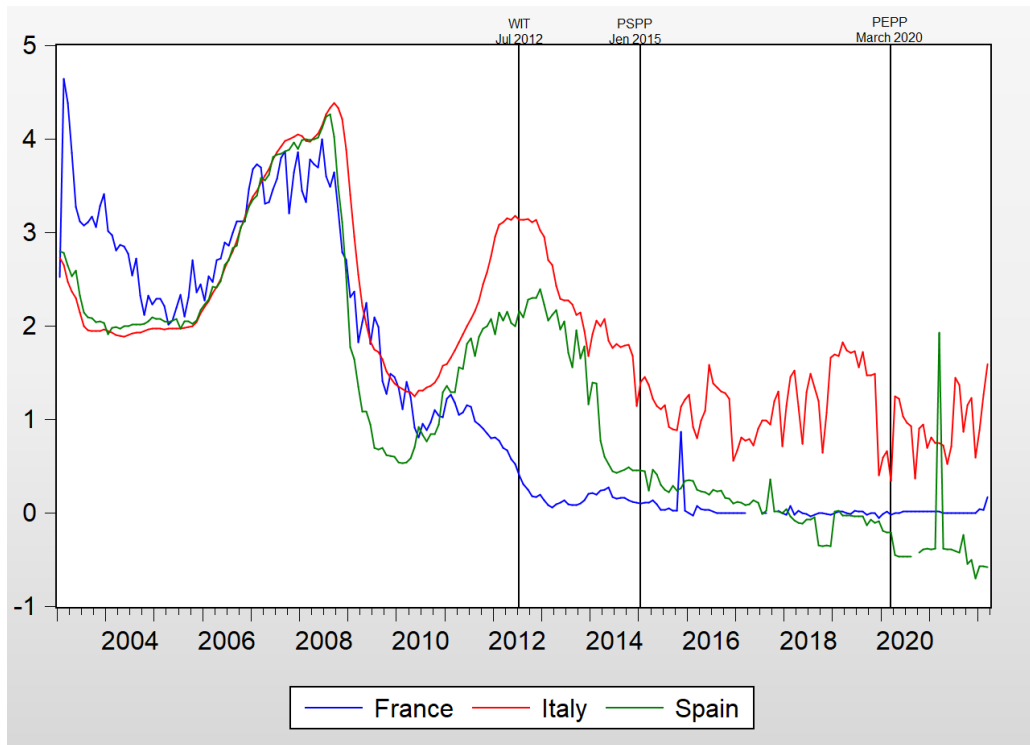


Source: Authors' elaboration of Reuters data.

Notwithstanding the favourable dynamics in the recent decade (2021 and 2022), it is worth noting that there is an increase both in the average interest rate and its dispersion. Specifically, the average interest rate increased from 0.48% to 0.90% between January and February 2022 (a difference of 42 base points), while the standard deviation changed from 0.53 in January 2022 to 0.66 a month later.

## 2.2. Fragmentation in money and credit markets

In this sub-section we illustrate some indicators of market conditions in money and credit markets to show the connection between stress in sovereign debt markets and that in money/credit markets. Due to the home bias in the sovereign debt holdings by national banking sectors, this connection is a proxy of the dispersion in the borrowing/lending conditions across countries. In describing the following Figures, we emphasise the important roles played by the launch of the OMT and by the later implementation of “quantitative easing” policies centred on the PSPP and the PEPP.

**Figure 3: REPO interest rates**

Source: ECB.

Notes: Repurchase agreements, Total original maturity, Outstanding amount business coverage, non-financial corporations, and households (S.11 and S.14 and S.15) sector, denominated in euro.

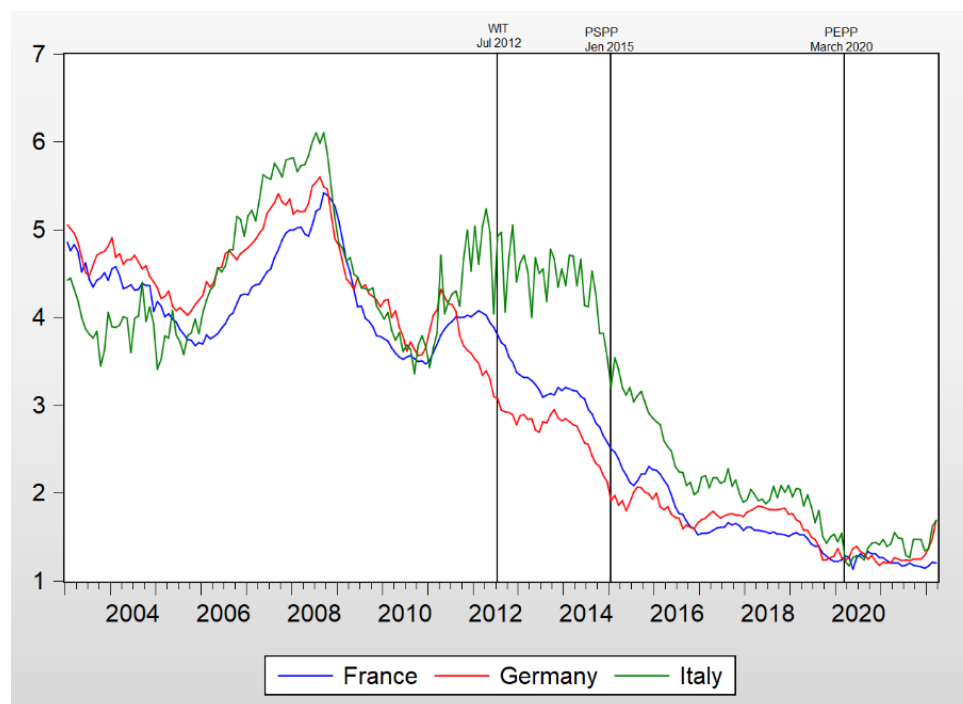
We first look at those short-term forms of financing to non-financial corporations and households based on repurchase agreements (REPO). The data refer to France, Italy, and Spain.<sup>5</sup> Figure 3 clearly highlights the changes in the national dynamics of REPO interest rates before and after the sovereign debt turmoil. Before 2010–2011, the REPO rates in Italy and Spain were close to that in France; after the sovereign debt crises, the differential of REPO interest rates in these same countries recorded a significant increase. In July 2012, before the WIT statement announced the OMT, short-term financing conditions were relatively tight in Italy and Spain and loose in France. After this statement, the national differences fell significantly. The Figure also shows that, after the PSPP announcement (January 2015) and before the pandemic shock (beginning of 2020), the REPO rates continued to significantly decrease in Spain and to weakly decline in Italy, whereas it remained stable in France. In fact, at the end of 2019, the spread between France and Italy was roughly halved, whereas that between France and Spain became negative.

Figure 4 shows the dynamics of the cost of long-term borrowing in Germany, France, and Italy. We consider banking loan rates for both households and non-financial companies. The Figure displays how borrowing costs increased with the global financial crisis (from mid-2007 to mid-2009) and the sovereign debt crisis (from spring 2010 to mid-2012). Since July 2012, the OMT announcement has determined a strong fall of these costs in France, supported the earlier decrease in Germany, and had a more moderate impact in Italy. In fact, German banks already benefited from the severe European aid programmes implemented in the most fragile euro area countries in 2011, which brought the risk of the area's breakdown under control. On the other hand, Italian banks mainly benefited from the implementation of the PSPP in March 2015. In this last respect, the impact was stronger in Italy than in

<sup>5</sup> ECB does not provide data about REPO interest rates for Germany and other EMU countries.

Germany and France due to the larger exposure to national sovereign bonds characterising the Italian banks' balance sheets (see Altavilla et al., 2021). In fact, by increasing sovereign bond prices, the PSPP improved banks' profitability and, consequently, the lending conditions for households and non-financial corporations.

**Figure 4: Cost of borrowing**



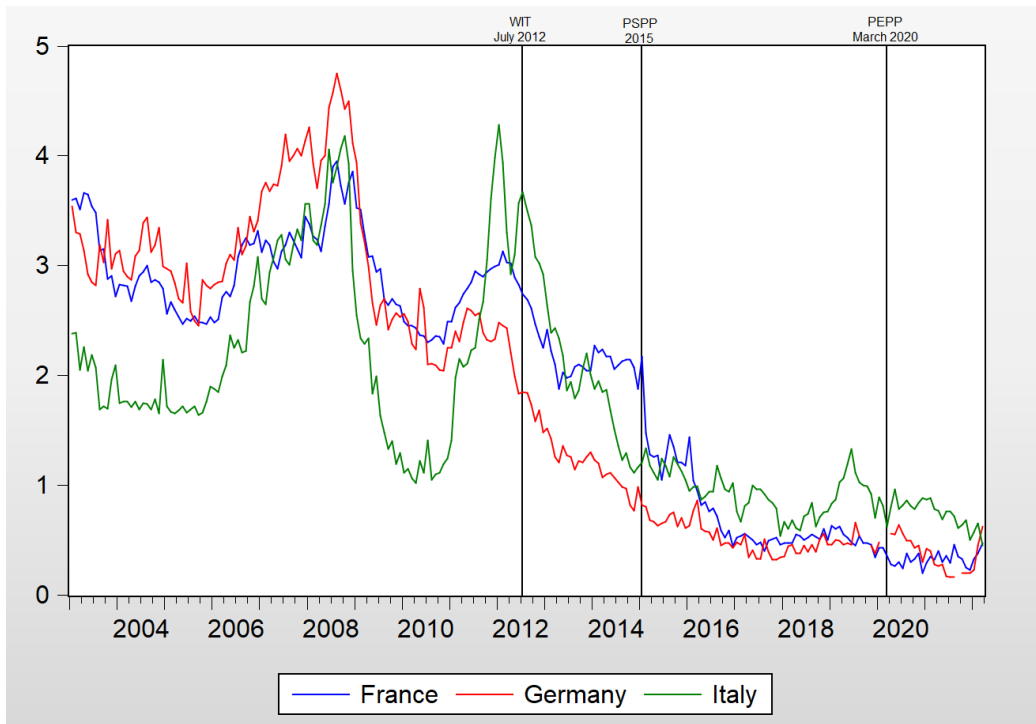
Source: ECB.

Note: Loans to households for house purchase and to non-financial corporations (defined for cost of borrowing purposes, sum of A2C (households), A2A and A2Z (both related to non-financial corporations), Over 1 year calculated by weighting the volumes with a moving average (defined for cost of borrowing purposes), non-financial corporations and households (S.11 and S.14 and S.15).

This last result could be interpreted as the effectiveness of the PSPP with respect to its explicit objective: improving financial conditions for households and corporations. In this perspective, it is interesting to note that the ECB's recent decision to end its unconventional monetary policy is coinciding with non-negligible increases in borrowing costs both in Germany and in Italy.

Figure 5 illustrates the dynamics of the deposit interest rates during the last ten years. In the three countries under examination, the peak was reached during the 2008-2009 period (global financial crisis) and a local maximum during the 2011-2012 period (European sovereign debt crisis). In the last phase, the impact was asymmetric in the sense that the public debt crisis affected Italy more severely than Germany and France, causing more dispersion. The WIT announcement in July 2012 generated strong decreases in deposit rates. The Italian reaction was the most pronounced in the short term, but also the most volatile in the medium term.



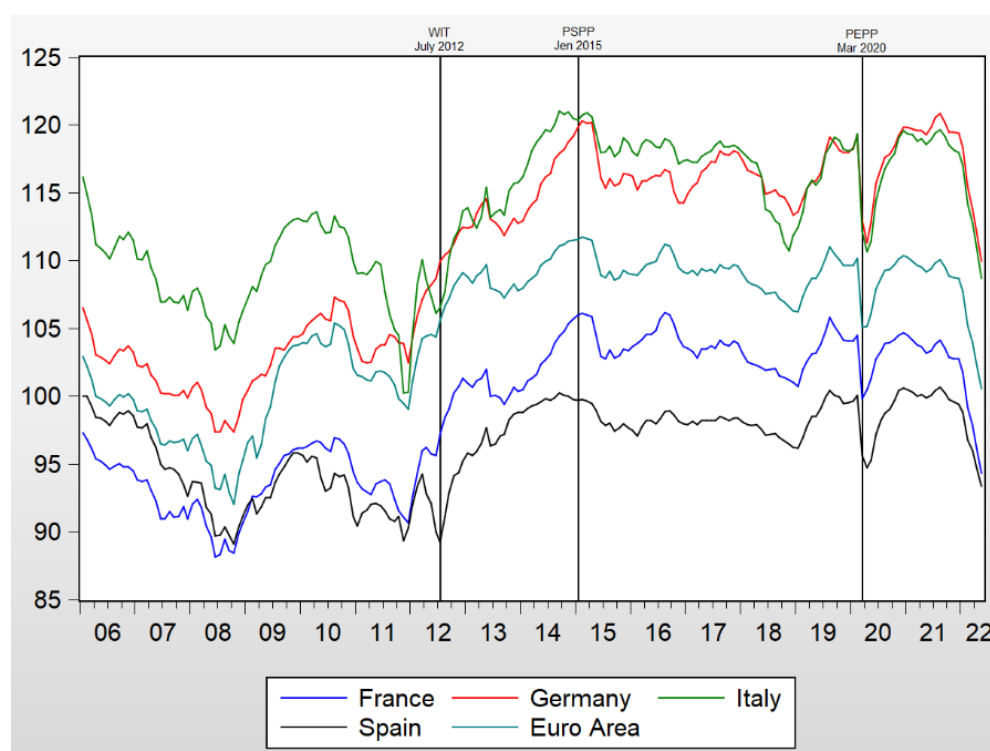
**Figure 5: Cost of deposits**

Source: ECB.

Note: Annualised agreed rate (AAR) / Narrowly defined effective rate (NDER), Credit and other institutions (MFI except MMFs and central banks) reporting sector - Deposits with agreed maturity, over one-year, original maturity, new business coverage, non-financial corporations and households (S.11 and S.14 and S.15) sector, denominated in euro.

The PSPP announcement in January 2015 produced a further decrease in the costs of bank provision. The strongest decreases in terms of deposit interest rates were shown by the French banks; moreover, until the pandemic shock, these costs remained within a narrow band in Germany and France, whereas Italy was an outlier in the 2017-2019 period due to the institutional uncertainty deriving from the rise of populist parties and the formation of an anti-European government. In any case, when interpreting these data, we should consider that, in roughly the same period, the euro area banking sector had to handle growing negative interest rates on the amount of its deposits at the ECB that exceeded the reserve requirements.

Finally, Figure 6 reports the iBoxx bank index for Spain, France, Germany, Italy, and the euro area (assumed as benchmark) to give an overview of the general financing conditions in the euro-area banking sector. The fall in the iBoxx bank index reflects increases in the financial stress. To provide a homogeneous representation of the market conditions for the different national banking sectors, we refer to the index built on the "senior bank bonds." Referring to the senior bonds, we provide a representation of market conditions that partially exclude the short-term market reactions to specific banks. In fact, the banks' junior bonds are the most vulnerable to market sentiment.

**Figure 6: Bank Bond Indexes**

Source: Datastream.

Note: We use the iBoxx EUR bank senior, which aggregates senior bank bonds at different maturities at country level.

As the Figure shows, after the 2008-2009 financial turmoil, euro area banks experienced a worsening in their financial conditions. Conversely, in July 2012, the OMT announcement led to a substantial improvement in the iBoxx bank index, with a rise in prices that specifically benefited the Italian banks and, in the short term, the Spanish banks. This evidence can be related to the perception that the OMT's availability stabilised the national banking sectors even in the case of a high incidence of the national public debts on gross domestic products (GDPs) and a high concentration of the national public debt in the banks' balance sheets. It is worth noting that, differently from the PEPP and the ECB's other initiatives at the beginning of 2020, the PSPP did not imply a persistent rise in the bond index prices. This is not so surprising due to the PSPP's (and even APP's) focus on sovereign bonds in a period in which bank stability was not a profound challenge. However, it can be more surprising that the bond index did not react to the 2016 strengthening of TLTRO III and its increase was not persistent during the pandemic shock.

### 2.3. Fragmentation as the redenomination risk

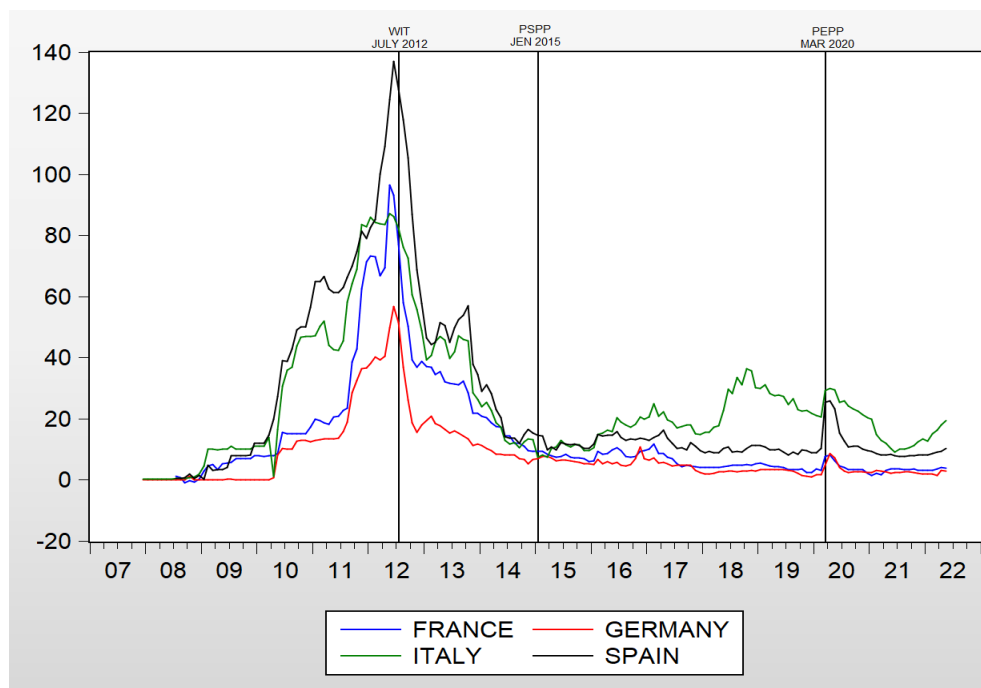
An extreme consequence of the fragmentation in credit and money markets is the possibility that the euro area could break, with the adoption of national currencies and the restoration of national monetary policies. This risk, known as the redenomination risk, can be measured by the risk that an asset denominated in euro can be converted (1 to 1) into a new national currency with a high probability of depreciation. A possible measure to assess this risk is the recently developed Quanto CDS spread, which is determined by the difference between the value of CDSs quoted in US dollar and the value of the correspondent CDSs quoted in euro (De Santis, 2019; Borri, 2019).<sup>6</sup> The Quanto CDS spread

<sup>6</sup> Let us recall that a credit default swap (CDS) allows the transfer of the default risk relative to an asset issued by a third party (for instance, the sovereign debt of a given country) from the holder of this asset to another investor. To obtain this insurance, the holder of the asset

has two positive features: it is available for many countries belonging to the euro area, and it makes possible to compute the redenomination risk dynamics for a long period. The differences between the CDSs that are denominated, respectively, in US dollar and in euro, and that cover the default risk of given euro-area countries, offer interesting measures for the redenomination risk of each of these countries: larger differences imply more expensive hedging and, hence, offer a market benchmark.

The Quanto CDS spread is reported in Figure 7. The Figure shows the redenomination risk dynamics in the main euro area countries starting from the outbreak of the global financial crisis in 2007 to May 2022. At the peak of the financial crisis there were increases in this risk in Italy, Spain, and France. Then, starting in March 2010 (that is, at the outbreak of the euro-area sovereign debt crisis), the redenomination risk had significant increases in Spain, Italy, and France, and started to rise – even if at a slower pace – also in Germany. The redenomination risk reached its peak in the whole set of euro area countries around June 2012, even if at different values.

**Figure 7: Redenomination risk in the EMU**



Source: Reuters.

Notes: For each country, the redenomination risk is estimated by the spread between the CDS denominated in US dollar and the correspondent CDS denominated in euro.

The WIT announcement has determined important reductions of the redenomination risk since the end of July 2012. This risk significantly decreased in all countries, but its downward dynamics were particularly pronounced in Spain, Italy, and France. At the end of 2014, immediately before the launch of the APP and the PSPP, there was a strong convergence between the redenomination risk in the four main euro area countries. The PSPP slightly reduced the average level of the redenomination risk in the euro area until the beginning of the pandemic, except for Italy. As already recalled in the previous subsection, the rise of anti-euro parties and the consequent political instability determined a local peak of the Italian redenomination risk in 2017-2018. Then, the outbreak of the pandemic moderately

must purchase the CDS from the seller who commits itself to repay the buyer in case of the asset's default. Note that, in some cases, the original buyer can transfer the CDS without transferring the original asset. In any case, in this paper we refer to CDSs that cover the default risks of various national sovereign debts in the euro area.

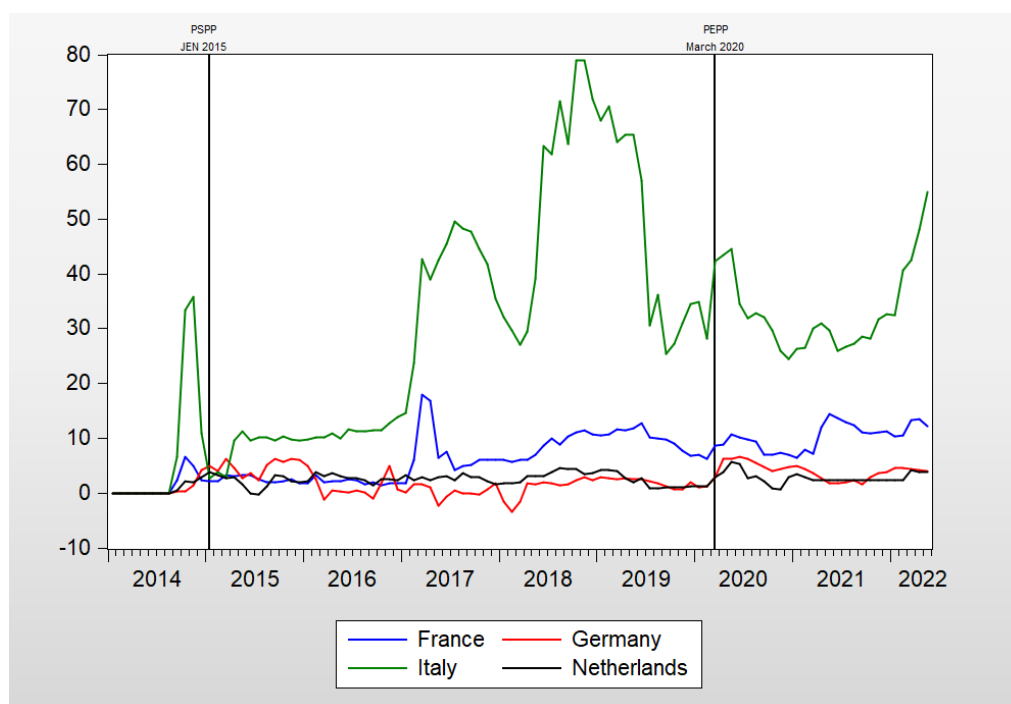
increased the redenomination risk for countries such as Italy and Spain. However, the introduction of the PEPP and other monetary policy initiatives in March 2020 significantly reduced the risk of redenomination in these two countries.

Since mid-2021, the persistent negative impact of the pandemic and the growing risk of inflation have again increased the redenomination risk for Italy. Coupled with the war in Ukraine, this is an alarm for euro area policymakers about the possible restatement of fragmentation.

Another measure of the redenomination risk, recently used by many authors (see Gros, 2018; Bonaccolto et al., 2021) and considered more reliable than the Quanto CDS spread, is based on the distinction between the insurance of the default risk of a given asset and the insurance of its risk of redenomination (see also above, n. 6). The so-called CDS CR covers its holder towards both risks, whereas the CDS labelled CR14 covers exclusively the default risk. The problem with this measure, based on the differences between the values of the two correspondent CDSs, lies in its limited empirical series: it starts in 2014 and is available for a small number of euro area countries (Italy, France, Germany, and the Netherlands).

Figure 8 shows the redenomination risk for Germany, France, Italy, and the Netherlands from 2014 to May 2022. In the year before the beginning of PSPP, the spreads between CDS CR14 and CDS CR showed a positive and significant difference in the redenomination risk between Italy and the other three countries. The smooth long-term yield curve due to the sovereign bond purchases significantly decreased this Italian risk until the political instability due to the rise of anti-euro parties (years 2017-2018; see Figure 7). Figure 8 also shows that the pandemic shock slightly increased this same risk in Italy and - at an even slower pace - in the other three countries; yet the introduction of the PEPP and other monetary policy initiatives in March 2020 lowered the Italian risk of redenomination. However, consistently with Figure 7 again, this risk considerably increased following the most recent negative events listed with reference to the previous Figure.

**Figure 8: Redenomination risk**



Source: Reuters.

Notes: 10 years CDS under CR and CR14.

### 3. DEALING WITH FRAGMENTATION IN THE EURO AREA: OMT VS. APP

The empirical evidence illustrated in Section 2 points out that the euro area's financial markets are still characterised by various types of fragmentation. This fragmentation is intrinsically connected with the sovereign debt risk. In this Section, we aim at analysing the policy tools that the ECB can utilise to overcome the consequent problems in terms of monetary transmission mechanisms. In sub-section 3.1, we compare the different features and roles characterising the OMT and that part of the APP devoted to the purchase of public sector assets (PSPP). Then, in sub-section 3.2, we illustrate a possible fragmentation scenario and how the two tools can be useful in that scenario.

#### 3.1. Differences between OMT and PSPP

As recalled in Section 2, in the March 2010 – June 2012 period, the euro area suffered a high risk of redenomination due to the “doom-loop” between the sovereign debt crisis and the crisis of its banking sector. At the end of that June, the prevailing expectation was that the peak of these crises had been overcome thanks to the initiatives taken in the meetings of the European Council and the Euro-Summit: mainly, the launch of the Banking Union process and the approval of a “light” European aid programme centred on the EFSF/ESM's precautionary channels.<sup>7</sup> At the opposite, as shown, in July 2012 there was a flare-up of instability and fragmentation in the euro area's financial markets. ECB President Draghi's WIT statement and the related approval of the OMT were the effective reaction to this threat for the functioning of the monetary policy's transmission channels. The OMT was never activated, but its mere presence in the ECB's toolbox played an important role in stabilising the European financial markets.

In 2014, the euro area's economy was exiting from an unprecedentedly long recession (2011-2013), and a robust rebound was expected. Conversely, the economy experienced a high risk of deflation and stagnation that significant decreases in the policy interest rate were unable to counteract.<sup>8</sup> Hence, in the fall of 2014, the ECB introduced unconventional monetary policy tools by implementing incentives to bank lending (through the TLTRO) and the first version of “quantitative easing”; and, in January 2015, it launched the APP programme including the PSPP to be started in the following March. These latter programmes continued, with a short break, until the pandemic shock; then, as already mentioned (see Section 2), they were strengthened and complemented by a similar and more flexible pandemic programme (PEPP). In the euro area the net purchases of government bonds by the PEPP were ended in March 2022, whereas those by the APP will likely finish in a few weeks (June 2022).

These observations suggest that the OMT and the PSPP, as the ECB's monetary policy tools, were designed with different characteristics to pursue different purposes. These differences are key to understanding whether they can be used to deal with the current and future fragmentation of the euro area's financial markets. There are four main factors according to which we can distinguish the two programmes: (i) the type of purchased assets, (ii) their eligibility, (iii) their quantitative size, and (iv) their respective time horizon.

In terms of the **type of assets** purchased, the APP is a broader programme than the OMT, ranging from government debt to private bonds. However, focusing on government debt, the PSPP is constrained to a neutral approach towards the stock of bonds relating to the euro area countries. Its monthly purchases of the sovereign securities of each of these countries in the secondary financial markets

<sup>7</sup> Let us recall that the ESM became operational in October 2012, that is, after the implementation of the first aid programme in Greece, and the first aid programme in Ireland, Portugal and Spain.

<sup>8</sup> It should be recalled that, from fall 2013 to summer 2014, the ECB repeatedly decreased its policy interest rates. In June 2014, the interest rate on deposit facilities entered a negative territory for the first time.

should have an incidence on its total monthly purchase of euro area sovereign securities equal to the proportion that each Member State keeps on the ECB's capital key. The recent pandemic programme, the PEPP, has relaxed this requirement, which, anyway, was roughly met by the net purchases over the programme's horizon. It should be added that the PSPP allows for asset purchases with a maturity ranging from 1 year to 30 years. In contrast, the OMT concentrates its purchases on the public debt of a specific subset of euro area Member States and can only refer to government securities with a remaining maturity from 1 to 3 years.

Concerning **eligibility**, the PSPP is allowed to purchase government debt with at least Credit Quality Step 3 in the Eurosystem's harmonised rating scale. Without this quality grade for a given Member State, the PSPP's purchases of the related government debt would still be permitted if this country was under specific financial assistance programmes or if the euro area was affected by exceptional negative events. The OMT will instead be activated at the discretion of the ECB's Governing Council only for the euro area Member State that applies to this programme being already enrolled in a European aid programme. This means that the OMT's potential beneficiaries must first have received financial support from the EFSF/ESM; moreover, they should be compliant with the macroeconomic adjustments required by the European institutions or – at least – have signed a Memorandum of Understanding. This implies that the utilisation of the OMT is subject to more conditionality than that of the PSPP. Moreover, differently from the OMT, the PSPP does not refer to a specific subset of countries by means of bilateral contracts but involves all the Member States of the euro area through market relationships.

In terms of **quantity**, the OMT entitles the ECB to purchase a potentially unlimited amount of government debt, issued by a Member State satisfying the conditionality discussed above and offered on the secondary market. Conversely, the PSPP has an upper limit to the overall quantity of monthly purchases that can possibly change depending on unforeseen future contingencies; and it cannot exceed 33% of the outstanding securities as well as of the single issuances of each Member State. Hence, the quantity constraints of the PSPP are, by definition, more severe than the unconstrained size of the OMT's interventions. As in the case of the other programme, the purchases of government bonds by the PSPP are carried out in the secondary financial markets.

The last factor relates to the **length** of the two programmes. If the Member States fulfil their conditionality (that is, their involvement in a European aid programme and their compliance with the required adjustments), the ECB's OMT will not have any internal time-limit and will continue until the end of the European aid programme; otherwise, it immediately stops. On the other hand, the APP and the PSPP are decided by the ECB's Governing Council within a time horizon that can be modified (open-end programme) according to its actual achievements and to unforeseen external contingencies related to macroeconomic conditions and monetary policy objectives.

Given the underlined differences, the OMT and the APP serve different purposes. In principle, the OMT aims at avoiding a liquidity crisis for a sovereign issuer. Therefore, the OMT preserves a smooth transmission mechanism of monetary policy in the euro area, and it can be cast as a central bank lender of last resort. The PSPP is instead a tool that is tailored to mitigate downward risks with respect to price stability.<sup>9</sup> Its operation aims at easing borrowing conditions for households and corporations; and its contribution is particularly important when the effective zero-lower bound on policy rate is reached. Thus, this programme can enhance the functioning of the transmission mechanism of monetary policy to stimulate investments and consumption.

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<sup>9</sup> According to the ECB's new monetary policy target, 2% is the reference point in the sense that the medium-term inflation rate should neither exceed nor remain below this symmetric threshold (see Benigno et al., 2021b).

### 3.2. The utilisation of OMT and PSPP in a fragmentation scenario

We first describe a mechanism through which fragmentation in the transmission of monetary policy can occur in the euro area when triggered by the sovereign risk for some countries in line with the evidence presented in Section 2. Then, we discuss the role of the OMT and the PSPP in this scenario.

In general, default on sovereign debt is, per se, a disruptive event given the importance that public bond issuers have on financial markets. This is specifically true in the euro area, where there are several sovereign issuers and many of them play an important role in terms of the total amount of liabilities circulating in the market, so that a national default can have significant spillover effects. The vulnerability to contagion does not contradict the fragmentation of the euro area financial markets. As already mentioned, this area has been and is still characterised by a significant home bias in debt holdings, whose main form is represented by the concentration of the sovereign debt of a given Member State in the balance sheet of its national banking sector. This degree of concentration, which reaches its maximum in countries with a high public debt/GDP ratio and weak financial markets (typically, Italy), is a determinant of the euro area financial fragmentation. At the same time, it implies that the sovereign default in one of these countries has a high probability to create unbearable losses in its banking groups, thus triggering a credit crunch and a systemic default in the financial sector and in the rest of the economy. This systemic default tends to unevenly affect the whole euro area. Let us add that the simple expectation of such an event can be harmful and powerful enough to worsen the balance sheet of financial intermediaries, creating funding problems and raising lending rates in the euro area.

The combination of uneven and growing risks of sovereign debt default and financial fragmentation produces an asynchronised transmission of monetary policy across euro area countries, which manifests itself through spreads in the various financial and credit markets. Therefore, the ECB might lose control of the transmission mechanisms of its single monetary policy, which becomes too tight in Member States with a high public debt or – worse – on the brink of a sovereign debt default and too loose in Member States still not affected by the contagion. This situation creates divergences in the economic cycle and possible domino effects across countries that increase the risk of a systemic crisis with unknown consequences for the survival of the euro area. The rise in the redenomination risk experienced during the 2011-2012 crisis is an early warning in this perspective.

To specify what the ECB (and any central bank) can or cannot do, it is useful to distinguish the sovereign debt crisis rooted in bad fundamentals from the sovereign debt crisis rooted in good fundamentals but due to confidence shocks. The former type of crisis can be characterised by the fact that the debt issuer is structurally insolvent. This crisis should not be counteracted by an independent central bank regardless of whether the issuer is a government, a bank, or a non-financial firm. Any direct intervention to avoid the default of the insolvent agent would represent monetary financing because the probability of repayment would be negligible at any fair contractual condition. On the contrary, the latter type of crisis is basically an illiquidity crisis. The ECB should avoid that a lack of confidence in the government debt of a euro area country translates a temporary illiquidity into a sovereign debt default by determining increasing costs of borrowing for the sovereign issuer and losses for the holders (for instance, banks) of this debt.

In practice, things are not so simple. The first caveat is that the distinction between the two types of sovereign debt crises is not so straightforward. The issuer's illiquidity crisis and the related mistrust of the investors (banks) can trigger deleveraging, a fire sale of the stock of government and other financial assets, consequent additional balance sheet losses, the banks' eventual default and funding problems for the government. In short, the initial pessimistic belief is fulfilled by the debt default of the issuer under attack. The problem is that a very similar chain of events and the same results characterise the

other type of crisis due to the structural insolvency of the issuer. It is very often quite hard, in the real world, to agree on the originating causes of this chain.

We argue that the OMT, as a “lender of last resort” tool, appears to be well designed to deal with an illiquidity crisis non-rooted in a fundamental insolvency of the sovereign issuer. According to Bagehot (1873, pp. 196-7), three actions characterise a central bank as lender of last resort: lending freely to anyone, at a high interest rate, and with good banking securities as collateral. In the OMT, the ECB’s potential purchase of government bonds is unlimited; and this is justified by the fact that constrained purchases would not be able to offset speculative forces in deep and integrated financial markets, so that a confidence crisis could become self-fulfilling. Moreover, the OMT’s focus on the one-to-three-year maturity is tailored precisely to those market segments that are usually mostly affected by a liquidity crisis. Hence, the OMT perfectly fits with Bagehot’s first action. To all appearances, the OMT can also become compliant with Bagehot’s third (and second) action thanks to the conditionality imposed by the European aid programme.

The collaterals offered by the euro area Member State in an illiquidity crisis are the same sovereign debt securities purchased by the ECB. If the latter had had to evaluate the “goodness” of these securities in a distressed scenario, it would have found itself in a delicate situation: the acceptance of this bond, not grounded on a third-party check of the issuer’s solvency, could have been interpreted as an inappropriate monetary financing and/or as an incentive of moral hazard behaviour. Moreover, the large concentration of sovereign debt in the euro area banking sector would have worsened the ECB’s position. According to the international and European regulation, government bonds held in banks’ balance sheets are riskless in terms of capital requirements; however, in the euro area, the national concentration of these bonds in the banking sector feed the stale but unsolved dispute between “core” and fragile Member States on the “appropriate sequence” of risk reduction and risk sharing. Hence, any assessment of the ECB would have been misused.

The OMT provides a solution to this problem by delegating the evaluation of government bonds to the ESM, which supports debt sustainability of the country under an aid programme by imposing an adjustment plan and controlling its implementation. Thus, the OMT’s conditionality ensures that the ECB purchases assets that will not impair its balance sheet: the ECB’s purchases of government bonds would not result in a direct or indirect monetary financing of the sovereign issuer. This conditionality also stresses that the OMT cannot be applied to insolvency crises of the euro area Member States.

There are at least two practical problems linked to this kind of guarantee. The first is well exemplified by the Greek case. The ESM cannot ensure that any adjustment plan is feasible and will be effectively implemented by the country under an aid programme. Hence, *ex post*, the illiquidity crisis could turn out to be an insolvency crisis. To overcome this problem, the amended Treaty strengthens the ESM’s power to assess the ex-ante sustainability of a country asking for a European aid programme.<sup>10</sup> This highlights the second problem. In fact, the suggested solution has created a very high hurdle for accessing the ESM’s initiatives: the stigma of being subject to an ex-ante insolvency check that does not fit with the ESM’s institutional role in the European aid programmes.<sup>11</sup> The result is that none of the

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<sup>10</sup> This Treaty was approved by the involved EU member states at the beginning of 2021. However, it is still not in force because the authorisation of all the national legislative bodies of these member states is required; and the Italian Parliament has not voted yet.

<sup>11</sup> The ESM should be entitled to assess the ex-post insolvability and the related bankruptcy of countries that are under an aid programme and were unable to implement shared adjustment processes. The claim to become the ex-ante judge of the sovereign debt sustainability is not compatible with an effective crisis management role (see Messori, 2019). In this respect, there is clear-cut evidence. In spring 2020, at the peak of the pandemic, the ESM activated a new precautionary line to finance the health expenditures of the Member States without any additional conditionality. Despite the advantages in terms of the financial charges that the majority of EU countries would have enjoyed in utilising this line, no one asked for the ESM’s financing.



euro area Member States would enter an ESM aid programme if they were not on the brink of bankruptcy.

This problem was already in force in the cases of Greece, Ireland and Portugal (2010-2012). To overcome the high risk of insolvency of their public debt, these countries were constrained to acknowledge and share the macroeconomic adjustments designed and financed by European institutions. Today, if a country was not already very close to default, it would find it disadvantageous to pay the high cost of a stigma that could trigger self-fulfilling expectations on its insolvency. It follows that the OMT's guarantee tends to be counter-productive. As we showed above, in insolvency cases recourse to the OMT would become impossible. Hence, the OMT can have a crucial function as a deterrent to market investors' bets on the euro area breakdown only if it is not activated. Its effectiveness lies in its threatened and not in its actual utilisation.

In principle, the PSPP is not meant to solve illiquidity problems nor to address default problems of specific Member States. It operates to enhance conventional and accommodative monetary policies, especially when short-term rates are constrained by the zero-lower bound. This unconventional tool mainly works by increasing the demand for government securities that are issued in the euro area on the secondary markets and, thus, by lowering interest rates at longer maturity. As discussed in Benigno et al. (2020), the PSPP and the more general programme (APP) mainly operate through an "interest-rate channel" tailored to mitigating downward risk with respect to the price stability objective. Thus, the explicit aim of these programmes is to enhance the functioning of monetary policies' transmission channels in order to ensure low borrowing costs and liquidity to households and corporations, as well as to weaken the related constraints in their demand for consumption and investment.

However, the PSPP has also played an implicit but crucial role in decreasing fragmentation due to the sovereign debt risk. Even if pre-determined on a monthly basis (see above), the PSPP's purchased amount of sovereign debt was significant and thus extended an "implicit guarantee" on government bonds issued by euro area countries. Although these purchases were allocated according to the ECB's capital key, this guarantee specifically benefited the Member States with the highest incidence of public debt: besides providing substantial aid in terms of better financing conditions in the area, it slackened the otherwise binding constraints in the national fiscal capacity of these countries. In the 2015-2018 period, the result was that the ECB was overburdened in the sense that monetary policy played the role of the "only game in town". Empirical evidence shows that the role played by the ECB's purchases of government bonds in secondary markets became particularly important during the pandemic crisis (2020-2021), when the PSPP was complemented by the more powerful and flexible PEPP. These two programmes were able to absorb the huge increase in the government debt of countries such as Italy.

We could analyse at length the direct and indirect impacts of this monetary policy tool as a crucial component of the EU policy reaction to the pandemic shock. Here, it suffices to maintain that the growing rate of inflation would hinder the utilisation of the PSPP and the PEPP in the near future. However, the negative tail of the pandemic shock in terms of supply-side bottlenecks and Russia's unexpected invasion of Ukraine are determining a challenging scenario ahead.

## 4. THE CHALLENGES AHEAD

We have described a fragmentation scenario due to distress in the sovereign debt market. In practice, the sovereign risk has been anesthetised by the ECB's accommodative low-interest-rate policies and the PSPP and PEPP, which were justified by the pandemic crisis. Thanks also to a new policy mix based on the implementation of a central fiscal capacity through SURE and NGEU, European countries exited the crisis with the hope of returning to normal conditions in a scenario of tangible growth and moderate inflation, which without doubt would have also brought about the solvency of Member States on the basis that fiscal revenues would have been boosted by economic growth; and growth itself would have reduced the sovereign debt with respect to GDP. In this favourable scenario, the ECB would have gradually been able to return to less accommodative policies by possibly also reducing its holdings of sovereign debt without creating any financial distress.

This favourable scenario has recently been challenged by the bottlenecks in the supply of energy and of many raw materials, triggered by the persistency of the pandemic shock. These events, combined with the restart of household consumption, have caused growing inflation rates in the whole euro area. Moreover, these bottlenecks and the related uncertainty are stifling investments and the 2021 economic rebound. Hence, the euro area economy is entering a phase of stagflation. This outlook might trigger distress in the sovereign debt market, leading to the scenario of fragmentation of monetary policy that we described in the previous Section.

To combat inflation the ECB is implementing a quantitative tightening that will raise its policy interest rates. At that point, Member States will face higher borrowing costs and less fiscal revenues. In some cases, solvency could thus be put at risk. This would undermine any attempt at fiscal consolidation, which could harm growth in a stagnation scenario.

In principle, a possible liquidity crisis triggering financial market fragmentation and threatening the singleness of ECB monetary policy could be averted by the OMT, as we have discussed. However, the implementation of the OMT has the drawback of requiring the country in difficulty to accept the stigma of conditionality, to risk an ex-ante insolvency judgement, and to lose its autonomous fiscal capacity. As stated, these requirements tend to be agreed only by countries on the brink of bankruptcy, when OMT cannot be utilised. Nevertheless, the OMT has a powerful alternative: the strengthening of a central fiscal capacity to compensate for the gradual restrictive stance of monetary policy. Clearly, the use of this solution requires good coordination between monetary and fiscal policies and a blend of numerous political aspects.<sup>12</sup> Beyond the OMT or the fiscal-monetary mix options, additional purchases of government debt through the PSPP would hardly be justified by conditions in which inflation is well above the target for price stability. Thus, our conclusion is the following: to deal with the new dramatic shocks that are affecting the euro area and are determining dangerous fragmentations in its financial markets, the crucial component of an effective policy mix cannot be monetary policy.

In this last respect, it is instructive to refer to an interview that Isabel Schnabel gave to *Handelsblatt* on 29 April 2022, and that we already mentioned above. The interviewer asked: "What if a country is subjected to a speculative attack that drives government bond yields unsustainably high?" Schnabel's answer was: "We will decisively counter any sudden jumps in yields that have no fundamental justification. We will prevent euro area fragmentation driven by speculation. We already have a programme available for this as we can flexibly reinvest maturing securities under the PEPP." The problem is that the net purchases of government bonds by the PEPP ended a month before the interview; and the reinvestment of the principal repayments from the securities at maturity would be

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<sup>12</sup> Here, it would not be appropriate to discuss the feasibility of a stronger and recurrent central fiscal capacity. A detailed discussion can be found in Buti and Messori (2021 and 2022).

largely insufficient to handle a serious illiquidity crisis or inappropriate. Hence, the interviewer is fully justified in insisting on the point: “There was also talk about the possibility of a new instrument that would enable targeted assistance for individual euro area countries. What might this look like?” Schnabel’s reply was: “We have shown in the past, for example during the European sovereign debt crisis and the pandemic, that we can create tailor-made instruments very quickly. We will do what is necessary and will design the programmes – and possible conditions for their use – so that they match the respective situation.” Schnabel's point of view was also shared by ECB President Christine Lagarde in 2022.<sup>13</sup>

Our analysis has argued that it remains unclear whether there is spare room to design monetary policy instruments that could enable targeted assistance for individual euro-area countries without incurring the risk that monetary policy assumes an ineffective fiscal policy role. Lender of last resort operations should not provide unconditional liquidity to countries on an unsustainable debt path, consistently with the design of the OMT. There do not seem to be other options than recurring to a central fiscal capacity that deals with solvency/illiquidity sovereign debt problems unless one accepts a situation of fiscal dominance over monetary policy, which could have unwanted long-term consequences on the price stability objective.

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<sup>13</sup> See Lagarde (2022).

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The euro area may be about to experience something new: fragmentations in its financial markets in a situation characterised by a high inflation rate. In such a scenario, we argue that the euro area has only two options. First, countries facing tight financing conditions could apply for European aid procedures at the European Stability Mechanism to activate the Outright Monetary Transactions programme. Second, these same countries could find protection in the strengthening of a central fiscal capacity and in compliance with new country-specific central fiscal rules. The selection of one of these alternative options would lead to designing a very different architecture for the European Union. We maintain that the first option is not feasible, so that the EU needs the strengthening of a central fiscal capacity to compensate for the gradual restrictive stance of monetary policy. In this last respect, we are sceptical about the statements recently made by some member of the ECB's Governing Council who refer to the possible utilisation of new monetary policy tools.

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