Research Workshop, Financial Stability Conference 2019

Unravelling economic solidarity: A systemic view on risk-sharing in the European banking sector

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Abstract

The policy contribution aims to overcome the unfertile debate that opposes the notions of risk sharing and risk reduction, by examining the concepts of economic *solidarity* and *responsibility*, with a particular focus on the Banking Union and some of its unresolved crisis management issues. The contribution adopts a money-centric view on banking, which highlights the interconnectedness between monetary policy design and the banking sector, arguing that both principles of solidarity and responsibility are interconnected and must therefore be included in the architecture of the EU's financial system. The empirical review comparatively examines the EU and US cases in order to draw concrete lessons from them. The contribution concludes by briefly proposing an enhancement of a solidarity dimension in the Banking Union design.

[1] We would like to thank Maria Ana Barata, Matthias Thiemann, and all the participants to the Financial Stability Research Workshop carried out in Berlin, on 29 October 2019, for their insights, comments and the overall fruitful discussions during the event. We are grateful to Martin Aehling for the overall organisation of the Financial Stability Conference and Workshop, and for the generous opportunity to present our contribution.

Introduction

Last year, Daniele Nouy, former chair of the SSM's Supervisory Board, delivered a speech at the 2018 Financial Stability Conference entitled *Risk reduction and risk sharing – two sides of the same coin*. When discussing the issue of risk reduction in the banking sector, she posed the following question: "when are the risks low enough? In my view, we have reduced risks enough for EDIS to start. Now is the right time to set it up. It's time to consider some solidarity."[2]

Economic solidarity implies the mutual sharing of costs and risks and may involve redistribution mechanisms which come at different level—regional, national, and international/supranational—and through different means, including taxation and sovereign debt management. The present contribution, however, focuses on solidarity mechanisms in the European banking sector.

The risk reduction v. risk sharing dichotomy has dominated the debate around the reform of the euro area, being the completion of the Banking Union (BU) with the creation of a common European deposit insurance one of its most controversial points. In fact, the debate on whether and when these risks are deemed to be low enough, apart from the inherent technicalities surrounding the topic, is closely related to euro-area political dynamics which followed the EU sovereign debt crisis of 2009-10. In short, "the problem is framed as a contrast between risk sharing and risk reduction and yet the more political expressions of these concepts are solidarity and moral hazard" (Jones 2019, 37). As highlighted in this recent contribution, Jones (2019, 4) explains that the core of the Economic and Monetary Union (EMU) politics debate now is about striking the right balance "between *national responsibility* and *European solidarity*" (emphasis added).[3]

It is interesting to see how advocates of either side have explained the reasoning behind the alleged risk-sharing v. risk-reduction dichotomy. On the one hand, Mario Draghi (2018) has firmly expressed that "we should not be held back by the distinction between risk reduction and risk sharing" for two reasons. First, because of the substantial risk reduction that has taken place and the ongoing efforts that are being made in the same direction; and second due to the complementary nature of risk-sharing and risk reduction. When commenting on Draghi's speech, Fracasso (2018, 3) explains that the former "convincingly argued that the dichotomy between risk-reduction and risk-sharing is, in fact, 'artificial' and fallacious in a monetary union where the lack of risk-sharing mechanisms is the major source of redenomination and default risks". On the other, and on the opposite side of the ideological spectrum, former member of the Executive Board of the ECB Jürgen Stark (2019) has argued that "the proliferation of new safeguards has introduced a high degree of moral hazard and created perverse incentives for governments and

[2] See Nouy's speech at last year's Financial Stability Conference https://www.bankingsupervision.europa.eu/press/speeches/date/2018/html/ssm.sp181031.en.html

[3] What his analysis suggests is that the risk-sharing v. risk-reduction, or solidarity v. responsibility, are not just contentious points revolving around specific eurozone reform debates but, more deeply, denote the emergence of a central constitutional or in Jones' (2019, 37) words "ethical" dimension in EMU that is transversal to both economic and political analyses.

market participants alike" (Stark 2019, 1). From the latter viewpoint, higher-level safeguards are expected to encourage if not imply opportunistic behaviours by lower-level private actors and lower-level public authorities which are formally required to supervise them.[4]

In order to overcome these tensions and provide concrete policy alternatives, the debate has mostly concentrated on two different set of proposals. On the one hand, the Franco-German CEPR's Policy Insight (Bénassy-Quéré et al. 2018) stresses the role of market discipline in order to mitigate moral hazard risks (Fracasso 2018). On the other, it has been pointed out that the compromise found by these scholars might not be feasible for countries in which the risk of governmental debt runs is higher: "even with sound fundamentals, the larger the outstanding debt, the higher the risk that market discipline degenerates into a debt run" (Tabellini 2018, 1). This side of the debate, indeed, highlights "risks of financial market instability, self-fulfilling crises and multiple equilibria in a system where redenomination risks are present and the central bank cannot act a lender of last resort for the public sector" (Fracasso 2018, 4). In particular, one of the central points of disagreement is the country-specific risk pricing. It is argued that this tool might affect the resilience of the euro as a whole, as a confidence crisis striking one country may spread to others (Tabellini 2018).

In light of the conceptual and policy tensions delineated above, this contribution provides some key elements for discussion in order to overcome the current stalemate in the development of additional crisis management tools in the still-in-the-making Banking Union (BU).[5] Our analytical framework draws upon a *money-centered* view of the banking system, which evidences the close interconnectedness between monetary policy design and the banking sector (Ricks 2016). Hence, we believe that a critical analysis of economic solidarity concerning the Banking Union architecture cannot leave aside broader monetary-related issues.

The remainder of our policy paper is structured as follows. The first section disentangles the notions of economic *solidarity* and its complementary *responsibility*, in order to frame the current debate from a broader perspective which may overcome the existing risk reduction vs. risk sharing dichotomy. The second section examines crisis management responses and tools in the EU: the former focuses on the measures taken by the ECB during the crisis, which will be useful in light of the comparative analysis developed in Section 3, while the latter points to the main instruments that belong to the post-crisis EU regulatory toolkit, highlighting specific shortcomings in the current framework, and the need to introduce further economic solidarity mechanisms. The third section focuses the US case, showing how the other major transnational and international currency area combines these principles of solidarity and responsibility, in view to draw concrete lessons for both EMU and BU. The fourth and last section concludes by emphasising how neglected solidarity mechanisms can enhance the Banking Union design.

[4] These divergent statements clearly illustrate the antagonistic interpretations of what risk-sharing means. In this context, it is important to distinguish between Members States' debt and potential liability (including those arising from deposit insurance schemes) and that of the private sector, as risk-sharing provisions that might apply to the former are not necessarily applied to the latter.

[5] Completing the Banking Union is still high in the EU agenda, as explained in the Parliament briefing: http://www.europarl.europa.eu/RegData/etudes/IDAN/2019/574392/IPOL_IDA(2019)574392_EN.pdf However, the extent to which the EDIS proposal is to be maintained is to some extent uncertain.

1. Economic solidarity and economic responsibility

As anticipated, the contribution aims to go beyond the sterile risk reduction vs risk sharing dichotomy. Instead, the work focuses on two higher-level concepts with a view to nurturing a richer discussion about viable and better financial infrastructure designs. In fact, behind the false and narrow dichotomy between risk sharing vs. risk reduction lays the question of economic solidarity and its relationship with economic responsibility.

Economic *responsibility* points to the principle that the risk-originator should bear the risk, and pay if it materialises, while economic *solidarity* points to the principle that the actors within a system which are exposed to that risk (including the risk-originator) protect each other in case of risk realisation. In the context of an economic and monetary union, and now a banking union as well, a *de facto* solidarity emerges from market integration—a solidarity that may be mirrored *de jure* by those non-market institutions that may help coordinate the functioning of markets themselves. In order to provide for a balanced institutional design, both principles should be considered and included in the architecture of the financial system. The way in which they are combined is a matter of institutional design, given that the proper incentives should be introduced in order to encourage risk-originators to prevent and manage risks properly. At the same time, all the parties should be given the necessary guarantees about system integrity, system resilience and systemic risk protection over time and circumstances.

The principle of economic solidarity and its necessity is closely related to single market integration, which is a core feature of the EU project. In any event, even if the single market has provided its general framework, the main driver of financial integration has been the EMU (Draghi 2019). In simple words, "an interlinked banking system within the Euro area provides an insurance mechanism against regional liquidity shocks. However, the flip side of the coin is that interbank claims bring about a risk of financial contagion, i.e. increase the systemic risk" (Fecht and Grüner 2005, 1), while financial crisis can have different effects based upon the patterns of interconnectedness (Allen and Gale 2000). The material flow of payments that is performed across credit institutions over the EU through the TARGET2 platform, along with the interconnectedness stemming from free movement of capitals and cross-border lending and borrowing, feature the EU banking ecosystem, generating structural interdependence among the local ecosystems in each of the Member States (Biondi 2018a). This structural interdependency, portrayed in Figure 1 below, argues and claims for policy coordination and solidarity mechanisms, which are essential to every monetary and banking union.

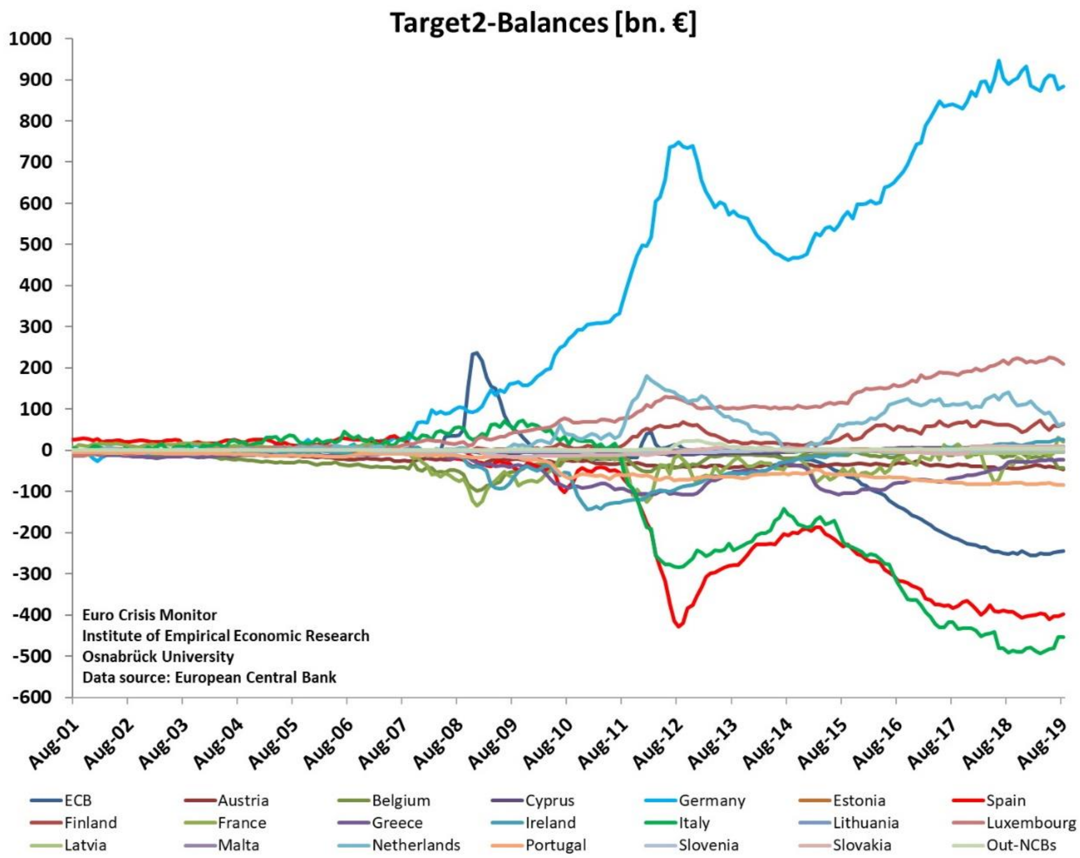

Figure 1: TARGET2 balances in the eurozone from 2001-2019. Source: Euro crisis monitor http://www.eurocrisismonitor.com/

The question of economic solidarity in the EU has been treated from different perspectives. For example, a relatively recent special issue has been devoted to the examination of the "European Community of debt" (Frerichs 2017), which in turn has focused on the ongoing and yet open "process through which debt and solidarity have become transnationalised and Europeanised, […] undermining existing communities of solidarity or creating new networks of solidarity, *de facto* and *de jure*." (Frerichs 2017, 720/733). Understanding the steps that have fostered the transnationalisation of debt and related risks make the intricate relationship between public debt management and risk-sharing concerns in the banking sector more explicit, therefore paving the way for a more comprehensive approach to the mutualization of risks– that is, a macro-prudential or systemic one - that transcends country-specific understandings.

In fact, the current Deposit Guarantee Schemes Directive (DGSD)[6] already sets the basis for a *voluntary* transnational solidarity mechanism amongst member states, with the provisions related to voluntary lending (Art. 12). It is also informative to highlight that the principle of

[6] Directive 2014/49 EU of the European Parliament and the Council of 16 April 2014 on deposit guarantee schemes, OJ L 173, 12.6.2014, p. 149-178.

solidarity is embraced in the aforesaid DGSD, more explicitly, recital no. 37 states as follows (emphasis added):

> Deposit protection is an essential element in the completion of the internal market and an indispensable complement to the system of supervision of credit institutions on account of the *solidarity* it creates among all the institutions in a given financial market in the event of the failure of any of them. Therefore, Member States should be able to allow DGSs to lend money to each other on a voluntary basis.

Moreover, the principle of solidarity has been also explored by a recent volume by Schelkle (2017), in which the notion of *monetary solidarity* is largely examined from a political economy stance. She argues that the risk-sharing capacity of the monetary union has not been used at its maximum and this does not come from "some ideal of a 'complete and genuine union', as two major EU reports put it (van Rompuy et al. 2012, Juncker et al. 2015), but from an understanding of what would be minimally required to resolve the current crisis, specifically by interrupting the negative feedback loop between the insolvency of banks and sovereigns." (Schelkle 2017, 44).[7] She further stresses the intrinsic commitment problem raised by risk-sharing: when a contingency occurs and hurts some members of the pool, those that have not been affected might be reluctant to maintain their promise to "share the pain". The monetary union raises similar burden-sharing issues, and given the uncertainties underlying these arrangements, these commitments remain implicit until the unknown circumstances materialise. Hence, "the promotion of financial integration through a common currency can be seen as having created a commitment for all members to insure each other if integrated markets fail systematically." (Schelkle 2017, 54).

The commitment to which Schelkle refers to, however, can be jeopardised by the lack of concrete risk-sharing mechanisms. This was exactly what happened during the euro area crisis when "solidarity disintegrated because it was not deeply entrenched in EA institutions, allowing markets [i.e., creditors] to force austerity on vulnerable economies. Crisis management thereby caused risks to be shifted onto the weakest, rather than sharing those risks" (Schelkle 2017, 196, emphasis added). This passage highlights the link between precarious institutionalised solidarity mechanism and the pressures towards austerity policies, which refer to and enforce the principle of responsibility for single exposed Member States in isolation.

Schelkle (2017) also notes that the design for specific solidarity mechanisms is related to the perception of the underlying risk: whether it is framed as *bad luck, bad behaviour, or manifest disadvantage*. In fact, she points out that those institutional arrangements framed as insurance "tend to be politically more robust and generous than those constructed as assistance. Social insurance has elements of both. The stress on insurance enlists citizens into a community of fate (shared risk), whereby the unlucky receive transfers from a common fund. The stress on social (assistance), by contrast, provides for transfers from the non-poor to the poor" (Schelkle 2017,

[7] As a matter of fact, the so-called "doom-loop" constitutes an inevitable nexus between money supply and public debt management. Therefore, such "bank-sovereign nexus is less a vicious circle than a consequence of this institutional organisation of governmental debt refinancing and its quasi-monetary nature." (Biondi 2018b, 2, intra text reference omitted).

59). This distinction between the underlying assumptions beneath social insurance and social assistance is fundamental to better understand the much-alluded lack of political will to engage in additional solidarity mechanisms.

The following section provides an overview of some of the crisis responses from the ECB and the tools that have been introduced within the crisis management framework in the EU thereafter.[8] In spite of the extensive regulatory and institutional changes, some fundamental problems remain. As summarised by Schelkle (2017, 225), "the reforms since 2009 have extended risk sharing but did not do away with, in particular, the limits on fiscal risk sharing. This keeps the threat of negative feedback loops between banks and sovereign alive and, under extreme stress, tends to concentrate risks on the weakest links." This statement points out to the need to complement responsibility with solidarity channels given that, as explained below, the solely integration of financial markets cannot provide the necessary stabilising mechanisms in a currency (and banking) union. The statement also points out to a deeper issue directly related to the *de facto* solidarity implied by market integration, and the need to complement it with non-market mechanisms in order to enhance coordination and resilience in case of systemic crisis.

2. Crisis management responses and tools in the EU: What role for solidarity mechanisms?

This first part of this section aims to spell out the actions taken by the ECB as a consequence of the financial and subsequent fiscal and sovereign debt crises in the EU. The analysis of the policy responses of the euro area central bank has a dual purpose. First, it serves as an anchor point for the subsequent comparison with the US case explained in Section 3 below; second, it highlights the downside of the lack of institutionalised solidarity mechanisms in the eurozone. The second part of the section complements the previous one by focusing on the post-crisis reforms crisis management tools, and their current shortcomings.

2.1 Crisis management (i): ECB responses between the mandate straitjacket and emergency non-standard measures

Central banks can respond to a deteriorating economic and financial environment with various types of actions, including liquidity provision and interest rate guidance policy. After the outbreak of the global financial crisis, central banks were relatively quick to undertake the former type of action; however, the speed with which the latter was activated varied in the US and euro area cases.[9] In fact, it would be misleading to simply focus on the different approaches followed by these authorities as a response to similar shocks, without considering the legal and institutional

[8] Although some mechanisms only comprise eurozone Member States.

[9] As explained by Mody and Nedeljkovic (2019, 1): "The US Federal Reserve reduced the policy rates sharply at the onset, in September 2007, and then, starting in December 2008, began forward guidance and asset purchases. In contrast, the ECB waited until October 2008 for its first interest rate reduction and thereafter injected active stimulus only hesitantly. Of the ECB's liquidity interventions, a crucial component was the provision of dollars obtained through swap operations with the Fed."

frameworks surrounding their field of action. Concerning the US, Section 2A of the Federal Reserve Act setting the monetary policy objectives, includes the maintenance of "long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates". On the contrary, the Protocol on the Statute of the European System of Central Banks (ESCB) and of the European Central Bank states in Article 2 that "the primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policies…". In addition to the different scope of the mandate, further restrictions on the ECB are enshrined in Arts. 123 and 125 of the Treaty on the Functioning of the European Union (TFEU), the prohibition on monetary financing, preventing "the central bank from taking actions which would directly finance government spending" (Mersch 2016) and the colloquially called "no bail-out clause" according to which Member States cannot take on the debts of another Member State, respectively.

Starting with the US subprime mortgage crisis, and the subsequent 2007-2009 recession, the financial catastrophe soon broke out in Europe, where it triggered unprecedent fiscal and sovereign debt crises. While by 2008 the US had deployed all of the tools enumerated in Table 3.1 below, the ECB intervened in October of the same year with its first interest rate reduction, "and thereafter injected active stimulus only hesitantly" (Mody and Nedeljkovic 2019, 1).

The Securities Market Programme (SMP) announced in May 2010, and the Outright Monetary Transactions (OMT) announced in August 2012 and further specified in September of the same year come into place (the red measures from Figure 2.1.a below). As further elucidated below, it is important to highlight the slow and to some extent inconsistent response from the ECB in these phases of the crisis, when compared to the US seen above. The empirical data assessed by Mody and Nedeljkovic show that, while dollar liquidity provisions obtained through swap operations with the Fed were beneficial to lower the bond spread of periphery country governments, the same could not be said of the provision of euro liquidity, which had a limited effect on the reduction of bond spreads in Portugal, Ireland and Spain between October 2009 and September 2012.

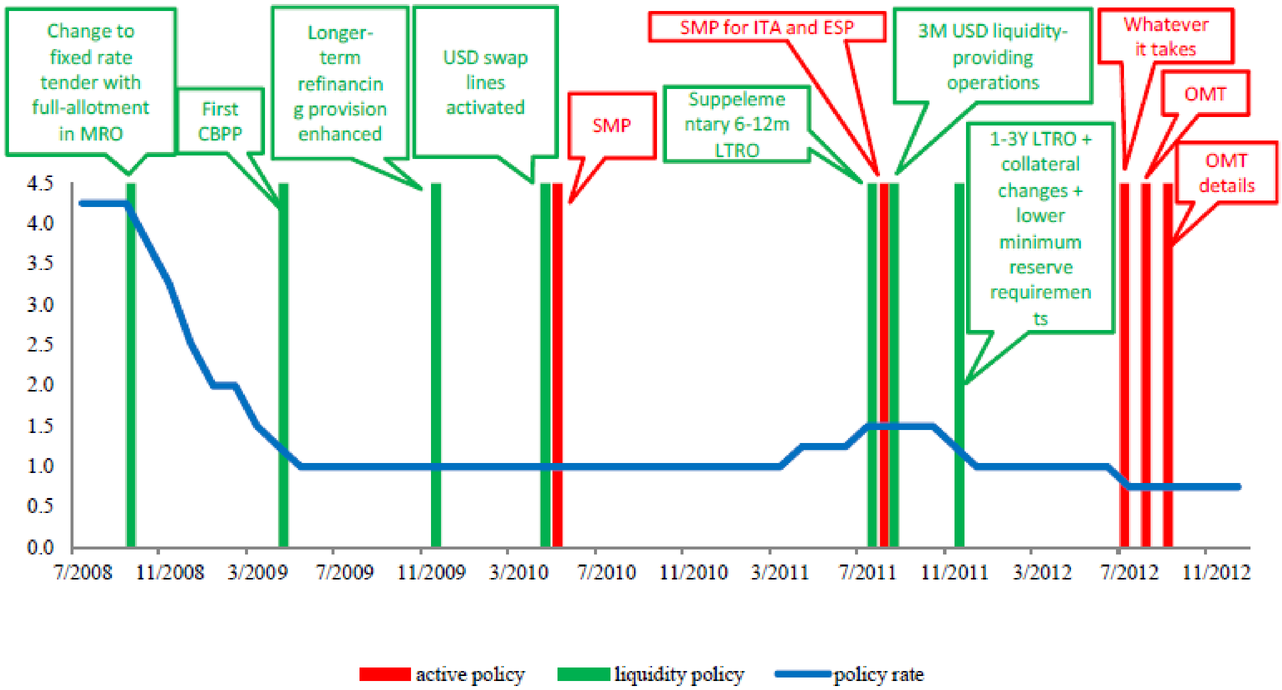

Figure 2.1.a: Key ECB policy measures, July 2008 to October 2012. Source: Mody and Nedeljkovic (2018, 30). Authors' note: The figure reports timeline of the key liquidity and active policy measures implemented by the ECB (bars) and the path of the ECB main reference rate (solid line).

The timeline in Figure 2.1.a, highlights the main policy interventions only until November 2012. The series of ad hoc interventions continued evolving until our days. Only by 2014 the ECB started to consider a set of interventions in line with the quantitative easing programme which has been conducted by the FED since 2008, and the UK since 2009-10 (Biondi 2016). Figure 2.1.b depicts the slow and hesitant response of the ECB referred to above, compared to the Bank of England, the FED, and the Bank of Japan QE expansion during the period 2007-2017.

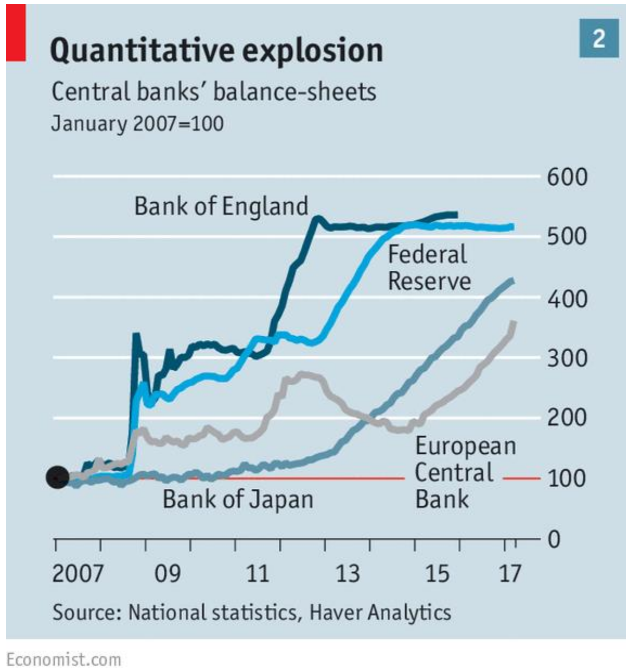

Figure 2.1.b: Central Banks' balance sheets 2007- 2017. Source: The Economist (2017).

The response measures taken by the ECB between 2009 and 2013 were relatively slow and insufficient. Further intervention would then be needed to improve the overall situation in EU. In June 2014 the interest rate paid on banks' deposits was taken to – 0.1 % and two important programmes were announced: first, as part of a credit easing package, the targeted longer-term refinancing operations (TLTRO-I), which aimed at purchasing covered bonds issued by the banks; second, a new asset-backed securities purchase programme (ABSPP) (Praet 2017). Hence, "in January 2015 the Governing Council announced the expanded asset purchase programme (APP), which included a large-scale purchase programme targeting public securities (PSPP)." (Praet 2017, 4). The impact of the ECB's PSPP on the share of government bonds held by national central banks is depicted in Figure 2.1.c below, which shows an increase "from around 5% to 15-20% of total outstanding government bonds" from 2015-2018 (Baltensperger and Call 2018).[10] The deposit rate continued to go down, at a -0.4% back then, and in early 2016 a TLTRO-II was announced in order to support credit availability to firms and households. Finally, the TLTRO-III programme was announced in March 2019, and consists of a series of seven targeted longer-term refinancing operations, each with a maturity of three years, starting in September 2019 at a quarterly frequency.[11]

[10] Further research may compare this ongoing held of outstanding Member States bonds with that of securities issued by European financial institutions.
[11] Source https://www.ecb.europa.eu/mopo/implement/omo/tltro/html/index.en.html

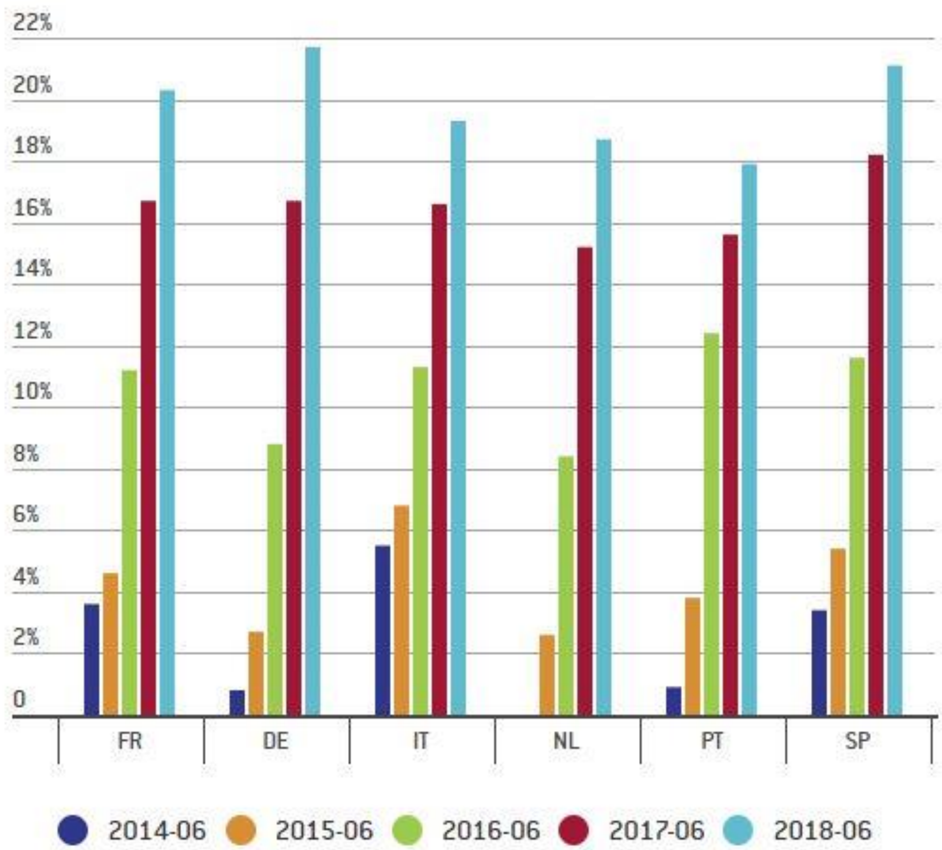

Figure 2.1.c: National central banks holdings of domestic sovereign bonds (% of total outstanding sovereing bonds, selected countries). Source: Baltensperger and Call (2018), elaborated from the Bruegel sovereing bond holdings dataset.

This brief succession of policy efforts in order to provide monetary stimulus have not been completely successful. This has been partly the consequence of an incomplete EMU design and lack of political willingness, mirrored by the lack of concrete solidarity mechanisms that could enhance integration potential. In fact, one of the main aims of these interventions has been to both mitigate banks' dependency from their sovereign bonds of residence, and reduce bond spreads across Member States. However, "in the absence of collective safety nets, national supervisors tried to protect their domestic banking systems and thus created externalities for others. The example also shows how this *lack of coordination* during a crisis leads to risks being shifted onto the weakest parts of an incomplete union." (Schelkle 2017, 301, emphasis added).[12]

[12] Interestingly, a recent analysis of safe assets supply in the euro area (Gros 2019, 175), points out to the fact that the supra-nationalisation of banking supervision via the SSM has not done away with some fundamental home biases, which reinforces the idea that without proper ex ante solidarity mechanisms in place, some eurozone banks will still hold their governments' debt no matter the higher yielding of peripheral bonds: In the past, one could argue that the German (or French) supervisor exerted moral suasion on German banks not to hold any 'peripheral' sovereign debt. However, most of the German banking system is now supervised by the Single Supervisory

This problem is a concrete expression of a lack of coordination, which echoes and is closely related to a lack of solidarity mechanisms in action. Other paradoxical features of the EMU case in this regard are that while some fiscal capacity for risk sharing has been created, support for distressed member states was extended only under stringent conditions. So while fiscal capacity was being limited in such cases, at the same time the ECB announced its ability to lend indirectly to sovereigns.[13] "The banking union showed a similar pattern: on the one hand, it made a big step forward in creating the world's biggest jurisdiction of harmonized banking supervision in terms of financial assets, with the ECB at its helm; yet at the same time fiscal backstops for bank resolution are minimal and a European deposit insurance scheme has not yet come to pass." (Schelkle 2017, 25). Hence, the incompleteness and lack of better institutionalised solidarity frameworks are still present, in spite of the advancements in other aspects.

2.2 Crisis management (ii): Current tools and their regulatory shortcomings

After outlining the complementary features between economic solidarity and responsibility in light of the interconnectedness of the EMU and BU, and the crisis management responses from the ECB, this section provides a review of the crisis management tools for credit institutions and the indicative moment in which they are activated. There is a distinction between *solvency* and *liquidity*, in order to identify the main policy purpose, and another distinctive criterion concerning *liquidity in resolution*, in light of the specific issues that this blend category entails.[14] In fact, as explained below, financing resolution is a key aspect in light of the resolution objectives delineated in Art. 31 (2) of the Banking Recovery and Resolution Directive (BRRD),[15] being the continuity of the institutions' 'critical functions' the main among others. This review highlights the orientation of the current framework and areas that have received less attention. Some of the most important regulatory efforts have focused on dealing with solvency in distressed times, as witnessed by implementation of wide resolution powers and mechanisms.

In spite of being analytical tools of reference, the liquidity and solvency issue requires some caveats. In uncertain times, the two concepts overlap and mingle together: as a matter of fact, a bank perceived as insolvent becomes illiquid due to lack of interbank credit, and a temporary illiquid bank becomes insolvent due to missed payment obligations which trigger a trust crisis

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Mechanism (SSM), which is the supervisory arm of the ECB. But little seems to have changed in the domestic concentration of government bonds holdings by German banks".

[13] Chiefly through Draghi's renowned 2012 announcement. See https://www.ecb.europa.eu/press/key/date/2012/html/sp120726.en.html

[14] In fact, in a recent report on the BRRD and the SRMR, the Commission clearly stated that it "strongly supports the ongoing reflections on other sources and solutions for the provision of liquidity support in resolution and calls for these to be agreed upon and implemented in the course of 2019. It is important that resources of sufficient scale are available to provide short-term liquidity support, where needed" (European Commission 2019, 8)

[15] Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council

(essentially a bank run). Although the blurred lines between liquidity and solvency have been especially acute in the context of the global financial crisis of 2007-08.

To make a quick but instructive comparison with another global financial crisis of 1929-32, a 1939 paper commenting on the US Baking Act of 1935[16] expressed that these two concepts become “practically synonymous terms” (Morton 1939, 272). In fact, “it is assumed that the Federal Reserve will be willing to loan on assets at the same value listed in the bank statement. To make any other assumption would be imputing to the regulatory officials a desire to keep insolvent banks open at the risk of depositors. The distinction between liquidity and solvency disappears. Any bank which the examiners now say is solvent is also liquid. Immediate liquidity is simply "rediscountability" and long run liquidity is identical with solvency” (Morton 1939, 281).

Therefore, the inclusion of mechanisms that help channelling economic solidarity ensure system integrity and continuity in uncertain times, reducing the actual materialisation of risks and hence the need to resort to resolution mechanisms. Table 2.2 below provides a conceptual framework that describes the main phases through which credit institutions go in the run-up of a crisis, and links the phase with the policy tool that is activated. In case of a systemic crisis, distinguishing between illiquid and insolvent financial entities—which in normal times could be solved by a lender of last resort (LORL) intervention—becomes much more difficult. However, it has to be borne in mind that one thing is the resolution procedure that defaulted financial entities might go through, and another thing is the existence of monetary and financial mechanisms that aim to prevent or at least mitigate the effect of systemic losses, including the prevention against distressed financial entities going into default.

[16] This Act aimed at completing the restructuring of the Federal Reserve initiated during the crisis time, in which earlier legislation was meant to be emergency measures. See https://www.federalreservehistory.org/essays/banking_act_of_1935

	TOOL	INTERVENTION PHASE
LIQUIDITY[17]	**Regulatory requirements** Liquidity Coverage Ratio (LCR, Articles 411-426) → Liq. buffers/Net liq. Outflows over 30 days Net Stable Funding Ratio[18] (NSFR, Articles 413, 427-428, 510) ILAAP: key risk management tool	Supervisory authorities in the course of SREP exercise.
	Emergency Liquidity Assistance (ELA)	Provided by a Eurosystem national central bank to financial institutions facing liquidity problems but solvent and on the basis of adequate collateral.[19]
ILLIQUIDITY	**Early intervention measures** (e.g. require the institution's management to draw up an action programme or to change the institution's business strategy or its legal and operational structure; replace institutions' management)	Supervisory authorities can use them "where an institution infringes or, due, inter alia, to a rapidly deteriorating financial condition, including deteriorating liquidity situation, increasing level of leverage, non-performing loans or concentration of exposures"-art. 27.1 BRRD
SOLVENCY	**Regulatory requirements** 1. Own funds ratios: own funds divided by total risk exposure amount: - Common Equity Tier 1 (CET1): 28-29 CRR - Additional Tier 1 (AT1): 52 CRR - Tier 2 (T2): 63 CRR 2. PLUS: P2R + Buffers + P2G 3. ICAAP: key risk management tool	Supervisory authorities in the course of SREP exercise. Capital add-ons: most important power
	Precautionary recapitalisation (not applicable during FOLTF institution)	Provision of own funds to a solvent institution, Article 32(4)(d)(iii) BRRD/18(4)(d)(iii) SRMR), subject to state aid framework approval and of a temporary nature, among others.
INSOLVENCY	**Direct Recapitalisation Instrument (DRI)**	Provided by the European Stability Mechanism (ESM) to credit institutions posing a serious threat to financial stability and unable to meet capital requirements.

[17] Central bank liquidity management is executed through open market operations (OMO), which "consist of one-week liquidity-providing operations in euro (main refinancing operations, or MROs) as well as three-month liquidity-providing operations in euro (longer-term refinancing operations, or LTROs)." These measures have been complemented by three other non-standard monetary policy measures: the three-year maturity LTROs, the targeted longer-term refinancing operations (TLTROs) which provide financing to credit institutions for periods of up to four years, and the Asset Purchases Programme (APP). Source: https://www.ecb.europa.eu/mopo/implement/omo/html/index.en.html. Further analysis of the tools deployed during the global financial crisis and the sovereign debt crisis are discussed in Section 3.2 below.

[18] This is one new requirements from the recent banking package, as explained in the following European Commission's Memo: https://europa.eu/rapid/press-release_MEMO-19-2129_en.htm

[19] See the 2017 Agreement on ELA: https://www.ecb.europa.eu/pub/pdf/other/Agreement_on_emergency_liquidity_assistance_20170517.en.pdf

FINANCING RESOLUTION	Different sources: market, normal central bank facilities; if those resources are temporarily insufficient, the Single Resolution Fund (SRF) might be used → given the extent of the potential liquidity needs in resolution, the SRF, even if supplemented by a backstop, may not be sufficient to adequately address these needs.[20]	
	Loss internalisation mechanisms → resolution tools could be considered within this category: • Sale of business • Asset separation • Bridge institution • Bail-in	Power to write down or convert capital instruments is activated (art. 59 BRRD)
	External financing mechanism • National resolution financing arrangements (art 99 BRRD) →National resolution funds that in the case of eurozone MS is the SRF; borrowing between them or mutualisation in case of a group bank • DGSs • Government financial stabilisation tools (GFSTs): Arts 37 (10), 56-58 BRRD.	Can be activated when the internalisation of losses cannot absorb them all. In the case of GFSTs, they are applied to FOLTF institutions within the resolution procedures. The 2013 Banking Communication considers state aid as last resort and burden-sharing as a key aspect. Importantly, the intervention and scope for involvement of DGSs is not fully clear in light of the annulment of the Commission's decision in *Tercas*.[21]

Table 2.2. EU Supervisory and Resolution crisis management tools in response to liquidity and solvency issues. Source. Own elaboration.

[20] These points were highlighted by the Commission's 2019 report referred to in footnote 14, which relied on external publications that analysed the financing of resolution procedures.

[21] Judgement in Joined Cases T-98/16, Italy v Commission, T-196/16, Banca Popolare di Bari SCpA v Commission, and T-198/16 Fondo interbancario di tutela dei depositi v Commission. The European Commission has appealed against the Court's ruling, since in their view the decision has departed from settled case law on the topic. The decision from the Commission, however, underscores the existing tensions when it comes to crisis resolution tools and the lack of coordination and explicit solidarity mechanisms.

Table 2.2 schematically differentiates between the responsibilities held, on the one hand, by supervisory authorities, e.g., in relation to early intervention tools and powers and, on the other, on resolution authorities, which manage the recovery and resolution of FOLTF institutions.[22] While mapping these crisis resolution tools, it is important to make explicit the connection between the DGSD and BRRD when, for instance, recital no. 15 says that "DGSs should also assist in the financing of the resolution of credit institutions in accordance with Directive 2014/59/EU of the European Parliament and of the Council."[23]

In relation to some of the specific instruments detailed in the table, the question of the SRF and the alternative resolution financing methods is a fundamental one. According to Schelkle (2017, 220), the small sum covered by the fund might indicate that the purpose of the Single Resolution Mechanism (SRM) is that of "establishing a clear hierarchy of loss absorption: the bail-in rule puts bank shareholders and creditors (other than insured deposit holders) first in line." However, the problem under analysis goes beyond loss absorption; the question is instead related to the system resilience and its capacity to deal with systemic risk. In fact, this type of risk has a specific nature that makes it different from idiosyncratic shocks, which may affect a single institution without rippling out into the whole system (Haldane and May 2011). The magnitude and characteristics of the phenomenon, therefore, call for *preventive financial and monetary tools* capable to complement more standard risk-reduction and loss-absorption measures, which might intervene too late to avoid a systemic disruption (Biondi 2018a). The interconnectedness portrayed by the money-centric view on banking, also speaks to how liquidity and insolvency are closely intertwined and why preventive and resilience-oriented tools (subsumed here as preventative solidarity mechanisms) are preferred to *ex post* loss absorption ones.

An important aspect that explains the core of the problem is summarised by Schelkle when explaining that "instead of merely monitoring the use of the commons, EA [euro area] institutions have started to protect it from devastation by financial markets", and that although the Banking Union has represented a major step towards integration, "*the fiscal backstops that have been developed still do not rest on joint liability but on separate national guarantees*. The formal obligation for every member to contribute is a form of risk pooling but a relatively weak one,

[22] The smooth articulation between liquidity and solvency phases—albeit clearer from a theoretical perspective but harder to assess in practice—calls for a precise and coordinated transition between supervisory and resolution authorities. For recent and practical considerations about this cooperation mechanisms, see the following speech from Edouard Fernandez-Bollo Member of the SSM's Supervisory Board available at https://www.bankingsupervision.europa.eu/press/speeches/date/2019/html/ssm.sp191115_2~4942253071.en.pdf?27ad275d649d58546220242d09f077cd

[23] This also highlights the fact that DGSs fulfil a broader function other than the pay-box one. In fact, art. 11 details the different uses of the funds: Art. 11.2 use of funds: The financial means of a DGS shall be used in order to finance the resolution of credit institutions in accordance with Article 109 of Directive 2014/59/EU. The resolution authority shall determine, after consulting the DGS, the amount by which the DGS is liable. Art. 11.3 (a): Member States may allow a DGS to use the available financial means for alternative measures in order to prevent the failure of a credit institution provided that the following conditions are met: (a) the resolution authority has not taken any resolution action under Article 32 of Directive 2014/59/EU.

subject to a commitment problem of the guarantors." (Schelkle 2017, 27/31, emphasis added). This summarises the idea of the missing solidarity mechanisms within the institutional design. Furthermore, "there has been a shift in the underlying paradigm, *but the institutional assignment of policy competences has not done away with the fiscal taboo*." (Schelkle 2017, 223, emphasis added). This is important as it highlights the fact that, in spite of the fundamental supra-nationalisation of competences, the more fundamental fiscal issue has not changed; [24] hence, we are still far from a third order policy change à la Hall (1993).[25] Another fundamental aspect is that sovereign debt is purchased in proportion to each country's relative size, therefore, it does not allow for a more targeted support—which again reinforces the point of a lack of paradigm change in spite of the crisis-related events.

The idea of both an EMU that still needs to be "completed", and the Banking Union's "completion", point out to the fact that the current monetary and financial frameworks lack the necessary mechanisms in order to deal with a *de facto* solidarity implied by the Single Market. In fact, the two "incompleteness" can be thought of as part of the same continuous phenomenon: "the agreement on BU can be seen as a response to the asymmetric design of EMU—a Monetary Union with a limited form of Economic Union—and to the fragmentation of the Single Market in financial services" (Howarth and Quaglia 2019, 24). The still-under-construction Banking Union given the (back-then called) missing "third pillar" (EDIS) proves the difficulties of dragging solidarity-related decisions. The IMF (2018, 7) has expressed that "the bank crisis preparedness and management framework faces significant transitional and structural challenges . . . [and that an] effective resolution will depend in part on the ready availability of adequate financial resources, so it is essential to . . . establish a European Deposit Insurance Scheme (EDIS)." Nevertheless, what this contribution aims to convey is that EDIS, albeit and important piece in the BU puzzle, is neither the only nor the main tool towards building up stronger economic solidarity mechanisms. As the following section shows with the US example, the institutionalisation of public risk-sharing mechanisms has been a fundamental precondition for the development of stronger private risk-sharing ones.

[24] For instance, in spite of the massive QE programme launched by the ECB in 2015, the risk sharing logic has not changed, and thus most of the fiscal risks are still borne by the national central banks, as elucidated by the ECB in an explainer section of its website (Schelkle)In fact, only a "20% of the purchases fall under the regime of full risk-sharing", according to the Q&A explainer available at https://www.ecb.europa.eu/explainers/tell-me-more/html/asset-purchase.en.html. The document also specifies, after explaining that the Governing Council decides the extent to which losses incurred by national central Banks are to be shared within the Eurosystem, that "the Internal loss-sharing mechanisms in no way undermine the singleness of our monetary policy." (last accessed 30 September 2019).

[25] Hall's seminal paper aims to explain the policy learning process by distinguishing three kinds of policy changes: a first order change displays incremental features, which are associated to the standard policy process; in a second order new policy instruments are developed, moving a step forward in the strategic action direction; and the third order implies a paradigm change policy. "First and second order change can be seen as cases of "normal policymaking," namely of a process that adjusts policy without challenging the overall terms of a given policy paradigm, much like "normal science." Third order change, by contrast, is likely to reflect a very different process, marked by the radical changes in the overarching terms of policy discourse associated with a "paradigm shift." If first and second order changes preserve the broad continuities usually found in patterns of policy, third order change is often a more disjunctive process associated with periodic discontinuities in policy." (Hall 1993, 279).

3. The US framework: An illustrative and comparative example

This third section provides an empirical review of how the principles of economic solidarity and responsibility have been framed and shaped in US. The comparison with the US has been chosen for two main reasons: first, both the dollar and the euro are global or reserve currencies and second, both jurisdictions are part of a banking union. Therefore, examining how the US puts into action—either explicitly or implicitly—economic solidarity principles, proves valuable for the diagnosis of gaps in the current monetary and banking unions.

The first part focuses on the mechanisms deployed by the Federal Reserve since the outbreak of the global financial. The comparison between the EU and US cases aims to highlight the fact that central banks play a crucial role in guaranteeing the coherence of both the banking and the monetary systems, by focusing on the liquidity dimension and debt monetisation. The second part analyses specific mechanisms present in the US system that help reinforce the solidarity dimensions, and the way in which the American framework strikes a public-private balance.

3.1 The Fed's response: Bagehot revisited

As anticipated in Section 2.1 above, there have been stark differences between the ECB's reaction and the measures deployed by the Federal Reserve. In fact, as a response to "extraordinary circumstances, central banks may well need to take measures to prevent systemic collapse that are unprecedented in their details" (Madigan 2009, 8), but that might nevertheless be congruent with central banking principles.[26] One of these policy innovations has been the need to lend to nonbank financial firms, "with the hope and expectation that such action would be sufficient to stave off financial collapse"; refusing to lend would have implied accepting a systemic failure (Madigan 2009, 4). Table 3.1 below shows in fact that the shadow banking system was "at the center of the government's emergency policy response", and that "*every* major category of private-money claim was specifically targeted with emergency stabilization programmes in 2008" (Ricks 2016, 98/99/101). What is also clear from the table is that most of the emergency responses directly aimed to the stabilisation of the short-term funding market.

Private money claim category	Emergency policy measure
Money market mutual funds shares	MMF guarantee (Treasury) Money market investor funding facility (Fed)
Uninsured deposits	Transaction accounts guarantee (FDIC) Term auction facility (Fed) Deposit insurance limit increase
Eurodollars	Central bank liquidity swaps (Fed)
Financial and non -financial commercial paper	Temporary liquidity guarantee programme (FDIC) Commercial paper funding facility
Asset-backed commercial paper	ABCP MMF liquidity facility (Fed)
Primary dealer repo	Primary dealer credit facility (Fed) Term securities lending facility (Fed)

[26] Which would entail abiding by "Bagehot's dictum" but reinterpreting it in light of the circumstances and the major changes in financial market structures that occurred from 1873 to date.

Other measures directed to the banking and nonbank sectors	Temporary Liquidity Guarantee Program (TLGP) composed by the Transaction Account Guarantee Program (TAGP), and the Debt Guarantee Program (DGP).[27]Troubled Asset Relief Program (TARP)

Table 3.1: The US Policy response. Source: Adapted from Ricks (2016, 100)

The massive institutional response in order to stabilise the short-term debt market points to a key issue: the fact that modern banking is essentially a monetary activity. As recalled by Ricks (2016), this is not necessarily the way in which theories of banking and bank runs models have understood the question in the last decades. This “money—centric theory of banking” (Ricks 2016, 91), provides the key to understand the ways in which economic solidarity functions in the US, as discussed below; it also makes the link between the monetary and the banking union more explicit and the need to provide the system with further instruments in order to complement the current crisis toolbox.

3.2 Solidarity in action: the public-private arrangement and US Treasury securities as safe assets

Ricks’ (2016) *The Money Problem* elucidates how the Central Bank plays a fundamental role in making sure that both the banking and the monetary systems work coherently. As earlier mentioned, our starting point is the close interconnection between monetary policy design and the way banking operates, summarised as a “money—centric theory of banking”. The direct implication of this approach is acknowledging that banks do satisfy aspects of money demand and thus the standard picture of banking mechanics and its abstract considerations in bank run models might not portray the current system accurately. In fact, he criticises the generic conception of banking as financial intermediation given that, although this notion might seem sophisticated and in line with the current times, “it ends up unmooring banking law from its logical foundations and depriving it from internal coherence” (Ricks 2016, 210).

The previous sections have focused on the measures deployed during crisis times—and in the euro area case those in place until today. This section examines the mechanisms that entail forms of solidarity in the regular framework. In this sense, we explore the following features of the US framework: first, the use of public debt instruments as quasi-monetary assets; second the so—called “public private partnership” (in Ricks’ words) that was born as a result of the Banking Act of 1933 establishing a deposit insurance, and its functioning across time.

The first aspect relates to the quasi-money nature of public debt, which is depicted in Figure 3.2 below. This figure represents the money premium on short term Treasury bills, which “shows that yields on short-term Treasuries are much lower (i.e., prices are higher) than such an

[27] These programmes were created to extend additional FDIC guarantee to newly issued debt instruments. This was done under the Debt Guarantee Program (DGP); the unlimited deposit insurance coverage would come under the Transaction Account Guarantee Program (TAGP). “Together, the DGP and TAGP made up the FDIC’s Temporary Liquidity Guarantee Program (TLGP), which was designed to preserve and enhance the liquidity of the banking system during a time of crisis” (FDIC 2017, xvii).

extrapolation [of the rest of the yield curve] would predict . . . [and] this moneyness is a function of low interest-rate risk" (Ricks 2016, 44). What this implies is that high-quality short-term debt instruments that are *not* medium of exchange are equally relevant when it comes to money demand. What the curve represents is that the larger the spread, "the greater the monetary content of the instrument" (Ricks 2016, 46). The predominance of cash equivalents other than currency and checkable deposits show that drawing a "moneyness line" is sometimes not possible, and points towards the interconnectedness between debt monetisation and monetary base management (Biondi 2018a)

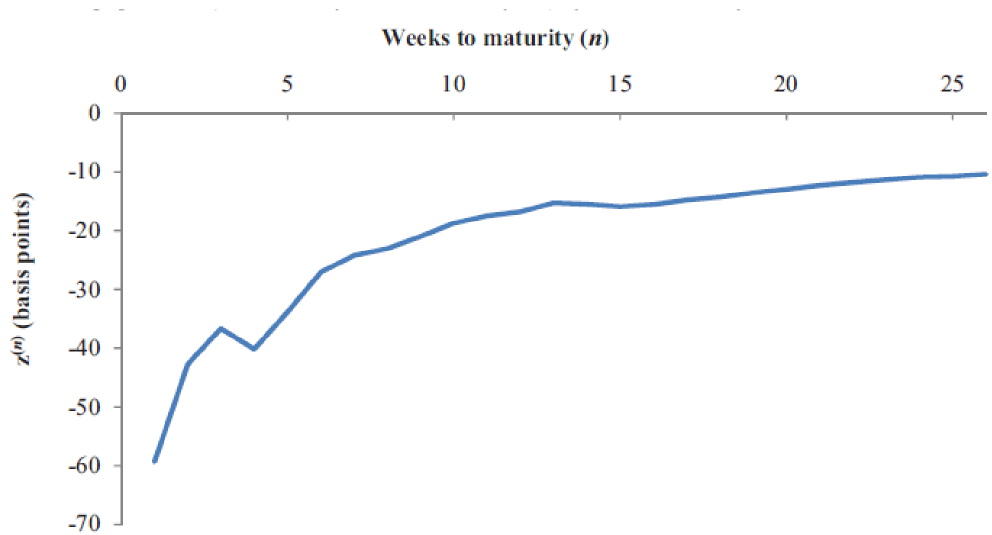

Figure 3.2: The money premium on short-term Treasury bills. Source: Ricks (2016), taken from Greenwood et al. (2015).

The second aspect relates to the formation of the public-private-partnership. The starting point of this joint conception of the banking system was the result of the 1929 crisis, by the enactment of the 1933 Banking Act. This regulation represented a major step forward in the development of modern banking rules, by means of which the federal government was made "the explicit guarantor of the bulk of the baking systems' monetary liabilities" (Ricks 2016, 162). It was the explicit acknowledgement that money supply, when represented by insured deposits, constitutes a public good; and within the insured perimeter, money was considered a sovereign obligation, even if the task of issuing monetary instruments in exchange for credit assets was outsourced to private banking firms.

In this sense, "the United States was the first country to introduce a national deposit insurance system. After decades of debate and largely adverse experience with moral hazard in state-level schemes, Congress enacted federal deposit insurance in 1933 in the midst of a banking crisis. The goal of the insurance was more to *restore confidence in the liquidity of bank deposits than to protect small depositors* (Golembe, 1960)." (Demirgüç-Kunt and Kane 2002, 176, emphasis added). This goes in the same direction as Ricks (2016), when explaining the FDIC's success. In his view, deposit insurance has been primarily viewed as a tool to protect smaller depositors. However, "the consumer protection perspective is at best incomplete; at worst, misses the point" (Ricks 2016, 216). When citing one of the sources that analysed the antecedents and historical remarks of the Federal Deposit Insurance in the US, Ricks (2016) stresses that bank obligation insurance has a monetary function, "and the protection of the small creditor against loss is incidental to the achievement of the primary objective" (citing Golembe 1960, 189 as well). This is not to disregard the importance of protecting individual investors; however, this policy aim has not been at the core of the creation of the Federal insurance, in light of the historical sources referred to.[28]

Perhaps one of the main concerns raised against such approach is the question of market discipline, and the disincentive in the hands of insurance claimants that have no interest in actively monitoring the activities of their respective credit institutions. This, in fact, is to some extent a fallacious argument that originates from the equation of money markets and stock markets, which are intrinsically different: unlike stock markets, money markets are "about obviating the need for price discovery" (Ricks 2016, 215, citing Holmstrom 2015). A similar point has been put forth by Gary Gorton, when describing the role of what he calls "information insensitive" debt, which constitutes "debt that no one need devote a lot of resources to investigating", as it has been precisely designed to avoid that (Ricks 2016, 215, citing Gorton 2010, 23).

Regarding the complementarities between the individual protection and the system stability perspectives, the first 1994 Directive on Deposit Guarantee Schemes at the back then Community level, pointed out to the same direction. In fact the 1994 document, out of five times in which the word *stability* is used, four are connected to individual protection, which evidences that these two policy aims were considered in tandem, for instance: "in the interest both of consumer protection and of the stability of the financial system", "stability of the banking system and depositor confidence", "stability of the banking system and protection for savers". This is an acknowledgement of the fact that system-wide concerns cannot be overlooked, even if the abovementioned Directed has been enacted by the time EMU was not in place yet and the Banking Union concept was still unimaginable.

Coming back to the 1939 paper that analysed the reforms introduced by the 1935 US Banking Act, it is interesting to note the point of equilibrium that this public—private partnership aims to achieve: "what the new regulations really do is to protect banks against loss due to "temporary" conditions in the bond market but not to ultimate losses due to poor judgment—a rather sensible program" (Morton 280, 1939). This, in fact, constitutes the "art" of central

[28] Far from being theoretical claims, this was indeed put into practice in the midst of the financial crisis of 2007-09, when the cap on deposit insurance covered was directly removed, and hence a 100% was insured. In line with Ricks' explanation, this meant that the government stopped worrying about the macroeconomic effects of bank failures, which constitutes one of the main benefits of system-wide tools capable of bringing systemic risk and its contagion mechanisms to an end. In the EU case, the coverage issue is much more delicate issue. In fact, the lack of a harmonised coverage amount as we have today within the framework of Directive 2014/49/EU has led to a series of announcement between late September and early October 2008 by several EU Member States that promised a full coverage to their local depositors, which has led to destabilising consequences for some of them.

bankers, which is complemented by solidarity mechanisms and further incentive alignment tools. Examples of the latter are the tools used to stabilise and control private money creation by the banking system, such as system's portfolio constraints and capital requirements, which "serve a function of loss absorption and incentive alignment, thereby counteracting the effects of moral hazard" (Ricks 2016, 210). This points directly to the "moneyness line" mentioned above in relation to Figure 3.2, which illustrated the connection between debt monetisation and monetary base management.

The final section of the contribution provides an overview of policy alternatives and provides some tentative concluding remarks.

4. Policy alternatives and tentative concluding remarks

The present contribution has highlighted the need to complement the principles of economic solidarity and economic responsibility. In light of the intricacies between monetary policy and the functioning of the banking system, solidarity should be considered in both EMU and Banking Union designs respectively. The international experience illustrated by the use of governmental securities as safe assets, as well as ex-ante mutual insurance funds in the US case, supports this view. Leaving aside international comparisons, the case is that the current crisis management mechanisms at the EU level are not fully prepared to deal with systemic risk and the reality of financial market integration. The lack of formalised solidarity mechanisms raises additional questions in relation to institutional responsibility for the implementation of said solidarity. In fact, ECB's actions during and after the crisis, have shifted the whole of the responsibility burden on this single institution, which has made fundamental decisions with an extensive redistributive impact, whose impact however is empirically contested[29]

In some cases, solidarity mechanisms are already available but there is a lack of political and institutional will to put it into practice. This is the case of the voluntary lending procedure set in Art. 12 of the DGSD, which has not been transposed by all Member States in light of its

[29] Recent studies aiming at quantifying the impact of various ECB's programmes on sovereign bond yields have shown different results, depending on the programme under analysis and whether the studies focused on the announcement or the implementation phases. For instance, Chadha and Hantzsche (2018, 2) claim that "the announcement of ECB quantitative easing benefitted the euro area periphery more than the core. This is because it helped reduce uncertainty about the future stance of monetary policy and confirmed the commitment of the ECB to support a recovery in the euro area as a whole. However, estimates are small compared to those obtained for the ECB programmes that aimed at reducing euro area break-up risk, namely the SMP and OMT programme. Core countries benefitted from the APP mainly through a small but statistically significant signalling effect on the risk-free rate." Ansgar and Gros (2019, 21) distinguish between the different phases and claim that "the ECB's bond buying programme might have lowered rates when it was announced, but the impact was transitory" in the case of peripheral countries. Furthermore, "QE in the euro area was special because *most of the sovereign bond purchases were undertaken by NCBs on their own account*. Previous empirical studies of the PSPP have usually neglected this institutional fact, which is key to understanding the behaviour of risk spreads" (Ansgar and Gros 2019, 21, emphasis added). This shows that a deeper exploration of institutional responsibility when it comes to solidarity and the management of ECB holdings and related profits and losses may be addressed by further research.

non-mandatory language. The possibility to transform the current voluntary scheme into a *mandatory* one is an alternative to the mutualisation of funds via EDIS. We are not implying that the political consensus would be easily achieved; however, this is a concrete option to channel economic solidarity without the costs of changing the existing institutional architecture. As put forth by Draghi (4, 2019):

> Deepening public insurance by completing the banking union and strengthening fiscal union is not about creating a transfer union. It is about creating a euro area in which there is *less* need for public risk-sharing in future, because we have the instruments in place to stabilise crises more quickly, and because we have the right framework to allow private sector risk-sharing to develop more sustainably.

In order to tackle the factual and occasionally dysfunctional[30] solidarity created by integrated markets, some of the measures normally advocated for might not be sufficient. For example, albeit backstops have been proposed as a way forward, they can have limitations and prove burdensome when it comes to implementation. In addition, the use of resolution tools and/or the DGSs' payout function occurs too late and comes along with uncertainties in relation to their implementation too.

The main objection to de jure solidarity mechanisms is the possible fostering of opportunistic behaviours by private actors and national governments. But moral hazard may be prevented by providing for a layered mechanism that introduces individual controls and private shared insurance funds before the intervention of guarantees from central actors, such as Treasuries and Central Banks. The Guarantee-providing Funds must be able to intervene and be trusted to be able to do so independently from the eventual stepping-in of resolution tools, which might intervene too late and may accentuate uncertainty in distress times. Such layered mechanisms leave local actors to cover for each other, but backed by local central actors as a first instance, and eventually EU institutions as the last resort, with smooth and quick coordination between the latter two. Another related point is that, in spite of the options set forth in the DGSD, the role of national deposit insurances has been limited in some cases to the pay-out functioning only, thus leaving little room for the provision of support when needed.[31]

The present contribution does not certainly advocate against financial market integration; the message it conveys is that the reality and objective of (financial) market integration needs to be complemented by non-market institutions that provide stabilisation and compensation in light of the consequences triggered by monetary and banking integration. In fact, "financial market integration is supposed to reduce the transmission of output volatility into consumption volatility in a straightforward way. However, monetary and financial integration may unsettle domestic

[30] Dysfunctionality can be mirrored by the fact that during expansionary phases, capital flows circulate and create masses of debts and credits that go well-beyond the capacity of Member States institutions to manage them. The problem is that when crisis hits, the lack of ex ante defined solidarity mechanisms is capable of triggering a systemic crisis.

[31] Issue that still needs to be clarified given the annulment of the Tercas decision, making the intervention of DGSs rather uncertain.

credit and savings intermediation, thus destabilizing both output and consumption independently." (Schelkle 2017, 75).[32]

The question that any EU framework needs to surmount is how to cope with diversity and heterogeneity of the members, which proved to be a challenge in order to mobilise the necessary solidarity during the set of crises. In fact, it might be even harder now: "after the veil of ignorance has been lifted, insurance is no longer possible: ex-post compensation and redistribution are required (Schelkle 2017, 196)." In light of the two "incomplete" Unions—EMU and BU—and the current proposals that aim to deepen market integration through the Capital Markets Union (CMU), it is fundamental to take the implementation of solidarity mechanisms seriously if we want to avoid the consequences of a dysfunctional integration.

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[32] In her study, Schelkle (2017) also points out to differences in the assessments and assumptions underlying her risk-sharing analysis and the version promoted by the Four and Five Presidents reports, respectively, which extensively rely on optimistic assessments of the effects of financial market integration on risk sharing.

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