STUDY

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An Effective Regime for Non-viable Banks: US Experience and Considerations for EU Reform

Banking Union Scrutiny

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Abstract

For 85 years, the US regime for non-viable banks has maintained a high degree of stability and public confidence by protecting deposits, while working to minimise the public cost of that protection.

With awareness of the difference in context, EU reformers can draw valuable insights from the US experience. On balance, a review of the US regime supports arguments in favour of harmonisation and centralisation of bank insolvency proceedings and deposit insurance in Europe's banking union.

A unitary regime would improve on the current EU status quo along multiple dimensions: deposit protection, creditor rights, controlling moral hazard, predictability and operational effectiveness, transparency and accountability, and financial stability. It would help break the bank-sovereign vicious circle in the euro area. The US experience suggests that substantial improvements are achievable in a well-designed system of institutional checks and balances that learns and adapts over time.

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CONTENTS

LIST OF ABBREVIATIONS

- AML: Anti-Money Laundering
- ATM: Automated Teller Machine
- AVR: Asset Valuation Review (US)
- BHC: Bank Holding Company (US)
- BCBS: Basel Committee on Banking Supervision
- BDB: *Bundesverband deutscher Banken* / association of German private banks (EU)
- BRRD: Bank Recovery and Resolution Directive of 2014 (EU)
- CAL: Compulsory Administrative Liquidation (EU)
- CFPB: Consumer Financial Protection Bureau (US)
- COM: abbreviation used in references or European Commission communications (EU)
- CRD: Capital Requirements Directive (EU)
- DFA: Dodd-Frank Act of 2010 (US)
- DGS: Deposit Guarantee Scheme (EU)
- DGSD: Deposit Guarantee Schemes Directive (EU)
- DIF: Deposit Insurance Fund (US)
- ECA: European Court of Auditors (EU)
- ECB: European Central Bank (EU)
- EEA: European Economic Area (EU)
- ESM: European Stability Mechanism (EU)
- FDIA: Federal Deposit Insurance Act (US)
- FBO: Foreign Banking Organization (US)
- FDIC: Federal Deposit Insurance Corporation (US)
- FDICIA: FDIC Improvement Act of 1991 (US)
- FFIEC: Federal Financial Institutions Examinations Council (US)
- FHC: Financial Holding Company (US)
- FOLTF: Failing Or Likely To Fail (EU)
- FSB: Financial Stability Board
- GAO: Government Accountability Office (US)
- IDI: Insured Depository Institution (US)
- IGA: Inter-Governmental Agreement (EU)
- IMF: International Monetary Fund
- IPS: Institutional Protection Scheme (EU)
- MREL: Minimum Requirement for own funds and Eligible Liabilities (EU)
- NBIP: National Bank Insolvency Proceeding (EU)
- NCUA: National Credit Union Administration (US)
- OBA: Open Bank Assistance (US)
- OCC: Office of the Comptroller of the Currency (US)
- OLA: Orderly Liquidation Authority (US)
- OLF: Orderly Liquidation Fund (US)
- P&A: Purchase and Assumption (US)
- PIA: Public Interest Assessment (EU)
- QFC: Qualified Financial Contract (US)
- SPOE: Single Point of Entry
- SRB: Single Resolution Board (EU)

- SRE: Systemic Risk Exception (US)
- SRF: Single Resolution Fund (EU)
- SRM: Single Resolution Mechanism (EU)
- SRMR: Single Resolution Mechanism Regulation (EU)
- SSM: Single Supervisory Mechanism (EU)
- TLAC: Total Loss-Absorbing Capacity
- TLGP: Temporary Liquidity Guarantee Program (US)
- TARP: Troubled Asset Recovery Program (US)
- TFEU: Treaty on the Functioning of the European Union (EU)
- USC: United States Code (US)
- VDR: Virtual Data Room

EXECUTIVE SUMMARY

- The US regime for non-viable banks is centralised in one institution, the Federal Deposit Insurance Corporation (FDIC). The FDIC's focus on deposit protection and its responsibility for the Deposit Insurance Fund have shaped its approach to bank supervision and handling non-viable banks.
- The FDIC has transformed since its establishment in 1934 to reflect the growing complexity of the US financial system, as well as shifting political expectations and demands for public accountability. In a succession of learning experiences, which included high-profile failures, the US regime has developed an elaborate system of checks and balances to help minimise public costs and moral hazard, while maintaining predictability and credibility for deposit protection.
  - Among the regime's achievements, smaller non-viable banks are routinely closed by the FDIC, without any public protection of creditors (let alone shareholders) and without disrupting the US financial system. The FDIC won praise for its smooth handling of many small bank failures and several larger ones in the crisis of 2007-2009. No one has lost money on insured deposits since the FDIC's establishment. Uninsured depositors of failed banks have periodically incurred losses, though more often in non-crisis times than during systemic turmoil.
  - The regime's effectiveness has been called into question repeatedly when it comes to handling large non-viable banks and banking groups. The 2007-2009 crisis revealed particularly troublesome gaps in dealing with large failing non-banks, with knock-on effect on the banking sector. The Dodd-Frank Act of 2010 affirmed corporate bankruptcy as the default framework for such firms, but gave the FDIC authority in exceptional circumstances to close them in process akin to the one it uses for banks. This feature of the US regime is still untested, as is its counterpart in the EU.
- Given the depth and breadth of the US experience, EU policymakers would be remiss not to consider it as they design their own reforms. The current EU regime for non-viable banks was substantially shaped by legislation adopted in 2014 on bank recovery and resolution and, for the euro area, a "single resolution mechanism" anchored in a new EU agency, the Single Resolution Board (SRB). While this legislation signalled a central role for the new EU resolution regime, its application in practice has revealed gaps and distortions that make the EU resolution framework much less central than heralded:
  - National bank insolvency proceedings remain the default option for non-viable banks;
  - In combination with the current European Commission stance on state aid control, these national proceedings leave significant space for national governments to use public funds to compensate a wide range of claimants against failed banks;
  - Conversely, the EU resolution regime has hardwired requirements to impose losses on claims against failed banks, potentially including uninsured depositors;
  - As a result, the SRB has powerful disincentives against taking resolution action, and indeed has exhibited a greater reluctance to do so than had been generally anticipated;
  - Mutual support arrangements among groups of banks in member states offer additional opportunities to circumvent the strictures of the EU resolution framework. Such arrangements may benefit from a perception that they would be ultimately rescued by the national government if they became non-viable, like "too big to fail" banks.
- Consequently, the EU regime for non-viable banks appears to be much less conducive to market discipline than its designers had advertised, and less so than the US regime, at least for all but the largest banks. The expectation of public financial intervention that persists in the current EU regime, moreover, perpetuates the bank-sovereign vicious circle that nearly broke up the euro area in 2011-2012.

- EU reformers should take a holistic view of the regime for non-viable banks, and consider how its constituent parts might evolve to create a system of checks and balances conducive to its effective operation. Recent EU experience seen in light of the longer US history militates against discrete tweaks to the EU resolution process that may leave intact the distortions and arbitrage.
- The US experience provides powerful arguments in favour of a unitary regime with ultimate responsibility lodged in a single agency (presumably the SRB, relying on outposts in member states), with a mandate covering the entire regime, including deposit protection, resolution and liquidation/insolvency proceedings, with a residual role for the European Commission's state aid control. A key consideration is regime predictability and the operational credibility of the agency in charge. To that end, centralisation would facilitate effective marketing of a non-viable bank's franchise and assets on a cross-border basis, contributing to greater efficiency of the regime and to cross-border banking system integration at the same time. A correspondingly upgraded SRB should be equipped with the necessary tools to implement asset and liability transfers, burden-sharing and liquidity support as necessary, with clear operational principles and accountability channels.
- A regime for non-viable banks reformed along these lines would be helpful but not sufficient to break the bank-sovereign vicious circle. It would fit well within a broader policy package to complete the banking union. Such a package should also include limits on concentrated sovereign exposures, centralised tools to manage system-wide fragility, and an end to the intra-banking-union ring-fencing of capital and liquidity for cross-border banks.[1]

[1] The recently published conclusions of a high-level working group set up by the Eurogroup in December 2018, available at https://www.consilium.europa.eu/media/39768/190606-hlwg-chair-report.pdf, have echoes of this framing of the policy agenda to complete the banking union.

1. INTRODUCTION AND SEMANTICS

The European Union was poorly prepared for the severe financial crisis that started in the summer of 2007 and climaxed in September-October 2008, before morphing into a joint crisis of euro area banking and sovereign finances in the ensuing years (e.g. Wolf, 2014; Bastasin, 2015; Bayoumi, 2017). As the crisis progressed, it exposed a particularly important vulnerability: the absence of an effective policy regime to deal with non-viable banks in most member states and at the EU level. The crisis prompted the EU to introduce elements of an ambitious new regime with EU legislation enacted in 2014: the Bank Recovery and Resolution Directive (BRRD, 2014/59/EU) and, for the euro area, the Single Resolution Mechanism (SRM) Regulation (or SRMR, (EU) 806/2014), complemented by less foundational, though still important, legislative acts such as the third EU Deposit Guarantee Scheme (DGS) Directive (or DGSD, 2014/49/EU).

This new regime has barely been tested so far, with only few cases since its entry into force in 2015-2016, and cannot be viewed as having reached a steady state. It is also more complex and path-dependent than often perceived. The resolution regime of BRRD is explicitly designed as an exception to the default option, namely national bank insolvency proceedings (NBIPs). NBIPs are defined by national legislation, with barely any EU-level harmonisation so far – a key component of the political compromise that shaped the EU legislation of 2014. They are supported by national DGSs, which are only partly harmonised by the DGSD. The handling of non-viable banks is materially constrained by the pre-existing EU framework for state aid control, enforced by the European Commission through its Directorate-General for Competition. In several member states, mutual support arrangements among financial institutions play a critical role at the point of non-viability for some or all of the country's banks. Such mutual support takes a range of binding or non-binding forms, including voluntary deposit guarantee schemes, institutional protection schemes, and other arrangements at the national or sub-national level.

It is natural to compare this complex and fledgling EU regime with its more established US counterpart.[2] The US regime has been tried and tested more than any other in the world since its inception in 1933 with legislation that authorised the FDIC. Before the FDIC's founding, the United States had a fragmented system that relied on multiple state-level and federal authorities to deal with bank failures. State-level experiments with bank note and deposit guarantees and mutual support arrangements first took hold in the 1830s, and returned to popularity several times in the 20th century, but ultimately failed en masse during banking panics. Since the establishment of the FDIC in 1934, the US regime has changed dramatically, accumulating operational experience, and adapting to many swings of the political pendulum. During the five years 2008-2013, the FDIC closed nearly 500 banks, including a handful of very large institutions, without destabilising the market (FDIC, 2017).

Although the US regime has shown dynamism and resilience, it is not a model for the EU to replicate. The two jurisdictions have different legal, political, and banking structures and histories; they also came to design their respective regimes from very different starting points. The United States in the early 1930s had a weak, fragmented public safety net for banks that failed on a large scale. In contrast, the EU in the 2000s boasted a constellation of robust, if implicit, member state guarantees. Such structural differences would make it impossible for the EU to use the US experience as a template to be copied;

[2] Other jurisdiction-specific regimes for non-viable banks are either as fledgling and untested as the EU's, and/or (as in Japan) less based on the principle of private-sector burden-sharing and thus not immediately comparable (see S&P Global Ratings, 2019).

however, it can help inform institutional experimentation and occasionally serve as a cautionary tale to help avoid mistakes.

Structure of the study and limitations of scope

Section 2 of the study provides a summary overview and assessment of the US regime for non-viable banks. Section 3 similarly describes and assesses the EU regime as shaped by the legislative package of 2014, and how it has played out in cases since mid-2015. Section 4 discusses possible objectives of further EU regime reform, and how corresponding policy options may be informed by observations from the US experience. Section 5 concludes.

Institutional designs for dealing with non-viable banks are a matter of considerable complexity, combining many legal, financial and operational considerations. We inevitably had to make a number of choices to restrict the scope of the study.

- First, the study is only about banks and banking groups, excluding other financial firms, notably credit unions (in the United States),[3] non-bank "fintech" (financial technology) firms, investment services firms, insurers, and financial market infrastructures.
- Second, the study starts at the point of acknowledged non-viability – or, in the EU parlance, when a bank is determined to be failing or likely to fail (FOLTF) – and does not examine tools that may be wielded at an earlier stage with "problem banks". Such tools include emergency liquidity assistance and central banks' lender-of-last-resort functions; supervisory actions such as prompt corrective action (US) and early intervention (EU); and crisis-related financial intervention such as temporary guarantee programs for banks, or the US Troubled Asset Relief Program of 2008 and its functional equivalent in the EU, known in BRRD as precautionary recapitalisation. Resolution planning is likewise beyond the scope of this study.
- Third, while deposit insurance is included in the study's scope to the extent it is part of the process of dealing with non-viable banks, it is not analysed in full. We focus on ex-post insurance payouts, and ways in which the protection of deposits and of deposit insurance funds interacts with the broader task of managing entire non-viable bank balance sheets. We avoid ex-ante design questions, such as options for insurance fee-setting (known in US practice as "assessments") or for the specific design of a future European deposit insurance scheme.
- Fourth, on the EU side the study is predominantly (though not exclusively) focused on the euro area. More generally, this study does not address issues of cross-border coordination in any depth, and emphasises domestic considerations from a US and euro-area perspective respectively. Thus, widely-discussed models for resolving cross-border banking groups, known as single-point-of-entry and multiple-point-of-entry approaches, are for the most part beyond the scope of our analysis.[4] We also leave aside any specific discussion of the United Kingdom.
- Fifth, we stop short of designing or even sketching a blueprint for EU reform. Our focus is on identifying gaps in the existing framework and a menu of possible solutions, for use as part of a reform of the EU regime, which may itself be part of a broader effort to complete the European banking union.

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[3] US credit unions are in many way comparable to cooperative banks as exist in a number of European countries. But while the latter are included in the EU banking regulatory framework defined by the fourth Capital Requirements Directive (CRD4, 2013/36/EU; with minor exceptions such as Irish credit unions – see CRD4 Article 2(5)), US credit unions retain a regulatory, supervisory and resolution framework separate from that for banks as briefly described in Section 2 below.

[4] We correspondingly do not assess the compatibility, or lack thereof, of the respective US and EU regimes to handle possible cases of non-viable banks with operations in both jurisdictions. We also give only limited attention to standards issued by global bodies on resolution, deposit insurance, and related concerns (FSB, 2011).

Semantics

Semantics is a particular pitfall. The same words are used in different ways on the two sides of the Atlantic and occasionally also in different contexts inside the EU. This can easily lead to misunderstandings, or to misleading characterisations. This observation applies with special force to key terms, such as resolution, liquidation, and insolvency. We have tried, as much as practical, to define and use words that may be understood the same way by both European and US readers with an open mind. We made an exception, however, for "resolution", because this word is currently used very differently in the United States and the EU (see below): we thus use it according to US practice in Section 2, and according to EU practice in Sections 3 and 4.

The study refers repeatedly to "non-viable" banks, an adjective we use as shorthand for "failing or likely to fail" as defined by the BRRD. This phrase has no perfect US equivalent; it captures a range of bank conditions and actions that may be deemed so "unsafe and unsound" by regulators as to justify bank closure and the appointment of a receiver. Apart from making the study's title and content more accessible to readers on either side on the Atlantic, our choice of "non-viable" also echoes Basel Committee language referring to the "point of non-viability" (BCBS, 2010).

Terms such as resolution, liquidation and insolvency continue to cause confusion:

- In the United States, "resolution" is an umbrella term that covers all modalities of dealing with a non-viable bank – whether through liquidation with depositor payoff (or "payout", in EU parlance); purchase and assumption of the bank's franchise by another bank and disposition of the residual assets and any liabilities under FDIC receivership; or "orderly liquidation" of large financial firms under new and still-untested modalities set by the Dodd Frank Act (DFA) of 2010.[5] In the EU, "resolution" only refers to the process defined by BRRD, which may be viewed as the functional equivalent of US-style orderly liquidation authority,[6] especially in the euro area, given differences in banking group structures[7] and the restrictive early practice of public-interest assessment (see Section 3).[8]
- In the United States, "insolvency" (like illiquidity) usually denotes a state, not a process: a bank is insolvent if its liabilities exceed its assets, or insolvent in the regulatory sense if it is deemed to be critically undercapitalised. The same use exists in the EU, but in addition, and specifically in the context of BRRD, "insolvency proceeding" refers to the process of closing a non-viable bank that does not go through EU resolution (Article 2(1)(47) BRRD). In the context of non-banks or individuals, what EU practice refers to as insolvency proceedings (often shorthanded "insolvency") is generally called "bankruptcy" in the United States.[9]
- In the United States, "liquidation" refers to asset disposition, often implicitly coupled with deposit payoff. Liquidation and payoff are often used interchangeably when describing an FDIC resolution method. "Orderly liquidation" is a new term introduced in the Dodd-Frank Act (see Section 2) and

[5] Since orderly liquidation is governed by Title II of the DFA, it is sometimes referred to metonymically as "Title II authority". Title II OLA authority serves as backup to the default option of federal bankruptcy for non-bank financial firms. Somewhat confusingly, Section 165(d) under Title I of DFA refers to "resolution planning", even as it actually requires planning for bankruptcy. Such bankruptcy plans are sometimes (and in our view, imprecisely) referred to as "Title I resolution plans".

[6] In the United States, "authority" often refers to a power granted by law to an agency, while in the EU that word is functionally equivalent to "agency" itself.

[7] In the EU, a large financial group's holding company is typically also a licensed bank that may be subject to resolution, while US law stipulates that it be always a non-bank – see Section 2.

[8] At the global level, the Financial Stability Board (FSB)'s use of "resolution" is similar to the EU practice, but in the EU context the FSB's concept of resolution may also apply to certain national bank insolvency proceedings and not only to the EU resolution procedure defined by BRRD, as further explained in Section 3 (FSB, 2011).

[9] The word "bankruptcy" does not appear to be used in EU law. Colloquially in the EU, and depending on context, "bankruptcy" may be use as synonym either to liquidation or insolvency.

is functionally equivalent to resolution in the EU practice, as noted above. In the EU, liquidation is the asset disposition process that results from insolvency proceedings if no reorganisation is achieved. The European Commission and others also refer to "orderly liquidation" or simply "liquidation" for cases of (national) insolvency proceedings which are functionally equivalent to a resolution (in the FSB's sense).[10]

Other terms are used on one side of the Atlantic, but not the other. For example, "bail-in" is a legal concept in BRRD, and is often used in the EU more broadly to refer to any forced imposition of losses, also referred to as "burden-sharing".[11] US usage tends to avoid the term "bail-in", except occasionally for practitioners working on cross-border matters. US participants might rather refer to "haircutting" creditors or uninsured depositors. Conversely, references to "open-bank" and "closed-bank" resolution—where the non-viable bank remains in operation and is rehabilitated, or ceases to exist—are fairly common in the United States, but not so much in the EU.

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[10] See e.g. "State aid: Commission approves aid for market exit of Banca Popolare di Vicenza and Veneto Banca under Italian insolvency law, involving sale of some parts to Intesa Sanpaolo", European Commission press release, Brussels, 25 June 2017. Available at http://europa.eu/rapid/press-release_IP-17-1791_en.htm. See also the case reference at http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3_SA_45664, referring to "orderly liquidation".

[11] In Italy, "bail-in" has entered vernacular language, with sharply negative connotations of ruining the savings of modest households. Somewhat ironically, however, none of the cases to which that discourse refers – e.g. those of four small banks resolved in late 2015, two Veneto banks closed in June 2017, and Monte dei Paschi di Siena (see Subsection 3.3), involved bail-in as defined in BRRD.

2. THE US REGIME AND RECENT DEVELOPMENTS

Whereas the interplay between state and federal authority defines the US regulatory experience, in the area of bank resolution it has resulted in a highly centralised regime. That centralised approach, which covers banks of all sizes, stands in contrast to the historically fragmented US approach to bank chartering (broadly equivalent to licensing in the EU) and supervision. For all practical purposes, federal law and the federal safety net determine the process for handling non-viable banks and Bank Holding Companies (BHCs, which stand at the top of banking groups as explained below), as well as securities firms.[12] This section, like the entire study, focuses on banks – known as Insured Depository Institutions (IDIs) in US regulatory parlance – and BHCs. Regimes applicable to other firms are covered in a more limited fashion, with features relevant to the EU policy debate highlighted as appropriate, or not at all.

As noted in the introduction, specialised US institutional arrangements for non-viable banks are quite elaborate and mature by comparison with their counterparts in other jurisdictions including the EU, and with arrangements for other kinds of financial institutions. BHCs, however, had no access to a specialised resolution regime—they would have to reorganise or liquidate in bankruptcy, a federal judicial proceeding, much like manufacturing or retail firms—until the Dodd-Frank Act of 2010 introduced Orderly Liquidation Authority (OLA) for systemically important financial companies.[13] OLA is meant to function as a backup option to bankruptcy, which remains the default process for non-viable BHCs. At the time of writing, OLA is untested.

Focusing on non-viable banks and BHCs helps flesh out long-running policy arguments that have shaped generations of institutional reforms, resulting in today's elaborate bank resolution regime anchored in the FDIC and its Deposit Insurance Fund (DIF). Arguments about political capture, moral hazard, and "taxpayer bailouts"—and countervailing concerns about systemic risk, access to banking services, and deposit protection—animate current debates in the EU and in the United States, albeit in very different institutional contexts.

2.1 US institutional architecture basics

The regulatory and supervisory architecture relevant to non-viable banks in the United States reflects its complex history of state and federal oversight, and more than two centuries of dynamic adaptation between the financial industry and its regulators (Gelpern & Véron 2018). This summary description is not comprehensive, and only intended as a primer for unfamiliar EU readers.

The term "bank" in the United States does not consistently describe the same set of institutions it does in the EU. The term generally refers to state and federally-chartered banks whose deposits are insured by the FDIC, and to any state or federally-chartered institutions that accept demand deposits and make commercial loans.[14] This definition importantly excludes credit unions (see Section 1), savings and loan associations (traditionally, housing lenders, also called thrifts), and US branches of foreign banks, even

[12] Insurance firms, by contrast, continue to be chartered, regulated, supervised, resolved, and backstopped by individual states.

[13] Dodd-Frank Act, Sec. 203(b)(2).

[14] Under the US Bank Holding Company Act of 1956, as amended (12 USC §1841(c)(1), internal references omitted): "[T]he term "bank" means any of the following: (A) An insured bank as defined in section 3(h) of the Federal Deposit Insurance Act […]. (B) An institution organised under the laws of the United States, any State of the United States, the District of Columbia, any territory of the United States, Puerto Rico, Guam, American Samoa, or the Virgin Islands which both— (i) accepts demand deposits or deposits that the depositor may withdraw by check or similar means for payment to third parties or others; and (ii) is engaged in the business of making commercial loans." The Federal Deposit Insurance Act separately defines "bank" by reference to charter form – in other words, a bank is that which is chartered as a bank under applicable state and federal laws; an "insured bank" under section 3(h) of the act is a bank whose deposits are insured by the FDIC (12 U.S.C. §1813(h)).

if they take FDIC-insured deposits.[15] Parallel and distinct oversight, insurance, and resolution regimes have historically applied to credit unions and thrifts. Distinctions between bank and thrift regimes, however, have been gradually eliminated between the early 1990s (following the so-called savings and loan crisis during the 1980s) and 2010 (enactment of the DFA). As a consequence, we frequently use "banks" thereinafter as shorthand for "banks and/or thrifts", and synonymous to IDIs. Credit unions, by contrast, continue to be supervised separately by the National Credit Union Administration (NCUA), which also administers the National Credit Union Share Insurance Fund.[16]

Unlike in the EU, in the United States a bank is a distinct legal form, which may be established either by state or by federal charter. The charter operates both as a constitutive document (functionally equivalent to an EU's bank incorporation, if it has a corporate legal form) and a banking license. The Office of the Comptroller of the Currency (OCC), an independent regulatory agency within the US Treasury Department, issues all federal bank charters. State regulatory agencies issue state bank charters under individual state laws. Federally-chartered banks must obtain FDIC insurance to take deposits, and must become members of the Federal Reserve System. State-chartered banks are not required to become Federal Reserve members, but must normally obtain FDIC insurance, which justifies their federal oversight.

State bank charters predominated in the United States through the 19th century, save for the two early and limited US experiments with central banking, the First and Second Banks of the United States, which ended in 1836. National (i.e. federal) bank charters were introduced under the National Banking Acts of 1863 and 1864, primarily to help finance the Union in the US Civil War. This legislation also established the OCC and gave it chartering and supervisory authority. The system operated without a central bank until the Federal Reserve System was established in 1913. The new central bank initially had only limited and indirect regulatory authority. Until 1980, access to Federal Reserve liquidity was conditional on membership of the Federal Reserve System, which is optional for state-chartered banks.[17]

Federally-chartered ("national") banks hold the bulk of US bank assets. At the end of 2018, 866 federally-chartered banks held $11.3 trillion in assets, compared to $2.9 trillion for 793 state-chartered Federal Reserve member banks, and $2.6 trillion for 3,140 state-chartered non-member banks.[18]

Virtually all US IDIs are owned by BHCs (Avraham, Selvaggi & Veckery 2012),[19] which are not themselves chartered banks but ordinary business corporations.[20] The dominance of this holding-company form partly reflects the long legacy of strict limits on banks' geographic expansion and non-bank activities

[15] 12 USC §1841(c)(2); the statute contains additional exclusions immaterial to this study.

[16] Credit unions are usually not referred to as IDIs, even though their deposits are insured (by the NCUA).

[17] The Federal Reserve could regulate by imposing conditions on membership; however, stringent conditions threatened to dissuade potential members from joining, while the benefits of access to Fed liquidity were uncertain in the early years.

[18] Source: Federal Financial Institutions Examination Council Annual Report 2018, available at https://www.ffiec.gov/PDF/annrpt18.pdf.

[19] When the IDI is a thrift, the holding company is known as a savings and loan holding company.

[20] In 2017 and 2018, three mid-size regional banks merged their holding companies into their IDI subsidiaries, shedding the BHC designation. The largest was federally-chartered Zions Bank, with $66 billion in assets and 433 branches in western United States. The banks cited their desire for streamlined regulation as the main reason for the mergers. To date, these remain rare exceptions, and the costs and benefits of giving up the BHC status continue to be debated. *See* V. Gerard Comizio and Nathan S. Brownback, "Shedding the Status of Bank Holding Company," Harvard Law School Forum on Corporate Governance and Financial Regulation, 11 August 2018, available at https://corpgov.law.harvard.edu/2018/08/11/shedding-the-status-of-bank-holding-company/; Thomas Homburg, "Bank Holding Companies – The Case for Not Firing the Federal Reserve," American Bar Association Banking Law Committee Journal, 2 July 2019, available at https://www.americanbar.org/groups/business_law/publications/committee_newsletters/banking/2019/201904/fa_3/.

in the United States. Holding companies started as a way to circumvent these limits; the BHC Act of 1956 was partly an effort to regain control over geographic and commercial expansion, and gave the Federal Reserve regulatory and supervisory authority over BHCs (Omarova & Tahyar 2011). To control a bank no matter how small, a company must get approval from the Federal Reserve, and submit to a host of activities and affiliation restrictions.[21]

Each US IDI has a "primary federal regulator" responsible for its prudential regulation and continuous supervision. The following is a summary of primary federal prudential oversight responsibilities over banks:

- The OCC charters, regulates, and supervises all national (federally-chartered) banks, which must be members of the Federal Reserve System.
- Each of the 12 Federal Reserve Banks that comprise the Federal Reserve System supervises state-chartered member banks within its geographic Federal Reserve District.
- The Federal Reserve Board supervises BHCs on a consolidated basis, with authority typically delegated to the geographically relevant Federal Reserve Bank. The Federal Reserve Board approves applications for BHC status. Financial Holding Companies (FHCs) are a subset of BHCs that meet more stringent regulatory criteria to engage in an expanded range of financial activities.[22] The Federal Reserve Board is also responsible for approving foreign bank entry in the United States, and for supervising Foreign Banking Organisations (FBOs)[23].
- The FDIC supervises state-chartered banks that are not members of the Federal Reserve System; it also has "backup" supervisory authority over all IDIs as described below (subsection 2.2).

In addition to prudential oversight at the federal level, consumer-facing aspects of banks' business conduct fall within the purview of the Consumer Financial Protection Bureau (CFPB), an independent bureau within the Federal Reserve established under the DFA. The Federal Reserve, FDIC, NCUA, OCC, and CFPB coordinate oversight through a federal body called the Federal Financial Institutions Examinations Council (FFIEC). State bank regulators coordinate through the Conference of State Bank Supervisors. Other aspects of business conduct, including Anti-Money Laundering (AML) oversight, fall under the authority of separate federal agencies.

By comparison with the EU, the US banking system is characterised by the multiplicity of prudential oversight authorities: state and federal chartering authorities, the Federal Reserve, and the FDIC all have prudential regulatory and supervisory mandates. Most large banks and all BHCs fall entirely under federal oversight; small banks tend to be state-chartered and thus supervised by both state and federal authorities.[24] In contrast, the European Central Bank (ECB) is the only licensing authority for all banks in

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[21] This requirement does not apply to an individual or a government, neither of which is a "company" within the meaning of the BHC Act.

[22] Historically and with few exceptions, banks in the United States were not allowed to underwrite or sell insurance. The Banking Act of 1933 also barred banks from the securities business. The Gramm-Leach-Bliley Act of 1999 permitted banks to affiliate with insurance and securities firms as part of an FHC.

[23] FBOs with US assets of more than $50 billion are required to form an intermediate holding company and to submit to enhanced prudential supervision by the Federal Reserve (Federal Reserve Regulation YY, 12 CFR 252 (2012)). Foreign banks generally operate in the United States through subsidiaries, branches, and offices. Subsidiaries are US banks controlled by foreign owners. Branches are extensions of the foreign bank, and do not have separate capital in the United States. Since 1991, foreign banks in the United States must establish as subsidiaries—not branches—to take insured deposits from the public; a small number of "grandfathered" foreign branches remain. Also beginning in 1991, foreign banks must obtain Federal Reserve approval to establish in the United States, and must be supervised at the federal level.

[24] As of 2018, 79 percent of all banks in the United States were chartered and supervised by state authorities. Source; Conference of State Bank Supervisors Annual Report 2018, available at https://www.csbs.org/system/files/2019-

the euro area, including "less significant institutions" with less than EUR 30bn in total assets. For the latter, some "day-to-day" supervisory responsibilities are assigned to national authorities, but not the key decisions about licensing or qualifying holdings (i.e. change of controlling ownership).

Critically for this study, however, the United States has a much more centralised and thoroughly integrated framework for dealing with non-viable banks, with the FDIC exercising substantial practical control, and other authorities playing more limited parts. In the EU, as described in the next section, responsibility for non-viable banks is distributed among the SRB, national resolution authorities, other national judicial and/or administrative bodies that may be involved in NBIPs and DGSs, and the European Commission as the enforcer of state aid controls. Even for resolution action inside the euro area, the SRB is only one of many players – the European Commission and Council play roles in the decision on the resolution scheme, and then (per SRMR) the "execution" of the scheme is the responsibility of national resolution authorities, not the SRB.

2.2 Historical Context

The FDIC was established in 1934 after a wave of bank failures, and after decades of unsuccessful attempts to establish federal deposit insurance. Over the same period, ad hoc state and federal receiverships for non-viable banks were prone to political capture, and lacked resources and professionalism. The failure of smaller-scale state and mutual guarantee arrangements for banks created an opening for the FDIC, which combined insurance and resolution functions. The FDIC's initial design gave it limited tools to execute its resolution objectives.

03/CSBS_AR2018_FINALproof.pdf. As noted earlier, most of these banks are also subject to FDIC and/or Federal Reserve oversight.

Figure 1: Summary of US banking history

Source: authors, based on Gelpern and Véron (2018)

Until the establishment of the FDIC, chartering authorities were responsible for handling bank failures. Receivers were often private individuals; they were appointed ad hoc by the chartering authorities, which also functioned as the banks' primary regulators, and reported to them. Receivers did not have independent budgets or borrowing authorities.

Public and private mutual support arrangements, liability guarantee and liquidity backstop schemes varied among states (Calomiris & Haber 2014, pages 174-175; Weber, 2014; Golembe & Warburton, 1958).[25] Researchers have identified two general types of schemes prevailing in the United States between 1829 and the start of the Civil War: private, unlimited mutual liability arrangements where banks had the authority and incentives to screen members and monitor one another, and state-sponsored insurance funds financed by bank assessments, with broad-based membership and limited screening and oversight. Most of the guarantee schemes became insolvent after banking panics in the late 1830s and again in the 1850s; a handful lapsed with the onset of federal bank charters. However, limited-membership, unlimited-liability private schemes did better at controlling bank risk-taking and losses to creditors (Calomiris 1990, Weber 2014).[26]

[25] In the 19th century, the emphasis was on guaranteeing bank notes, which functioned as money in the absence of a national currency before the Civil War.

[26] Amid bank failures in 1931, President Herbert Hoover encouraged the creation of the National Credit Corporation, a private corporation meant to serve as an industry self-help vehicle for strong banks to lend to their weak brethren, without resort to public funds. The initiative failed in a matter of weeks, as the strong refused to lend or demanded high-quality collateral from the weak (FDIC 1984, page 36, Lamke & Upham 1934, pages 6-7).

The establishment of the national bank charter and of the OCC during the Civil War ushered in federally-guaranteed uniform bank notes and more rigorous, professionalised bank supervision. However, it also launched intense competition for bank charters between states and the federal government, and led to the rise of deposit banking. National bank deposits, unlike bank notes, were not guaranteed. In the spirit of competition, state deposit guarantee schemes proliferated beginning in 1908. Most collapsed with a wave of regional bank failures in the 1920s; none were left after 1930 (Warburton, 1959).

Both federal and state receivership practice had fallen into disrepute by then. Receiverships were notoriously corrupt and politicised in some areas, and overwhelmed in all. A 1934 Brookings Institution report is worth quoting at length for a sense of the context for the FDIC's establishment:

> The appointment of receivers is the source of much difficulty, and has given rise to many allegations of political pressure and irregularity. Should the receiver be a local resident or would a stranger be more disinterested? […] Before the creation of a corps of specialists in liquidating closed banks, the office of the Comptroller of the Currency accepted Congressional suggestions as to receivership appointments, always with the understanding, of course, that a person with the necessary qualifications was proposed. This practice has been revived recently since the bank fatalities have been so numerous that the professional staff of the Comptroller cannot handle them all. It would be too much to hope that this system is free from abuse, and there has been much criticism in the press of appointments smacking of political favoritism. […] Bank supervisors in a number of states in recent years have been indicted for maladministration. Sometimes these indictments are for failure to close banks, sometimes for closing them without cause, and sometimes for the manner in which the assets are administered in receivership. An investigation and report made in 1930 by the Attorney-General of South Dakota charged neglect and loss as a result of the methods employed by the State Banking Department in managing the affairs of closed banks. Legislative investigations are now in progress in Pennsylvania and Ohio. […] Some students of the subject charge that the entire bank receivership system is wasteful and inefficient. They blame in part the fact that receiverships have been doled out as political "plums," the recipients of which attempt to make as much commission as possible, and to keep the job going as long as possible. It must be admitted that, except where liquidation is a regular function of an agency with established personnel, such charges have frequently been substantiated. […] Some states have not had a sufficient number of bank failures to justify the elaborate system of supervised liquidation which exists in the national system. (Lamke & Upham 1934)

The passage highlights persistent challenges in pre-FDIC ad hoc receiverships that—while not directly applicable to the EU—may have relevance beyond the narrow historical context. Most important among these are vulnerability to political influence, lack of professionalism, and inadequate resources. Some but not all could be attributed to limited scale and lack of diversification.

The history of state guarantee arrangements and ad hoc receiverships supplied arguments both for and against federal deposit insurance and centralised resolution authority. The FDIC's establishment was controversial. The US Congress had rejected 150 bills to establish federal deposit insurance between 1886 and 1933 (FDIC 1984, Calomiris & Haber 2014). Semantics were weaponised, most notably the choice between calling the new scheme "insurance" and "guarantee." Advocates of the new law stressed "the insurance principle" for its business-friendly risk-diversification association, and the distance it put between the FDIC and its undiversified state antecedents. Antagonists used "guarantee" to highlight government backing for small, presumably uncompetitive banks and the link to prior state scheme failures (Flood 1992). Giving due credit to the long history and fraught political economy of the legislative battles (e.g. Calomiris 1990), as a practical matter, the field had been largely cleared of competition both in the insurance and resolution spaces by 1933. By the time of its establishment, the FDIC was the only game in town.

The FDIC's authorisation under the Banking Act of 1933 lists its resolution function before deposit insurance.[27] The initial of the resolution mechanism is worth considering to appreciate the extent of its transformation. At the outset, the only way the FDIC could resolve failing institutions was to establish temporary Deposit Insurance National Banks (DINBs, discussed below) to pay off deposits. Authorities to pay off deposits directly, and to buy and sell assets did not come until 1935. The Banking Act of 1933 also legislated insured depositor preference, which was repealed in 1935. Between 1935 and 1993, all depositors and the FDIC as subrogee were put on the same footing as general unsecured creditors in federally-chartered bank resolution. For state-chartered banks, distribution priority was governed by state law. Thirty states had enacted depositor preference before 1993 federal depositor preference legislation (see below); some had done so as early as 1909, but most in the 1980s (Marino & Bennett 1999).

2.3 What the FDIC does

Over its 85-year history, the FDIC has developed a broad range of approaches for dealing with non-viable banks. It uses a variety of transaction structures to transfer the assets and liabilities of non-viable banks back to private ownership and to limit the cost of receivership to taxpayers. Crises and waves of bank failures have periodically exposed gaps in the toolkit and led to administrative and legislative innovation. Although the FDIC became adept at resolving smaller banks in good times and even in crisis, it often had trouble closing and resolving large, complex institutions, which came to benefit from authorities originally granted to support smaller community banks. Over time, the FDIC established predictable routines and methodologies for dealing with non-viable banks, including asset valuation, confidential franchise marketing, and liquidity support. It also instituted accountability mechanisms in response to demands from US Congress.

A non-viable bank fails[28] when its chartering authority revokes its charter and appoints the FDIC as receiver. The bank's assets and liabilities are transferred to a dedicated legal entity, known as the receivership. There is one receivership for each failed bank. The process typically begins up to 90 days beforehand (Figure 2.1), when the bank's primary regulator, in coordination with the FDIC, notifies it that it is "critically undercapitalised or insolvent." The time frame is embedded in federal legislation, which requires a bank's primary federal regulator to appoint a receiver no later than 90 days after it becomes critically undercapitalised under FDIC regulations. Once bank management are notified, FDIC staff meet with them to begin due diligence and marketing of bank assets and liabilities, subject to strict confidentiality commitments on the part of all involved.[29] After bank closure, the process of winding up the receivership may take years, although the FDIC typically sells most marketable assets within 90-120 days of closure.[30] In other words, roughly half of the FDIC's most intense resolution work

[27] Banking Act of 1933, Section 8, inserted a new Section 12B in the Federal Reserve Act, which began as follows: "(a) There is hereby created a Federal Deposit Insurance Corporation (hereinafter referred to as the 'Corporation'), whose duty it shall be to purchase, hold, and liquidate, as hereinafter provided, the assets of national banks which have been closed by action of the Comptroller of the Currency, or by vote of their directors, and the assets of State member banks which have been closed by action of the appropriate State authorities, or by vote of their directors; and to insure, as hereinafter provided, the deposits of all banks which are entitled to the benefits of insurance under this section." Digitised by FRASER, the Federal Reserve Bank of St. Louis, available at https://fraser.stlouisfed.org/title/466/item/15952.

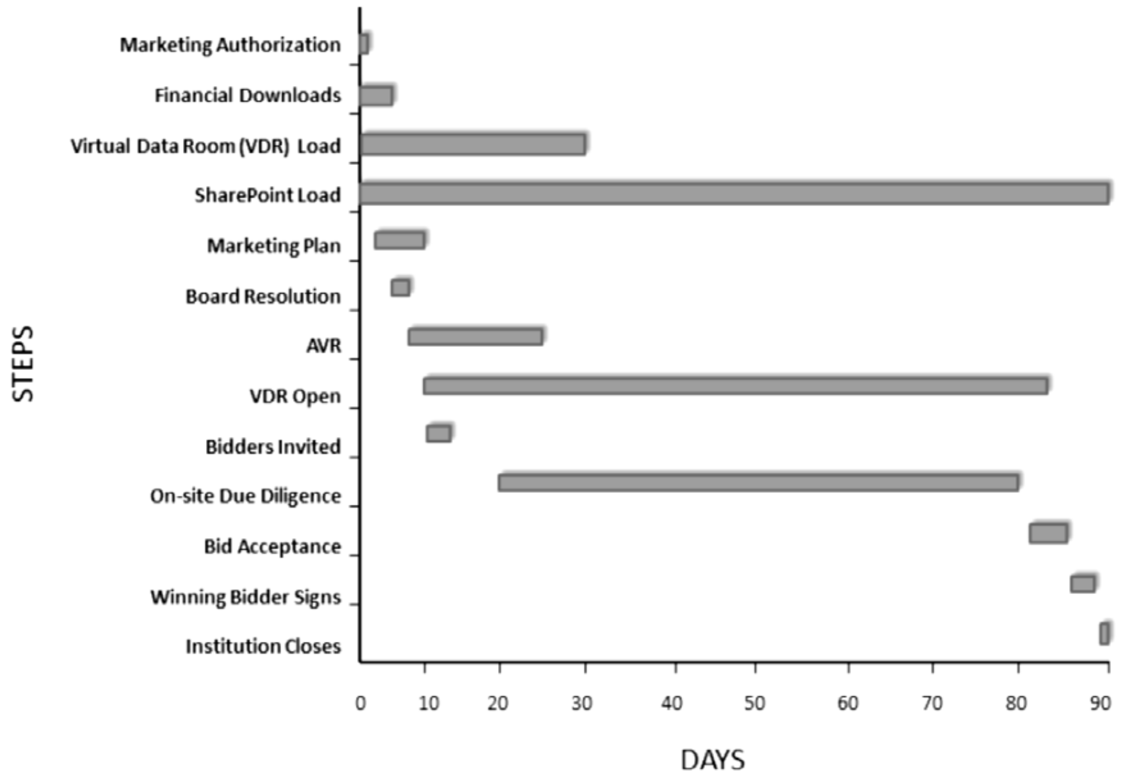
[28] We use "failure" and "closure" interchangeably in this section. Historical sources also use "suspension" to mean the same thing. All three terms connote revocation of the banking charter.

[29] We are not aware of any cases of confidentiality breaches during this period.

[30] For instance, in 2018 the FDIC started no new receiverships, but continued to administer 272 active receiverships at the end of that year, most of which were created during the crisis years 2007-13. It had terminated 66 receiverships over the course of the year. According to its annual report, "For 95 percent of failed institutions, at least 90 percent of the book value of marketable assets is marketed for sale within 90 days of an institution's failure for cash sales, and within 120 days for structured

is done confidentially before bank closure, with the other half done in public after the proverbial "resolution weekend."[31] By its end, the FDIC-administered receivership will have disposed of the bank's assets and paid its remaining liabilities in the prescribed order of priority.

Figure 2: FDIC Actions Taken before Bank Closure



Note: The timeline represents the actual sequence of marketing steps but start times and durations can vary significantly.

Source: FDIC Resolutions Handbook (2019). AVR stands for Asset Valuation Review.

The FDIC's Dual Role

Outside resolution, the FDIC acts as insurer and backup prudential supervisor for insured banks. During the resolution process, the FDIC acts as insurer and, simultaneously, as receiver.

- As insurer, the FDIC is responsible for paying off insured deposits from the DIF. Once deposits are paid off, the FDIC assumes their place in the claims distribution process, "stepping into their shoes". Through this mechanism, known as "subrogation", the FDIC typically becomes the largest and one of the most senior creditors of the receivership.

sales." Source: FDIC Annual Report 2018, page 48, available at https://www.fdic.gov/about/strategic/report/2018annualreport/2018ar-final.pdf.

[31] FDIC outreach and media treatment of resolution emphasise the fact that banks are usually closed on a Friday, so that depositors may access their funds on Monday, creating the impression that all resolution work is done in two days. The FDIC Resolutions Handbook, in contrast, describes the weekend as the start of the last step of the process: "The final step of the resolution process begins when the institution closes, and the assets and deposits are transferred to the [acquiring institution]. The chartering authority closes the institution and appoints the FDIC as receiver. This event usually occurs on a Friday at the end of the business day, which gives the FDIC time to work over the weekend." FDIC Resolutions Handbook (2019), page 14, available at https://www.fdic.gov/bank/historical/reshandbook/resolutions-handbook.pdf.

- As receiver, the FDIC has broad powers to dispose of assets, assume or repudiate contracts, recognise ("allow") and pay or reject claims.

Some financial industry observers have expressed concern about inherent conflicts in such an arrangement (e.g., Douglas & Guynn 2009). Insurance and receivership functions were separate before the FDIC's establishment and in several instances since; however, the dual role has become entrenched and continues unchallenged for all practical purposes.

The FDIC as insurer is in charge of the DIF, which is funded in advance with supervisory risk-based assessments on IDIs. The FDIC's financial resources include: its own operating budget; DIF borrowing authority of $100 billion from the US Treasury; and a note purchase agreement for $100 billion for the DIF with the Federal Financing Bank, a specialised government corporation under the US Treasury. The FDIC is subject to a statutory maximum cap on its obligations, which stood at $201.8 billion at the end of 2018.[32]

The FDIC's access to financing from the DIF gives it considerable flexibility as receiver. A standalone receiver would need to secure outside funding to manage and dispose of assets, much like a bankruptcy trustee – except that a receiver's task is likely to be harder because bank failures tend to come in waves and are more likely to coincide with credit contractions. Access to the DIF and the attendant borrowing and lending authority relieve the funding pressure (Carnell et al. 2017, pages 410-411), but fuel moral hazard concerns that periodically animate US banking legislation.

The FDIC's appointment as receiver is mandatory for all federally-chartered IDI.[33] Appointment criteria are broad, and for the most part are functionally equivalent to BRRD criteria for declaring a bank FOLTF (summarised in Box 1). State chartering authorities may appoint the FDIC as receiver for state-chartered insured banks. Immediately after the FDIC's establishment, state appointment practice varied; however, the FDIC has progressively taken over the receivership business in the second half of the 20th century, and now acts as receiver for virtually all state- and federally-chartered banks and thrifts. The FDIC as receiver does not report to the chartering authorities that appointed it.[34] As part of the US legislative response to the failure of 1,617 banks and 747 thrifts in the 1980s and 1990s, the FDIC secured authority to appoint itself receiver under certain conditions. The change reflected concern that chartering authorities lacked necessary independence to close a failed or failing institution quickly enough to minimise losses to the DIF.

Although the FDIC prefers to have chartering authorities close insolvent banks and appoint it as receiver, it has the ability to terminate or suspend insurance coverage under the FDIA, so long as it gives advance notice to the bank's primary regulator and to the bank itself, no less than 30 days before closure. Insurance termination forces the bank into receivership. Grounds for insurance termination are similar to the grounds for appointing a receiver, comprising unsafe and unsound activities, unsafe and

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[32] FDIC Annual Report (2018), available at https://www.fdic.gov/about/strategic/report/2018annualreport/2018ar-final.pdf. The FDIC frequently states, that FDIC insurance is "backed by the full faith and credit of the US government", and FDIC-insured banks are required by federal law to display the FDIC logo including that statement. The backing derives from the FDIC's borrowing authority and the accompanying appropriation; from 1987 legislation expressing the "sense of the [US] Congress" to that effect; and from 1989 legislation requiring that insured banks display the logo containing "full faith and credit" language.

[33] In 1989, the Financial Institutions Reform, Recovery, and Enforcement Act established that the FDIC is not appointed as receiver for uninsured institutions. The last receivership for an uninsured federal institution occurred during the Great Depression. In anticipation of issuing federal "fintech" charters, the OCC promulgated a new rule in 2017 implementing its authority to appoint a receiver for uninsured federally-chartered firms under the National Banking Act, which preceded the establishment of the FDIC. Reference: 12 CFR Part 51 (Receiverships for Uninsured National Banks).

[34] In contrast, before FDIC receivership, the receiver reported to the appointing authorities.

unsound conditions, and violations of the law including money laundering. Insurance termination is rarely used: it was introduced as a supervision and enforcement tool, but it quickly proved to be "inflexible and impractical" as such (Curry et al. 1999). It remains an important component of the US regime, however, as it gives the FDIC leverage in its interactions with the bank's chartering authorities and other regulators that may be inclined to engage in regulatory forbearance.[35]

The FDIC's expansive authority to terminate insurance and appoint itself receiver has two important implications: it incentivises other regulators (including the bank chartering authorities) to cooperate, and puts the objective of minimising losses to the DIF at the heart of the resolution process.

Box 1: Grounds for Appointment of a Receiver

Any of the following conditions can give rise to the appointment of FDIC as receiver:

- Regulatory insolvency (bank is under-capitalised under the prompt corrective action framework)
- Balance sheet insolvency (liabilities exceed assets)
- Inability to pay obligations or meet depositors' demands in ordinary course (illiquidity)
- Unsafe or unsound condition
- Wilful violation of a cease-and-desist order
- Concealment of books, papers, records, or assets
- Violation of anti-money laundering laws and regulations

This list is not exclusive. In general, grounds for appointment—like grounds for termination of insurance—include a range of unsafe and unsound conditions, unsafe and unsound activities, and violations of the law, including statutes, regulations, regulatory settlements and enforcement orders.[36]

2.4 FDIC Resolution Toolkit

Except as noted otherwise, this subsection follows the descriptions and usage in the FDIC Resolutions Handbook (2019).[37]

The FDIC uses variations on two resolution methods in dealing with non-viable banks: liquidation (often called payoff, or deposit payoff), and purchase and assumption (P&A). These methods can be used alone or in combination. In addition, the FDIC as receiver can form a bridge bank to facilitate resolution using one or more of these methods over time.

Liquidation

The FDIC as receiver may pay off uninsured depositors and other claimants from the proceeds of bank asset sales, or in advance, based on its asset recovery estimates.

- In "straight deposit payoff", the FDIC as insurer pays insured depositors. The FDIC as receiver gathers and sells bank assets, and remains responsible for paying all of its liabilities and the administrative costs of resolution.
- "Insured deposit transfer" allows the FDIC to transfer insured deposits to a healthy bank, usually in the same community or region as the failed bank, to effect payoff. The healthy bank functions as the FDIC's agent.
- When the FDIC cannot effect deposit transfer quickly, it may form a Deposit Insurance National Bank (DINB) to maintain continuous access to insured funds for depositors, "particularly in

[35] The Federal Reserve's ability to deny banks access to emergency liquidity serves a similar function, as part of the broader system of checks and balances.

[36] 12 USC §1821(c)(5).

[37] Some terms relevant to bank resolution are not used consistently in the literature and over time.

underserved areas." A DINB is a temporary special-purpose bank that has no capital, specifically formed to pay off insured deposits. As mentioned earlier, DINB was the sole resolution method available to FDIC between 1933 and 1935. Recent DINBs have typically remained open for 30 days, although FDIC has the authority to operate them for up to two years.

Purchase and Assumption

P&A covers a wide range of transactions between the FDIC and acquiring institutions, typically other banks. The basic idea is to have a healthy institution assume some or all assets and liabilities of the failed bank, with or without financial support from the FDIC.

P&A can be tailored to the characteristics of the institutions involved. The FDIC's approaches to P&A have changed dramatically over time. For instance, limits on bank geographic expansion under state and federal banking laws constrained early use of P&A. The FDIC has had the authority to engage in P&A since 1935, but did not begin to emphasise the practice until the late 1960s. Between 1935 and 1966, the FDIC avoided closure and receivership, preferring to find an acquirer for the non-viable bank's good assets and liabilities while the bank was still open. It used its authority to buy and manage problem assets. When it could not find acquirers, it used payoff in other cases, most of which were in states with branching restrictions (FDIC 1984, page 82). Since 1966, the FDIC has used competitive bidding to select the acquiring institutions.

- In a "Basic P&A" transaction today, an acquiring institution typically takes over all insured deposits and may take over uninsured deposits of the failed bank, along with its most liquid assets (this is sometimes called "Clean Bank P&A"). The acquirer has the option to buy loan pools or individual loans at book value within 30 days. Acquirers normally assume deposit liabilities at a premium (as cheap and stable funding), lowering the cost of resolution for the FDIC compared to payoff. The FDIC as receiver usually liquidates the bulk of the failed bank's assets and pays claims against the receivership. Because the acquirer does not normally take over all bank assets and liabilities, basic P&A is associated with greater upfront cash outlays and administrative burdens for the FDIC than whole bank P&A, discussed next.
- "Whole Bank P&A" became the FDIC's preferred resolution method in the late 1980s, as the condition of the banking sector deteriorated and FDIC came to hold a growing volume of problem assets. Beginning in 1986, "[w]hen evaluating P&A bids, the FDIC gave priority to those transactions through which the highest volume of assets could be sold" (FDIC 1998, vol. 1, page 89). The transfer of assets and liabilities sometimes enabled the non-viable bank to bypass receivership altogether (GAO 1994). Although whole bank P&A requires less cash and administrative expense upfront for the FDIC, it typically costs the DIF more over time. Acquirers can and do submit negative bids. According to an FDIC review, at the peak of whole bank P&A activity, "[w]hole bank bids were almost always offered on an all-deposit basis," protecting both insured and uninsured deposits. This approach raised moral hazard concerns and political exposure for the FDIC. From 1986 to 1991, uninsured deposits were protected in 72-88 percent of bank failures each year (FDIC 1998, vol. 1, pages 88, 94). As discussed in more detail below, the FDIC Improvement Act of 1991 (FDICIA) made it much harder for FDIC to use whole bank P&A and compensate uninsured depositors.

As part of a P&A transaction, the FDIC may agree to share prospective losses on transferred assets with the acquirer using a negotiated formula. In a loss-sharing agreement, the FDIC would typically absorb 80 percent of the losses, up to a cap, and may provide higher "catastrophic coverage" in selected cases. Acquiring banks may also offer to split the gains on transferred assets by issuing value recovery instruments to the FDIC. The FDIC developed loss-sharing in 1991 to reduce its asset management burden. The stated goal was to transfer as many non-performing assets as possible to private sector acquirers "in a manner that aligns the interests and incentives of the acquiring bank and the FDIC" (FDIC

1998, vol. 1, page 96). While efficient private sector asset management was and continues to be an important driver of the FDIC's P&A methodologies, the development of loss-sharing was motivated in important part by the problems it encountered in resolving large banks with complex commercial and real estate loan portfolios, where potential acquirers had limited time to perform due diligence. Between 1991 and 1994, FDIC entered into loss-sharing agreements for sixteen banks that covered over $41 billion in assets; resolution costs ranged from zero to more than 25 percent of total assets (Id., page 97).

The FDIC has the authority to charter a bridge bank to facilitate P&A. Bridge banks are used rarely, notwithstanding the recent high-profile case of IndyMac, resolved with a bridge bank during the financial crisis. A bridge bank buys the receiver time for due diligence and marketing, and entails substantially more administrative work for the FDIC. If the bridge bank is followed by P&A, the receiver transfers bank assets and liabilities twice: first, to the bridge bank, and second, to the eventual acquirer. However, forming a bridge bank does not limit the FDIC's resolution options thereafter: for instance, it may also dispose of the bank in an IPO or liquidate it. Bridge banks are used when the FDIC can show "that the franchise value of the bank is greater than the marginal costs of operating the bridge bank."[38]

In FDIC payoff practice for much of the 20th century, uninsured depositors did not get paid until after asset liquidation. As discussed below, the FDIC has the authority to advance funds based on its asset recovery estimates. Delays can still happen, particularly when the FDIC cannot readily estimate recovery values. In July of 2008, uninsured depositors did not get immediate access to their funds after the sudden failure of IndyMac, which had an unusually large stock of uninsured deposits. Even after the FDIC established a bridge bank to manage the resolution, but deposit withdrawals continued for several weeks (FDIC 2017, page 197).

The extent to which P&A may be used for large institutions and in future financial crises is uncertain. The FDIC detailed the challenges of using P&A to resolve larger IDIs ("large regional banks" in US regulatory parlance) in a recent rule proposal.[39] Washington Mutual (WaMu) is the only contemporary precedent in that category; its assets stood at $307 billion when it failed in September of 2008; the next largest case, IndyMac, involved $30 billion in assets and was resolved using a bridge bank, as noted above. WaMu resolution caused substantial losses for its creditors and for the DIF, and also generated significant legal liability for its acquirer JP Morgan Chase, to an extent that had not been anticipated at the time of acquisition.[40] It is uncertain whether this experience would deter future cases like WaMu. The Chief Executive of JP Morgan said publicly in mid-2018 that he "would do WaMu again" even with the benefit of hindsight.[41] We return to the WaMu case later in our assessment of the US regime at the end of this section.

Banking groups

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[38] FDIC Resolutions Handbook (2019), page 19.

[39] See section II.D of FDIC advanced notice of proposed rulemaking, "Resolution Plans Required for Insured Depository Institutions with $50 Billion or More in Total Assets", Federal Register, 22 April 2019, available at https://www.govinfo.gov/content/pkg/FR-2019-04-22/pdf/2019-08077.pdf.

[40] JP Morgan Chase went as far to sue the FDIC, a case that was eventually settled in 2016. See Jonathan Stempel, "JPMorgan ends WaMu disputes with FDIC, to receive $645 million", *Reuters*, 19 August 2016, at https://www.reuters.com/article/us-jpmorgan-settlement-washing-mut-bk/jpmorgan-ends-wamu-disputes-with-fdic-to-receive-645-million-idUSKCN10U28M.

[41] See Matthew Kish, "Jamie Dimon on the economy, trade and whether he'd by WaMu again", *Portland Business Journal*, 30 July 2018, at https://www.bizjournals.com/portland/news/2018/07/30/jamie-dimon-on-the-economy-trade-and-wamu-deal.html.

To limit the scope for asset concealment and balance sheet manipulation by insolvent bank owners, 1989 legislation gave the FDIC authority to call on solvent banks within the same banking group to make up for any losses to the DIF in connection with the failed bank's resolution.[42] Banks thus "cross-guarantee" the FDIC's exposure to their affiliates. In effect, all IDIs within the holding company are treated as if they were one bank for purposes of compensating the DIF. If the receivership recovers sufficient assets to repay the guarantors, they are entitled to sixth-priority distribution, as discussed later in this subsection. However, in practice, the FDIC's invocation of cross-guarantee liability triggers failure of the guarantor (e.g. Carnell et al. 2017, page 417-418).

Least-cost test and national depositor preference

Between 1951 and 1991, the FDIC had discretion to use any resolution method that was less costly than straight liquidation.[43] FDICIA substantially constrained this discretion in 1991 by requiring the FDIC to use the resolution method least costly for the DIF. FDICIA also required the FDIC to develop a more rigorous cost assessment methodology, projecting loss to the DIF "on a present-value basis, using a realistic discount rate," to document its reasoning and assumptions, and to undergo annual reviews of its resolution practice by the GAO, which functions as the investigative arm of the US Congress.[44]

The least-cost requirement led to a sharp decline in the number of whole-bank P&A transactions and substantial increase in uninsured depositor losses. The number of whole-bank transactions fell from a peak of 69 in 1988, to 24 in 1991 and only five in 1992 (FDIC 1998, vol. 1, page 88). According to the GAO, uninsured depositors incurred losses in 14 percent of FDIC resolution cases in the three years before FDICIA, and in 49 percent of the cases in the year following enactment (GAO 1994). Uninsured depositors accounted for approximately 3 percent of all deposits throughout that period.

The expectation that the least-cost requirement would result in losses for uninsured depositors was made explicit in public discussions surrounding the passage of FDICIA, and fuelled fears of runs. The FDIC as receiver made an effort to expedite the payment of uninsured deposit claims before it liquidated failed bank assets in cases where it could estimate asset recovery with reasonable confidence. The task was complicated by FDICIA's new and relatively stringent data and valuation requirements, which required FDIC staff to develop new methodologies in a hurry.[45] In the event, the runs did not materialise (GAO, 1994).

Uninsured depositors, and the FDIC itself, also benefited from the enactment of national depositor preference in 1993. That year, federal budget legislation formally put all deposit claims—including those of the FDIC as insurer, standing in the shoes of insured depositors—ahead of general unsecured creditor claims against the receivership. Apparently motivated by Congressional interest in generating cost savings for the FDIC, depositor preference legislation did not occasion much public debate at the time of its passage (Marino & Bennett, 1999)—nor was tiered depositor preference actively considered in policy debates before or after the 1993 legislation. There is little evidence that the expected cost

[42] FDIC Cross Guaranty Program, FDIC Press Release, last updated 30 October 2009, available at https://www.fdic.gov/news/news/press/2009/pr09195b.html. Banks that control, are controlled by, or are under common control with the bank in receivership are subject to cross-guarantee liability. 12 USC §1815(e)

[43] The FDIC first agreed to apply a cost test to its resolution practice in response to congressional pressure in 1951. A test incorporating the liquidation cost ceiling was formalised as part of the Garn-St. Germain Depository Institutions Act of 1982 (FDIC 1984, page 87).

[44] At the time, the agency was called the General Accounting Office. It has since been renamed Government Accountability Office. The acronym has not changed.

[45] Separating insured and uninsured claims was a particular challenge. Under US deposit insurance legislation, the insurance coverage limit applies per institution, per depositor, per account category. Determining coverage for joint accounts was particularly time-consuming early on (GAO 1994); however, it remains a challenge to this day (FDIC 2017).

savings materialised in the years after enactment of depositor preference; however, the FDIC has found depositor preference useful savings materialised but has proven useful for the FDIC's for its management of bank receiverships. We further elaborate on claim priorities later in this subsection.

Systemic Risk Exception and Open-Bank Assistance

FDICIA's least-cost requirement contained an important exception for cases in which closing a bank "would have serious adverse effects on economic conditions or financial stability," as determined by the Secretary of the Treasury in consultation with the President based on recommendations of two-thirds supermajorities of the Federal Reserve Board and the FDIC Board of Directors. Such a determination would trigger a "systemic risk exception", which gave the FDIC authority to manage a non-viable bank using tools and methods that were not least costly to the DIF.

So-called "open-bank assistance"—using FDIC lending authority to prevent, rather than to manage, bank closure—became one of the most controversial FDIC tools made possible by the systemic risk exception.

Congress first granted the FDIC open-bank assistance authority in 1950 in response to concerns that the Federal Reserve might not be a reliable source of liquidity support, particularly for the smaller state-chartered non-member banks (FDIC 1984, page 94; FDIC 1998, vol. 1, pages 152-153).[46] The authority was limited to cases where the FDIC determined that keeping a troubled bank open was "essential" to maintain banking services in the community. The "essentiality" constraint left the FDIC plenty of discretion to define what was essential and what constituted a community. The constraint was relaxed further in 1982, to apply only where the cost of assistance exceeded the cost of liquidation.

The FDIC did not use this lending authority at all until 1971, and used it only four times in the 1970s. Open-bank assistance skyrocketed in the 1980s, when it was used in 127 cases to facilitate bank mergers and famously to save banks deemed "too big to fail," such as the Continental Illinois National Bank and Trust Company in 1984 (FDIC 1998, vol. 1, pages 82-83). While the FDIC developed successive policies to mitigate the risk of moral hazard, diluting shareholder interests and replacing management, it failed to dispel the perception of bailouts. Although the average cost of open-bank assistance transactions between 1980 and 1992 was 6.15 percent of the recipient bank assets, they peaked at over 40 percent for a single institution in 1989 (FDIC 1998, vol. 1, page 103).

Under FDICIA, open-bank assistance would have to comply with the least-cost test unless it qualified for the systemic risk exception. The new hurdle was high to reflected perceptions that bank shareholders benefited from government aid, which FDIC disputed. Nonetheless, the FDIC did not use the authority again after 1992, until the 2008 crisis, when a SRE determination was made for three big banks even as the FDIC was closing dozens of small institutions:

- In September of 2008, the US federal authorities made a systemic risk determination for Wachovia, a $782 billion BHC whose real estate assets were rapidly deteriorating in crisis. To support Citigroup's proposed acquisition of Wachovia, the US government assembled a financial assistance package, including FDIC guarantees against losses on asset pools potentially exceeding $300 billion. However, the guarantee was never extended thanks to a subsequent offer by Wells Fargo to acquire Wachovia without recourse to FDIC support.
- In November of 2008, Citigroup received government assistance following the collapse of its Wachovia acquisition and further deterioration in Citigroup's financial condition. The

[46] The Federal Reserve opposed FDIC authority as an infringement on its own lender-of-last-resort function.

assistance package included FDIC guarantees for a $306 billion asset pool, made pursuant to the FDIC's open bank assistance authority and the systemic risk exception to least-cost resolution.

- The FDIC, the Federal Reserve, and the US Treasury also went through the systemic risk determination process for Bank of America in anticipation of large losses from its acquisition of Merrill Lynch. In January 2009, the US government announced an assistance package that would have included US Treasury and FDIC protection against losses on a $118 billion asset pool. The announcement turned out to be enough to restore market confidence, and the Secretary of the Treasury never finalised the systemic risk determination for Bank of America (FDIC, 2017).

Controversially, the FDIC also used the systemic risk exception to support the establishment of the Temporary Liquidity Guarantee Program (TLGP), a fee-based program to guarantee transaction accounts and certain new debt issued by struggling (though possibly viable) banks and BHCs (GAO, 2010). Together with a higher deposit insurance ceiling (raised from $100,000 to $250,000 in crisis, with retroactive effect, and maintained at that level ever since), these programs kept uninsured depositor losses to a minimum during the financial crisis.[47] In response, the Dodd-Frank Act of 2010 eliminated the systemic risk exception for open-bank assistance to individual institutions and severely constrained FDIC emergency lending authority (Box 2).

Box 2: Limits on FDIC emergency authority under the Dodd-Frank Act

The FDIC committed over $1 trillion in guarantees at the height of the crisis.

The DFA eliminated the FDIC's authority to provide emergency financial support to individual institutions, except as part of a liquidation process: "[T]he [Federal Deposit Insurance] Corporation may take other action or provide assistance under this section *for the purpose of winding up* the insured depository institution for which the Corporation has been appointed receiver as necessary to avoid or mitigate such effects." (12 USC §1823(c)(4)(G)(i)(II) (Our emphasis)

FDIC retained authority to provide guarantees that are "widely available," not targeted at individual institutions. Using this authority requires a determination of a "liquidity event" with a two-thirds supermajority approval by the FDIC and the Federal Reserve Board, consent of the Secretary of the Treasury, and—unusually—a joint resolution of both houses of the US Congress. The FDIC has the authority to borrow from the US Treasury to fund its emergency support, the cost of which must be recouped from industry assessments. (12 USC § 5612)

The DFA similarly limited the Federal Reserve's emergency liquidity authority for nonbanks to programs with "broad-based eligibility."

The recent experience with the systemic risk exception and open-bank assistance may be unprecedented in scale, but it is not unique.[48] The FDIC has a history of creative crisis interventions using authority granted decades earlier in very different circumstances. For instance, open-bank assistance was initially authorised as a way to help smaller banks, but ended up at the centre of the too-big-to-fail controversies. Creative use of old authorities to support big banks revives perennial concerns

[47] For a contemporary illustration of the effect on IndyMac, see e.g. Jim Puzzanghera and E. Scott Reckard, "Congress retroactively raises FDIC deposit insurance limits, aiding IndyMac account holders," *Los Angeles Times*, 16 June 2010, at https://www.latimes.com/archives/la-xpm-2010-jun-16-la-fi-fdic-indymac-20100616-story.html.

[48] See the speech by FDIC Chief Operating Officer John F. Bovenzi, "Remarks on The Role of Deposit Insurance in Financial Crises: Past and Present", given at the International Association of Deposit Insurers's 7th Annual Conference, 29 October 2008, at https://www.fdic.gov/news/news/speeches/archives/2008/chairman/spoct2908.html.

about taxpayer subsidies, regulatory forbearance, and moral hazard; the powers granted by law become political liabilities, and are severely limited or discontinued.

Contracts

The FDIC as receiver has broad authority to enforce or walk away from the failed bank's contracts. Its authority is more robust and subject to fewer outside controls (including judicial review) than a trustee's authority in corporate bankruptcy proceedings under the US Bankruptcy Code.

For instance, the FDIC may terminate contracts that are not completely performed at the time of the receivership if, within a reasonable time, it finds their performance "burdensome" and if doing so would promote orderly administration.[49] Although it becomes liable for damages to the contract counterparty, its liability is more limited than it would be under contract doctrines that would apply outside the receivership.[50] Critics of the receivership approach to bank insolvency have highlighted the receiver's ability to "cherry-pick" contracts as unfair and potentially distortive.[51]

The FDIC may raise the bar for enforcement beyond ordinary contract law requirements, for instance, rejecting oral contracts and contracts that are not proven with sufficient certainty. On the flipside, the FDIC can insist on enforcing contracts that by their terms give the counterparty the right to walk away if the bank is insolvent or is put in receivership.

Claims

The FDIC has broad authority to administer claims against the receivership. In its capacity as receiver, it solicits and reviews proof of claims (subject to judicial review) and, for claims in litigation at the time of the bank's failure, it can avail itself of procedural tools unavailable to other parties.

Receivership assets do not belong to the FDIC. Each claim recognised as valid by the FDIC is entitled to its share of the receivership liquidation proceeds, consistent with priorities summarised in Box 3 below. However, the FDIC may pay claims out of its own funds before liquidating receivership assets, and even before the deadline for filing proof of claims has passed, for instance, to discourage an uninsured depositor run. It may pay some creditors more than their likely share of the estimated liquidation value of the receivership, for instance, if it expects higher recovery from P&A. The US Congress clarified that the FDIC had no obligation to use its own funds—as distinct from receivership funds—to pay all similarly-situated creditors a *pro rata* share of its ultimate recovery, so long as creditors are paid at least what they would receive in liquidation (payoff).[52]

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[49] 12 USC §1821(e)(1)-(2)

[50] For example, the receiver would not be liable for consequential damages and certain penalty provisions.

[51] Qualified Financial Contracts (QFCs) are treated differently from other contracts in FDIC bank receivership, as well as under FDIC Orderly Liquidation Authority and in bankruptcy, as discussed later in this section. The category of QFCs covers most derivatives, repurchase (repo) agreements, and a range of other short-term funding instruments that get similarly special treatment in bankruptcy motivated by the desire to maintain market liquidity. (But see Morrison, Roe & Sontchi (2014), arguing that excluding such contracts from the bankruptcy process exacerbates systemic risk.) When the FDIC as receiver repudiates an ordinary contract, damages are measured as of the date of the FDIC's appointment, even though the receiver might take six months to decide whether to repudiate. When it repudiates a QFC, damages are measured as of repudiation date, and may include the counterparty's cost of replacing the QFC. The stated objective of different treatment is "to protect US financial markets." FDIC Resolutions Handbook (2019), pages 28-29.

[52] 12 USC §1121(d)(10)(B)

Box 3: Liquidation Priorities

The FDIC as receiver must first determine whether a claim is valid and allowed based on proof of claim presented before its deadline. If FDIC determines that the claim is allowed, it is paid from the assets of the receivership in liquidation in the following order:

1. Secured Debt (up to collateral value; remaining portion is paid with general unsecured, unsubordinated claims below)
2. Administrative Expenses of the Receivership
3. Depositors, Insured and Uninsured (includes FDIC, stepping in the shoes of insured depositors)
4. General Unsecured, Unsubordinated Claims
5. Subordinated Debt
6. Cross-Guarantee Claims
7. Equity

Lower-priority claims are not paid until claims senior to them are paid in full. If the receivership does not have enough assets to pay lower priority claims (e.g. if there is only enough to pay insured depositors), the FDIC does not need to determine the validity of the claim. The FDIC's maximum liability as receiver is limited to what the claim would have received in liquidation; it may, but has no obligation to, use its own funds to share some of the higher recoveries from P&A transactions with claimants against the receivership. Creditors have no claim against the FDIC's own funds in excess of what they would have received in liquidation, even if similarly situated creditors may receive more as a consequence of P&A. This is the functional equivalent to the BRRD's no-creditor-worse-off principle.

2.5 Orderly Liquidation Authority

As we highlight at the start of this section, virtually all US banks are owned by nonbank BHCs. The prevalence of the BHC structure has helped shape the US approach to non-viable banks in many ways.[53] However, while non-viable banks could be put in an FDIC receivership, their parent BHCs could only liquidate or reorganise under the US Bankruptcy Code, a federal judicial process.

A BHC bankruptcy filing triggers the creation of a bankruptcy estate overseen by a bankruptcy trustee, and launches a public liquidation or reorganisation proceeding before a bankruptcy court staffed with specialist judges. Creditors can and do challenge pre-bankruptcy transfers, and have the right to vote on reorganisation plans. Counterparties under Qualified Financial Contracts (QFCs), such as swaps and repurchase agreements, can immediately terminate their contracts and seize collateral when the debtor files for bankruptcy. A debtor in bankruptcy has no access to government liquidity, although it may borrow from private lenders with court approval, and offer them distribution priority. Bankruptcy court procedures include notice, disclosure, and confirmation requirements that can extend for months. For a large firm, bankruptcy reorganisation can easily take several years.

Many commentators have observed that this process as it stands is ill-suited to the operation of BHCs and other diversified financial conglomerates. The public nature of the proceeding, the long time frames, the uncertainty surrounding the fate of pre-bankruptcy contracts and transfers (including among affiliates) can easily hurt confidence and lead to runs on bank subsidiaries. Diversified conglomerates face the additional challenge of regime fragmentation, since in the United States,

[53] Among the long-established implications of the holding company form, BHCs are required to serve as a "source of strength" for their IDI (bank) subsidiaries, and IDIs within the same holding company are liable to the FDIC for losses associated with resolving affiliated IDIs.

banks, securities broker-dealers, and insurance firms, are all subject to different federal, and in the case of insurance firms, state, regimes for handling non-viability, with different safety nets and accountability channels. Fragmentation and conflicts are further magnified for global diversified conglomerates.

The Lehman Brothers bankruptcy filing in September of 2008 shocked global markets. Together with the US government rescue of the insurance conglomerate AIG the next day, the Lehman episode prompted the US Congress to establish Orderly Liquidation Authority (OLA) under the Dodd-Frank Act of 2010 for non-bank firms whose bankruptcy would pose a systemic risk. Congress responded to federal officials' contention that they had no authority to address the crises at Lehman Brothers and AIG without causing large-scale damage. The stated objective of OLA therefore was to avoid the binary choice between disruptive bankruptcy and taxpayer "bailout," and to create an incentive-compatible process suited to large financial conglomerates. The result is a hybrid, melding features of US-style bank resolution and corporate bankruptcy—but ultimately much closer to resolution (Scott & Gelpern, 2018). OLA has similarities with the EU resolution process under BRRD, which it predates.

Bankruptcy remains the default option for non-viable nonbank financial firms, including BHCs. The language of Title II of the DFA establishing OLA, and all the official pronouncements surrounding the legislation and subsequent regulation, emphasise that OLA is an alternative only available in cases where the supermajorities of the FDIC and the Federal Reserve boards, and the Secretary of the Treasury in consultation with the President, publicly certify that putting the financial firm through bankruptcy would threaten the system. The credibility of this bankruptcy-first commitment is untested.

Also untested is OLA's commitment to liquidation, which is part of its name, but stands in some tension with its other stated objectives. On the one hand, OLA creates the possibility of FDIC receivership for nonbanks, largely preserving the administrative flexibility the FDIC enjoys as receiver for IDIs. This is consistent with the objectives of preserving continuity in systemically important activities, including payment processing, clearing, and consumer activities (for example, ATM withdrawals), preserving the value of the firm, and minimising the spillover effects of firm failure on asset prices and institutions. On the other hand, the explicit requirements of liquidating the firm in OLA, penalising its management, and ruling out any losses to taxpayers complicate the path to achieving continuity.

Invocation of OLA

Under OLA, the FDIC may be appointed receiver for the liquidation of a "covered financial company." Covered firms are broadly defined to include BHCs, broker-dealers, insurers, systemically important nonbank firms designated for enhanced federal supervision, and others predominantly engaged in activities "financial in nature" —covering an expansive range of financial services. The definition excludes IDIs. Unlike "systemically important financial institutions" designated under the DFA, covered financial companies are not designated in advance—it is possible for a firm to be systemically important in death, even if it had not been recognised as such in life.

To invoke OLA, the Secretary of the Treasury, in consultation with the President, and two-thirds of then-serving members of each of the Federal Reserve and FDIC boards must independently determine, among other criteria: that the firm is in default or in danger of default; that its failure and resolution under other available authority, such as bankruptcy, "would have serious adverse effects on the financial stability in the United States"; that the effect of OLA on creditors would be appropriate in light of the threat to financial stability; and that no viable private sector alternative is available to prevent default. Neither the firm nor its creditors know until the eve of resolution whether they would be subject to OLA or bankruptcy, and the rules of these procedures differ.

Section 165(d) of DFA required bank holding companies with consolidated assets of more than $50 billion, and systemically important nonbank firms designated for enhanced federal supervision, to submit to the Federal Reserve Board and the FDIC plans for their "rapid and orderly resolution" (see Section 1 on semantics) under the US Bankruptcy Code, without recourse to government financial support. Such plans require fairly detailed assessment of firm structure, operations, and financial exposures, which should help make both bankruptcy and OLA proceedings more efficient and less disruptive. Regulatory relief legislation in 2018 raised the mandatory resolution planning threshold to $250 billion, and left resolution planning requirements for banks with $100-$250 billion in assets to the discretion of the Federal Reserve Board. Between October 2018 and April 2019, the Federal Reserve and the FDIC proposed a series of measures to relax bank regulatory burdens, particularly for large and mid-size regional bank and BHCs. The proposals include completely eliminating resolution planning for banks and BHCs with under $250 billion in assets, and reducing the frequency of full resolution plan submissions from yearly to once every six years for banks with assets over $250 billion that are not global systemically important banks, as defined by the FSB. These actions could have implications for a substantial portion of the US banking sector and the US regime for non-viable banks in the next financial crisis. Firms exempted from resolution planning would include BB&T, Sun Trust, American Express, and M&T Bank. For comparison, as mentioned above, the largest FDIC resolution case during the crisis of 2002-2009 was WaMu, a thrift with $307 billion in assets at the time of its failure, which accounted for 45 percent of all assets resolved by the FDIC during the crisis and caused substantial losses to the DIF (FDIC 2017, page 199).[54]

The OLA Receivership Process

OLA imports many of the core features of the US system of IDI resolution. For instance, it gives the FDIC broad discretion, including capacity to discriminate to some extent among similarly situated creditors, and limiting judicial review. Bankruptcy-like features in OLA include a recovery floor (creditors must receive no less than bankruptcy liquidation) and more favourable treatment of contingent claims and certain contracts.

Derivatives and certain other QFCs continue to benefit from special exemptions in OLA as they do in bankruptcy and in IDI receiverships, but the treatment in OLA is different. In bankruptcy, a QFC counterparty may close out the contract and seize its collateral notwithstanding the freeze on creditor enforcement ("automatic stay") triggered by the bankruptcy filing. While QFC counterparties in OLA might face a one business-day delay in terminating and collecting on their contracts, the FDIC has the option of transferring all QFCs with a given counterparty to a solvent entity, which could be a bridge bank. The FDIC must either transfer or repudiate the entire book of QFCs with a single counterparty, it may not pick and choose among the failed firm's contracts. In the event of a transfer, the counterparty should recover in full.[55] Apart from QFCs, FDIC retains the authority to select ("cherry-pick") contracts, including financial contracts, assumed by the surviving firm, similar to its cherry-picking authority in bank resolution.[56]

[54] For background on the proposal and the list of institutions expected to be covered, see Memorandum for the Board of Governors of the Federal Reserve from Governor Randal K. Quarles, Vice Chairman for Supervision, 24 October 2018, available at https://www.federalreserve.gov/aboutthefed/boardmeetings/files/board-memo-20181031.pdf. For criticism of this and related proposals, see Letter from the Systemic Risk Council to Federal Reserve Chair Jerome H. Powell and FDIC Chair Jelena McWilliams, 16 July 2019, available at https://www.systemicriskcouncil.org/2019/07/systemic-risk-council-urges-federal-reserve-and-fdic-not-to-relax-resolution-planning-requirements-for-large-us-regional-banks/.

[55] 12 USC §1821(e)(8), (9), (11).

[56] The US Treasury proposed limiting and clarifying this authority in its February 2018 report on OLA; the report also proposed shifting substantially from public to private funding for the resolution process (US Treasury, 2018).

The Dodd-Frank Act establishes an Orderly Liquidation Fund (OLF), which unlike the DIF, is not pre-funded with fees from participating firms. The OLF has borrowing authority from the US Treasury, which is limited to 10 percent of the book value of total consolidated assets of the firm in receivership during the 30-day period after the FDIC's appointment, and to 90 percent of the fair (market) value of the firm's total consolidated assets thereafter. The Secretary of the Treasury must approve FDIC borrowing for the OLF. The FDIC must determine that OLF funding is in the interest of US financial stability; prepare an orderly liquidation plan that accounts for the funding; and, if the funding exceeds 10 percent of the covered company's assets, it must agree on a repayment plan with the US Treasury. OLF has repayment priority ahead of all unsecured creditors of the receivership. If receivership proceeds are not enough to repay OLF in full, it is compensated with ex post levies on institutions receiving emergency assistance and/or systemically important institutions.[57]

Following DFA adoption, the FDIC gradually developed its framework for resolving a systemically important firm under OLA, which later became the Single Point of Entry (SPOE) Resolution Strategy. Under SPOE, the FDIC would intervene at the holding company level, preserving operating subsidiaries as going concerns. Loss-absorbing capital and liabilities at the holding company level, consistent with Total Loss-Absorbing Capacity (TLAC) requirements as defined by FSB standards, would be used to ensure the survival of its subsidiaries. In receivership, the FDIC would establish a bridge financial company to take over most of the holding company's assets, including its equity in the operating subsidiaries. If a firm is resolved in OLA rather than bankruptcy, its management must be removed.

The bridge financial company would be capitalised by bailing in the shareholders and creditors of the holding company. The bridge company would eventually be sold to private creditors. The FDIC expressed its intent to rely on private funding for liquidity in the SPOE framework, but would have the ability to advance short-term liquidity from OLF and provide guarantees to private creditors for the bridge company.

In contrast to the BRRD framework, "bail-in" under OLA and SPOE does not take the form of a pre-determined haircut for shareholders and creditors of a non-viable but still-open firm. Instead, shareholders are the first in line to absorb losses from the receivership, followed by creditors, who are expected to become shareholders in the bridge company. Thus "bailed-in," the creditors would be paid later from the eventual proceeds of the sale of the company. The amount of losses to be absorbed depends on the sale price of the firm or its assets. The availability of OLF liquidity and FDIC guarantees for creditors of the bridge financial company represent another point of distinction.[58]

The SPOE approach suits the BHC form that prevails in the United States. At least in theory, it can maintain continuity of functions for the operational subsidiaries, and the franchise value of the group. However, SPOE has been criticised as a backdoor bailout for large firms in contravention of the spirit of OLA authority, since the bridge financial company essentially preserves the failed group—albeit under different management. In addition, OLA's dependence on having sufficient TLAC at the holding company level continues to elicit scepticism.[59] The identity of TLAC investors and their ability to absorb losses without triggering contagion magnifies such concerns. Industry critics and policy makers have also criticised FDIC's broad discretion as OLA receiver, and its ability to treat similarly-situated creditors

[57] DFA Sec. 210(n). Pre-funding proposals in the US Congress were defeated on moral hazard grounds.

[58] A 2018 US Treasury report describes the operation of the current US OLA and SPOE framework in detail. US Department of the Treasury (2018), pages 8-12.

[59] e.g. Lubben & Wilmarth (2017), and Simon Johnson, "The Myth of a Perfect Orderly Liquidation Authority for Big Banks," *New York Times*, 16 May 2013, available at https://economix.blogs.nytimes.com/2013/05/16/the-myth-of-a-perfect-orderly-liquidation-authority-for-big-banks/.

differently (subject to the liquidation recovery floor), much as it does in IDI receiverships, with limited scope for judicial review (US Treasury 2018). Concern about administrative discretion and accountability has animated proposals to add dedicated provisions for bank bankruptcy to the US Bankruptcy Code.

2.6 "Chapter 14": Bank Bankruptcy Proposals

A dedicated US Bankruptcy Code chapter for financial institutions, Chapter 14 (currently unclaimed), would address concerns about FDIC administrative discretion and doubts about the viability of existing bankruptcy laws as the default option for BHCs under the DFA.[60] Early Chapter 14 proposals argued for eliminating OLA. Most recently, legislative proposals and the US Treasury report on OLA reform issued in February 2018 supported the bankruptcy proposal, but argued against repealing OLA.

As embraced by the U.S Treasury report, Chapter 14 would move away from the purely administrative process overseen by the FDIC, severely limiting its ability to "cherry-pick" among similarly situated creditors, introducing procedural constraints and transparency requirements, and opening up the process to judicial review (albeit endorsing the idea of specialised bankruptcy judges with expertise in the financial industry). Critics of Chapter 14 argue that bankruptcy proposals for large, systemically important financial institutions ignore financial and political realities. Dealing with distress in such an institution would require large-scale funding, which would have to be mobilised quickly, and which would most likely come from the public sector (e.g. Levitin, 2018). Chapter 14 proposals debated in the US Congress have not included access to OLF, relying instead on priority private sector lending; however some Chapter 14 supporters have spoken in favour of OLF access (e.g. Skeel, 2018). Public funding would come with strings attached as a matter of political accountability. In 2008-2009, government intervention came in conflict with contractual priorities.

The Trump administration and some members of the US Congress have expressed support for Chapter 14 legislation; however, it remains technically and politically contentious, and is unlikely to be adopted soon.

2.7 Summary assessment

As noted in the introduction, this study stops well short of a comprehensive assessment of the US regime. The following points, however, strike us as particularly relevant for EU policymakers.

The FDIC's public-facing activities are the tip of the resolution iceberg

The public communication of the FDIC centers on the retail account-holder experience. That priority enhances the salience of the "resolution weekend" during which a bank is closed, its business is sold to a peer, and the customers maintain continuous access to banking services and to their deposits. This section illustrates that the FDIC's work long before that weekend, typically three months ahead – and possibly earlier when it comes to assessing the bank's soundness under the FDIC's backup supervisory mandate. The FDIC's work also continues afterwards, for as long as it takes to unwind the receivership. The intervention weekend is the central point of reference in the resolution process, but not necessarily when the most critical decisions are made.

Ahead of bank closure, franchise marketing and due diligence by the prospective acquirer(s) is especially critical. The FDIC's experience of franchise marketing, developed over decades, is one of the agency's critical skills. Equally important is FDIC staff experience at valuing and disposing of a wide

[60] E.g. Mark J. Roe and David A. Skeel, Jr., "Bankruptcy for Banks: A Sound Concept that Needs Fine-Tuning," The New York Times, 16 August 2016, available at https://www.nytimes.com/2016/08/17/business/dealbook/bankruptcy-for-banks-a-sound-concept-that-needs-fine-tuning.html.

array of assets in the receivership process, which can happen over moths or even years, but can also involve difficult trade-offs, especially in times of market turmoil, of selling early and possibly at a distressed price, versus holding for longer with further downside risk. Legislative interventions since the 1950s have prompted the FDIC to become more rigorous and accountable in its valuation and asset management.

In sum, the FDIC's public image is primarily of a crisis manager, but its actual professional identity is very largely that of an asset manager – selling bank franchises (at the time of closure, following the weeks of franchise marketing) and rump assets (from the receivership) at the best possible price under the least-cost requirement.

The FDIC has credibility in both its deposit-protection mandate and in fostering market discipline

This section shows that there have been multiple debates over the years in the United States, just as in the EU, about the moral hazard involved in banking rescues. The FDIC's mandate and tools have been fine-tuned over 80 years. The least-cost test under FDICIA in 1991 was a key milestone, supported by the introduction of national deposit preference in 1993. Overall, this framework has passed the test of the 2007-2009 crisis with considerable success, especially for small and medium-sized banks, and the FDIC has emerged from the crisis with its mandate expanded to OLA receiverships, and with its public stature elevated. The FDIC has been unfailing in its core role of protecting deposits, creative in crisis, and at the same time steadfast in its promotion of market discipline under legislatively mandated least-cost requirement.

This credibility means different things in normal times and in times of systemic turmoil. In normal times, the FDIC is able to apply its burden-sharing framework, all the way to imposing losses on uninsured depositors to minimise costs to the DIF. The (relatively few) cases of idiosyncratic bank failures it had to handle between 1993 and 2007, and since the financial crisis, attest to this proposition. In times of system fragility, the balance is inevitably different, but the principle of fostering market discipline remains. At the height of the financial crisis in 2008, the FDIC effectively extended protection to all deposits, but imposed losses on Washington Mutual (WaMu)'s senior unsecured creditors against the advice of the Federal Reserve as vividly recounted by the principal actors (Bair, 2012; Geithner, 2014).

WaMu's creditor losses sent a signal to investors that they could not take for granted that senior bank debt would be repaid, even at the worst of times. This stands in vivid contrast to the EU, where no losses have been incurred by senior bank creditors in any but very tiny or very rare and atypical cases that generally involve severe misconduct (such as Hypo Alpe Adria in Austria, or Laiki Bank in Cyprus).

The OLA framework offers plausible responses to the challenges of bail-in and of liquidity in resolution

Unlike the BRRD framework, which mandates creditor haircuts and requires pre-positioned liquidity to keep the large firm open, the US OLA regime starts with the presumption of liquidation. Although SPOE may not deserve the label "liquidation" chosen by the DFA's drafters—it looks more like open-bank resolution—it can offer a streamlined approach to burden-sharing, if implemented to that end. When the non-viable company's assets are transferred to the bridge company, shareholders presumptively take first losses, and creditors take on the risk that remaining assets will not be enough to repay them in full. There is no US equivalent to the possible contribution of a resolution fund in "solvency support" after bailing in 8 percent of own funds and eligible liabilities. While some in the United States view the bridge company as circumvention of the DFA's liquidation mandate, in the EU context, which has no liquidation mandate, it may turn out to be simpler than the BRRD's method of bailing in the failing bank's shareholders and creditors.

The availability of OLF liquidity combined with the conditions on its use—in particular, the link between the eventual sale price of non-viable company assets and the FDIC's lending and borrowing authority—reduce the pressure to find private sector liquidity, and may ultimately make it easier for the bridge company to secure liquidity in the private markets. Whether the current TLAC requirements at the BHC level will suffice for effective future resolution remains to be seen. Nonetheless, combining FDIC receivership authority with access to US Treasury liquidity through OLF, as with the combination of receivership with insurance functions in the case of IDIs, goes a very long way to addressing the challenge of liquidity in resolution, in contrast to the current situation in the EU.

The FDIC is still untested on the Too-Big-To-Fail side of its mandate

OLA, however, like its EU counterpart, is untested – in contrast to the FDIC's tried and tested playbook for small and medium-sized banks. In 2011, the FDIC published research suggesting OLA would have allowed it to handle the Lehman case with some success (FDIC, 2011), but this remained very much a paperboard exercise. The FDIC approach has evolved since, not least with the SPOE resolution strategy. There has been no actual case of OLA yet.

3. THE EU REGIME AND ITS EARLY EXPERIENCE

3.1 Development during the crisis

Pre-crisis development of national regimes for non-viable banks in EU member states followed many diverse paths, and is beyond the scope of this study. At the EU level, there was no meaningful framework before the transatlantic financial crisis erupted in mid-2007.[61]

Events unfolded gradually from the start of crisis in mid-2007, in four partly overlapping phases: first, ad hoc national rescues, with generous use of public money;[62] second, uncoordinated national legislation on resolution regimes;[63] third, catching up belatedly with the latter, an attempt at EU harmonisation resulting in the European Commission's proposal for BRRD published in early June 2012 (on which more detail below); and fourth, the banking union sequence (Gordon and Ringe, 2015). The latter started with the landmark euro area summit of 28-19 June 2012, that memorably affirmed "It is imperative to break the vicious circle between banks and sovereigns" and decided on the creation of the Single Supervisory Mechanism (SSM) and the direct bank recapitalisation instrument of the European Stability Fund (ESM, see below). The eventual outcome was the SSM Regulation of October 2013, creating a centralised prudential supervisory framework controlled by the ECB;[64] the legislative elaboration of the DGSD and BRRD, enacted respectively in April and May 2014; and the SRMR of July 2014.

The euro area had created the ESM as a quasi-fiscal instrument for mutual assistance, established in Luxembourg in 2012 with €500 billion lending capacity. The early decision to empower the ESM to recapitalise banks directly was quickly watered down, however, and more recently reversed. The ESM is nevertheless to act as a financial "backstop" to the Single Resolution Fund (see below) on the basis of a political decision made in late 2013.

The legislative history of BRRD is particularly relevant to this study, and started several years before banking union. Its inception can be traced to a European Commission communication of October 2009 (COM (2009) 561), partly inspired by the UK Banking Act of the same year. In May 2010, the Commission recommended the establishment of national bank resolution funds (COM (2010) 254), and in October 2010, it outlined a framework of resolution powers and tools at the national level that prefigures the BRRD proposal (COM (2010) 579). In the meantime, the vicious circle between banks and sovereigns gradually became evident for all to acknowledge,[65] and that gradual realisation directly led to the major political breakthrough that gave birth to banking union in late June 2012. As a consequence, the legislative discussion of the BRRD happened in parallel with that of the two founding texts of the banking union, the SSM Regulation and the SRMR. These three legislative acts proceeded in quick succession, and are often perceived as part of a single coherent banking union agenda, even though the BRRD's conception predates that of the banking union by several years. The initiation of banking

[61] The main exceptions were a 1994 directive on DGSs (94/19/EC) and a 2001 directive on the reorganisation and winding up of credit institutions (2001/24/EC). But the former left almost all modalities of deposit insurance at the discretion of member states, and the latter was mostly limited to assigning jurisdiction to individual national authorities in the case of a non-viable cross-border bank.

[62] A choice was explicitly made at the highest political level, at the climax of the financial crisis in early October 2008, to keep bank crisis management at the national level and not seek an integrated approach at the European level: see Bastasin (2015), Chapter 1.

[63] Prominent examples included the UK Banking Act 2009 and the German Restructuring Act of December 2010.

[64] The description and assessment of the SSM is outside the scope of this study.

[65] See e.g. Véron (2016) for an analysis of the gradual recognition of the bank-sovereign vicious circle.

union was followed by significant changes in BRRD through the legislative discussion, however, including the eight-percent bail-in condition for intervention of a (national or European) resolution fund as explained below, and the decision to bring forward the date of applicability of bail-in from 2018 (as initially proposed by the European Commission) to 2016.

The BRRD is a product of distinct political choices on the part of EU policy makers, drawing on a multiplicity of international influences. Its resolution model took direct inspiration from the UK and from work developed at the global level under the aegis of the FSB that culminated in the "Key attributes of effective resolution regimes for financial institutions" (FSB, 2011). The key attributes also drew significantly on the FDIC's experience. The decision to leave NBIPs untouched came both as a choice of priorities (focusing on the larger banks) and as a political compromise (leaving the framework unchanged for most banks, including all small local ones). After the start of banking union and the political decision to create an SRM, the concern to minimise the use of European-level funds, entailing the possibility of asymmetric distributional effects among member states, gained salience. That concern drove some of the choices eventually made, including the emphasis placed on administrative bail-in at the point of non-viability. Some of the legislation's provisions, including the 8-percent bail-in condition, resulted from last-minute negotiated compromises that were not subjected to an extensive process of policy assessment. The SRMR's legislative history, not detailed here, is briefly presented in Véron (2019).

In May 2019, the European Union enacted changes to BRRD and SRMR, respectively Directive (EU) 2019/879 and Regulation (EU) 2019/877, mostly about adopting the FSB's standards on TLAC and correspondingly elaborating the "minimum requirements for own funds and eligible liabilities" (MREL) in BRRD. These were part of a broader "banking package" whose main thrust was the adoption of the Basel III accord on the prudential regulation of banks. An earlier amendment to BRRD adopted in 2017 (Directive (EU) 2017/2399) had introduced some modest steps of harmonisation in the ranking of unsecured debt instruments in insolvency. In April 2019, the European Commission adopted a report on the BRRD and SRMR (COM(2019) 213), which concluded that "it is premature to design and adopt legislative proposals at this stage" that would go beyond the changes introduced by the banking package, even as it suggests more analytical work to come in this area.

Aside from the SRM and BRRD, the other key component of the EU regime for non-viable banks that is enshrined in EU law is the state aid control framework. In this area, the legislation has remained constant – it is simply the Treaty on the Functioning of the European Union (TFEU), and specifically its Article 107(3) as explained in the next subsection. What has evolved, however, is the European Commission's enforcement doctrine and case law. The first landmark case of state aid control in the banking sector was the European Commission's actions in the late 1990s and early 2000s, following complaints by the Association of German Private Banks and the European Banking Federation, which led to the abolition by the German government of pervasive explicit government guarantees on publicly-owned regional banks known as *Landesbanken* (Moser, Pesaresi and Soukup, 2002). From there, the Commission has developed its state aid control practice, and from 2008 it published several successive indicative documents (known as Banking Communications, the most recent in July 2013) setting out its approach to state aid control in the banking sector in the specific context of the financial crisis. The Banking Communication 2013 is further analysed below.

The three other components of the EU regime, namely, bank insolvency proceedings, deposit insurance, and mutual support arrangements, remain essentially at the national level, even after the partial harmonisation of deposit insurance by the DGSD of 2014. There have been multiple changes in these components since the crisis started in 2007, but the corresponding country-specific developments are beyond the scope of this study.

3.2 The current EU regime in brief

Our analysis of the EU regime for failing banks identifies five main components: national bank insolvency proceedings; the EU resolution framework, including the SRM in the banking union; deposit insurance; state aid control; and national mutual support arrangements. This taxonomy is relevant for a holistic assessment of the EU regime, attempted below in Subsection 3.4. The rest of this subsection is descriptive and primarily intended at non-EU readers. It will presumably be familiar material for experienced EU practitioners.

National Bank Insolvency Proceedings

Before the enactment of BRRD, the regime for non-viable banks in the EU fell entirely within member state purview, and thus consisted of a collection of diverse NBIPs. BRRD complements but does not supersede NBIPs, referring to them as "normal insolvency proceedings" ("normal" refers to their default status), while defining resolution as an exception to be justified by public-interest considerations (see below). A detailed description of NBIPs is forthcoming in a separate study commissioned by the European Commission.[66] In the meantime, only partial comparative surveys are available: Baudino, Gagliano, Rulli and Walters (2018) review Greece, Italy, Ireland, Luxembourg, Slovenia, the UK, and several non-EU jurisdictions including the United States;[67] Binder, Krimminger, Nieto and Singh (2019) mainly review Germany, Spain, the UK, and the United States.

In line with established EU practice, and as explained in Section 1, in this portion of the study we reserve the word "resolution" (sometimes "EU resolution" for clarity) for the process established by BRRD under EU law. But it is important to keep in mind that NBIPs in several member states provide for a substantially similar administrative procedure, typically with less stringent requirements for burden-sharing among liability holders. For example, the Italian procedure known as *liquidiazione coatta amministrativa*, translated as Compulsory Administrative Liquidation (CAL) by the SRB, "provides for an administrative procedure quite close to resolution" (Kenadjian, 2019). In its landmark decisions in late June 2017 not to trigger resolution action in the cases of Banca Popolare di Vicenza and Veneto Banca (see below), the SRB concluded that CAL proceedings can achieve the objectives of protecting depositors, investors, client funds and client assets, as set in EU law, "to the same extent" as resolution would have.[68]

NBIPs are subject to national legislative change in the respective national jurisdictions. Unlike EU law, for which the legislative cycle typically takes at least a year and often much longer, national legislation in most EU member states can be passed in a matter of days in response to an emergency situation.

Bank resolution: BRRD and the SRM

The BRRD applies to the entire European Internal Market comprising the EU and other countries of the European Economic Area (EEA), beyond the banking union's geographical scope which is currently limited to the euro area.[69] It stipulates that a national resolution authority must exist in each EU/EEA

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[66] Study on the differences between bank insolvency laws and on their potential harmonisation: tender available at https://etendering.ted.europa.eu/cft/cft-display.html?cftId=4021. One of the authors (Véron) participates on behalf of Bruegel in the team that is working on the Commission study.

[67] Restoy (2019) adds France, Germany and Spain to that analysis.

[68] Decisions SRB/EES/2017/11 (Veneto Banca) and SRB/EES/2017/12 (Banca Popolare di Vicenza): Section 4.2 of the non-confidential versions, both available at https://srb.europa.eu/en/content/banca-popolare-di-vicenza-veneto-banca.

[69] At the time of writing, the EU comprises 28 member states, including the United Kingdom whose future continued membership is uncertain. The European Economic Area (EEA) includes three additional member countries of the European Free Trade Association, namely Iceland, Liechtenstein and Norway. The euro area comprises 19 countries, all EU member

member state, backed by national resolution financing arrangements, e.g. a resolution fund. It establishes, among other things, processes for resolution planning; criteria and procedures for "early intervention" by supervisors on fragile but still viable banks; criteria for aid to such banks such as liquidity guarantees and "precautionary recapitalisation"; the "public interest" criteria and process under which a supervisor (or resolution authority) may declare a bank FOLTF; and the criteria and process under which resolution authorities may place a FOLTF bank under resolution, in which case they must decide on a "resolution scheme" that makes "no creditor worse off" than they would have been in a hypothetical NBIP scenario (assuming no state aid in the latter).

Importantly, the BRRD imposes a condition that 8 percent of a bank's own funds and "eligible" liabilities (under criteria detailed by the BRRD) should be bailed-in before resolution funds could be mobilised for support. This clause is referred in this study as the BRRD's "8-percent bail-in condition". Correspondingly, the BRRD enjoins resolution authorities to set MREL requirements to make the bail-in condition more credible and operable in case of resolution. As Subsection 3.3 below illustrates, this framework of bail-in and MREL remains almost entirely untested, however, and largely unpredictable (Huertas, 2019).

The SRM only applies to the countries of the banking union. It is composed of the SRB and of the relevant national resolution authorities. The SRB was established by the SRMR as an autonomous EU agency, and became operational in 2015-16. Its direct remit ("SRB banks") includes all euro-area banks with more than €30 billion of total assets, plus some more under criteria set by the SSM Regulation and SRMR. The SRB is the primary resolution authority for SRB banks, in the sense that it leads their resolution planning; decides on whether to take resolution action if an SRB bank is declared FOLTF (either by the ECB or by the SRB itself), following its Public Interest Assessment (PIA) based on criteria set by the BRRD/SRMR; and if resolution action is undertaken (i.e. a positive PIA), decides on a resolution scheme, which however can be challenged or modified by the European Commission and/or the Council (which brings together all EU member states) before being implemented. The SRMR also stipulates that the "execution" of the resolution scheme is carried out by the relevant national resolution authority or authorities. The resolution of non-viable smaller banks (i.e. those that are not SRB banks) remains the responsibility of the relevant national resolution authorities, but the SRB has a coordinating role within the banking union area.

Under conditions, the SRB can use the Single Resolution Fund (SRF), financed by a levy on banks collected by the national resolution authorities. The SRF is established by the SRMR, but its assumption and mutualisation of national funds are set in a separate Inter-Governmental Agreement (IGA) that is formally outside of the EU legal framework.[70] The national resolution funds of euro-area countries, as defined by the BRRD, are being gradually mutualised within the SRF, a process that is scheduled for completion in 2024.

The SRB has had a somewhat difficult start (ECA 2017; Véron 2019) even though it had a broadly successful first resolution decision with Banco Popular Español in June 2017 (see below). The SRF is in the process of being built up, and had reached nearly €25 billion as of mid-2018.[71]

The SRM still has a number of loose ends, even apart from the fact that the scope of resolution in the euro area has turned out to be significantly more limited than initially envisaged (see below). The

states. Two additional countries, Bulgaria and Croatia, have started a process to adopt the euro as their currency, which will first entail voluntarily joining the banking area through a procedure set in the SSM Regulation as "close cooperation". Other EU member states may apply for close cooperation in the future, be it or not as part of a process to adopt the euro.

[70] The SRF IGA is available at http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%208457%202014%20INIT.

[71] Source: SRB website, at https://srb.europa.eu/en/content/single-resolution-fund.

backup supervisory mandate of the SRB, which the BRRD and SRMR establish as similar in scope to that of the FDIC in the US (including the authority to conduct inspections and to declare a bank FOLTF), does not appear to have been operationalised yet (IMF 2018, Véron 2019). The SRF in principle will be "backstopped" by the ESM, by 2024 at the latest; but arrangements negotiated in 2018-19[72] make this support more conditional and quantitatively limited than the FDIC's expansive borrowing authority from the US Treasury, which underpins the US DIF and OLF. Furthermore, the SRB, unlike the FDIC with the DIF and especially the OLF, still lacks sufficient formal arrangements to provide liquidity to banks in resolution, a matter which is currently being actively discussed.[73] There are also diverging views as to the ultimate decision-making autonomy of the SRB (e.g. Lintner 2017). In particular, it remains somewhat unclear whether the SRB is independent enough for the EU regime to be compliant with the key attributes of effective resolution regimes set at the global level by the Financial Stability Board (IMF 2018, paragraph 34, and FSB 2011, paragraph 2.5).

Deposit insurance

With the implementation of the DGSD of 2014, each EU member state has a compulsory DGS that insures deposits up to a harmonised limit of €100,000. In some member states, several DGSs coexist, covering different categories of banks.[74] In addition, some member states, such as Italy and Germany, have "voluntary" or "top-up" deposit insurance covering all or a subset of banks, which are private-sector arrangements not covered by the DGSD – we include them below in what we call mutual support arrangements.

Article 108 of BRRD stipulates that insured ("covered") deposits have priority over other deposits in resolution. Within the latter category (non-covered deposits), an additional distinction is made for deposits "from natural persons [i.e. individuals] and micro, small and medium-sized enterprises," which have priority over other deposits or, for that matter, other creditors. This stands in contrast with general depositor preference, as it has existed in the United States since 1993, under which all deposits have preferred status relative to other creditors and rank equally among themselves.

In some (not all) member states, the national DGS can provide support for the restructuring or closure of troubled banks beyond the mere insurance of covered deposits. This is enabled on a broad basis by Article 11(6) of DGSD, which states that "Member States may decide that the available financial means may also be used to finance measures to preserve the access of depositors to covered deposits, including transfer of assets and liabilities and deposit book transfer, in the context of national insolvency proceedings, provided that the costs borne by the DGS do not exceed the net amount of compensating covered depositors at the credit institution concerned." The status of such "alternative measures" under state aid control is not settled. In March 2019, the Court of Justice of the European Union ruled, against an earlier decision by the European Commission, that financial support by the Italian DGS may not be considered state aid.[75] This ruling, however, has been appealed by the

[72] See ESM press release, "Explainer on ESM reform and revisions to the ESM Treaty", 24 June 2019, available at https://www.esm.europa.eu/press-releases/explainer-esm-reform-and-revisions-esm-treaty.

[73] See e.g. Deslandes and Magnus (2018).

[74] The full list and key statistics are available on the European Banking Authority's website at https://eba.europa.eu/regulation-and-policy/recovery-and-resolution/deposit-guarantee-schemes-data.

[75] General Court of the EU, "The General Court annuls the Commission's decision that support measures adopted by a consortium governed by private law for the benefit of one of its members constituted 'aid granted by a State'", Press Release 34/19, Luxembourg, 19 March 2019, available at https://curia.europa.eu/jcms/upload/docs/application/pdf/2019-03/cp190034en.pdf.

Commission.[76] Restoy (2019) compares the scope for alternative measures in ten EU/EEA member states, and also discusses the consequences of above-mentioned "tiering" of deposits by Article 108 of BRRD and especially of the "super-priority" granted to covered (insured) deposits.

In November 2015, the European Commission has published a legislative proposal for a European Deposit Insurance Scheme (EDIS; COM (2015) 586). This proposal has been blocked so far in the legislative process. We come back to EDIS, and its current absence, later in this study.

State aid control

State aid control is another core component of the current EU regime for non-viable banks. Its only legal basis is the TFEU, and specifically its Article 107(3) on categories of state aid that "may be considered to be compatible with the internal market", supplemented by case law and the European Commission's own public guidance, namely the Banking Communications.[77] In particular, Article 107(3)(b) TFEU mentions as one of the acceptable categories "aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State". Most banking-sector aid that has been authorised (with conditions) by the European Commission falls under this primary objective "to remedy a serious disturbance in the economy".

Paragraphs 5 and 6 of the Banking Communication 2013 (2013/C 216/01), whose full title is "Communication from the Commission on the application, from 1 August 2013, of State aid rules to support measures in favour of banks *in the context of the financial crisis*" (our emphasis), are worth quoting in full:

> "5. The persistence of tensions in sovereign debt markets forcefully illustrates the continued volatility in financial markets. The high level of interconnectedness and interdependence within the financial sector in the Union continues to give rise to market concerns about contagion. The high volatility of financial markets and the uncertainty in the economic outlook and the resulting persistent risk of a serious disturbance in the economy of Member States justifies maintaining, as a safety net, the possibility for Member States to grant crisis-related support measures on the basis of Article 107(3)(b) of the Treaty in respect of the financial sector.
>
> 6. In those circumstances of persisting stress in financial markets and given the risk of wider negative spill-over effects, the Commission considers that the requirements for the application of Article 107(3)(b) of the Treaty to State aid in the financial sector continue to be fulfilled. *The application of that derogation remains, however, possible only as long as the crisis situation persists, creating genuinely exceptional circumstances where financial stability at large is at risk*." (Our emphasis.)

Under this umbrella assessment, the Communication lists several types of measures:

- "Recapitalisation and impaired asset measures", also referred to in the Communication as "restructuring aid" and known more colloquially as solvency support,[78] for which the Communication imposes conditions that include burden-sharing by the bank's shareholders (typically wiped out) and subordinated creditors (typically converted to equity with an initial loss); the Communication, however, does not impose burden-sharing on senior creditors, let alone depositors.

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[76] See Francesco Guarascio, "In blow to Italy, EU's Vestager appeals ruling over bank rescue", *Reuters*, 29 May 2019, available at https://www.reuters.com/article/us-italy-banks-tercas/in-blow-to-italy-eus-vestager-appeals-ruling-over-bank-rescue-idUSKCN1SZ25U.

[77] The validity of the Banking Communications as guidelines for the Commission's state aid control has been tested and confirmed in court: Court of Justice of the EU, "The Communication from the Commission on aid to the banking sector is valid", Press Release 80/16, Luxembourg, 19 July 2016, available at https://curia.europa.eu/jcms/upload/docs/application/pdf/2016-07/cp160080en.pdf.

[78] We generally avoid in this study the even more colloquial term "bail-out", which is used too loosely in public debates to be associated with a specific category of public financial support.

- "Guarantees and liquidity support outside the provision of central bank liquidity", which are considered "rescue aid" (a broader category than "restructuring aid") and constrained by the Communication but don't entail burden-sharing. Unlike restructuring aid, this kind of state aid is only available for "banks without a capital shortfall".
- "Provision of liquidity by central banks and intervention of deposit guarantee schemes" which are typically not considered state aid, under conditions specified by the Communication.
- "Interventions by a resolution fund" which are presumed to be state aid, without further elaboration in the Communication.
- "Liquidation aid" to facilitate "the exit of non-viable players" and entail the same burden-sharing conditions as restructuring aid.

In addition, in the case of the two Veneto banks (see below, Subsection 3.3), the Commission has recently come to the conclusion that member states may offer compensation to retail victims of misselling by their bank; subject to conditions, it does not consider such compensation to be state aid.[79]

It may be debated to which extent the Commission's overall crisis assessment, explained in the Banking Communication 2013 as quoted above, still applies under current market conditions and thus still supports the authorisation of state aid "to remedy a serious disturbance in the economy". Should the Commission revise it, the scope for state aid in the banking sector would be considerably reduced. The European Commission has given no indication of its future stance in this respect.

As things currently stand, the burden-sharing conditions of BRRD resolution are more onerous than those of state aid control, since they include the 8-percent bail-in threshold that may imply losses imposed on unsecured creditors and even possibly uninsured depositors. But should the European Commission (or for that matter, hypothetically, the Court of Justice ruling on a Commission decision) determine that the financial crisis is over and thus that Article 107(3)(b) TFEU no longer applies, then the BRRD's 8-percent bail-in condition would no longer be, as now, more stringent than state aid conditions – unless other clauses of Article 107 TFEU may be invoked, but that is unlikely in most cases.[80]

National mutual support arrangements

By national mutual support arrangements, we refer loosely to diverse schemes that exist in a small number of member states, most prominently in Germany and Italy.[81] Such schemes may cover some or all domestic banks, and may be binding or non-binding, temporary or permanent.[82] National mutual support arrangements include "institutional protection schemes" (IPSs), which get specific recognition in the EU Capital Requirements Regulation; voluntary deposit insurance schemes that come on top of mandatory DGSs; and various ad hoc arrangements. The IPSs of Germany's public banks and cooperative banks, respectively, are major pillars of the German banking sector. The voluntary ("top-up") deposit insurance operated by the German private bank association (known by the German acronym BDB) is another significant example. Italy's ill-starred Atlante fund of 2016 was a case of ad

[79] See Francesco Guarascio, "EU, Rome agree draft deal to soften bail-in rules on Italy banks: source", *Reuters*, 5 April 2019, at https://www.reuters.com/article/us-eu-banks-regulations/eu-rome-agree-draft-deal-to-soften-bail-in-rules-on-italy-banks-source-idUSKCN1RH1UC.

[80] Indeed it is not clear that, in the absence of the need to "remedy a serious disturbance in the economy", state aid control could authorise any intervention of a resolution fund, even after 8-percent bail-in.

[81] In other member states, e.g. Austria and Spain, mutual support arrangements exist but cover a smaller share of the national banking sector.

[82] No such schemes currently exist on a cross-border basis, unless of course the SRF is viewed as a mutual support arrangement. By convention, we also exclude mandatory DGSs (as defined and harmonised by DGSD from this category.

hoc arrangement, technically voluntary but explicitly sponsored by the national government.[83] A voluntary component of the Italian DGS was also set up in 2016.

Mutual support arrangements typically allow for financial assistance to one bank from its peers without that assistance being subject to state aid control. On the face of it, this is appropriate since these are voluntary arrangements among commercial entities.[84] What is unclear, and so far untested, however, is what would happen if the entire arrangement were to come under financial strain. There may be a widespread presumption that, at least in some cases, the national government would come to the rescue. Thus, not only are mutual support arrangements part of the regime for non-viable banks in those member states where they exist; they may also benefit from a perceived national public guarantee, even as this is difficult to quantify – and is also arguably not certain enough to be viewed as state aid, or to justify a ratings uplift.

As we note in Section 2 and have elaborated in earlier work (Gelpern & Véron 2018), a number of US states experimented with formal and informal mutual support arrangements in the 19th century, and again between 1908 and the Great Depression. While limited-membership, unlimited-liability schemes were more effective at containing bank losses and controlling risk-taking, most failed, and in some cases, contributed to contagion (e.g. Calomiris & White 1994, Vickers 1994). Federal deposit insurance became politically palatable in the early 1930s partly owing to the perception that smaller-scale, undiversified alternatives were doomed to fail, inflicting large losses on depositors and creditors. We are not aware of US state (let alone federal) rescues of failing mutual support arrangements since the Civil War. However, the fact that such failures did entail what might be considered under TFEU as "serious disturbance in the economy", combined with the greater propensity in the EU to provide financial support to protect systemic stability, gives plausibility to the expectation that failing mutual support schemes in the EU would receive national government assistance, at least for the largest ones.

3.3 Application of the EU regime since 2014

As always with crisis management arrangements, the EU regime for non-viable banks has to be judged on practical experience and not only on intent and statements of principle – even those that are enshrined in law. Since we view the BRRD and SRMR as important components of the regime, however, the relevant cases are only those that came after the BRRD's entry into force in mid-2015. Earlier cases of bank rescues or restructuring have only limited precedent value to help investors and other stakeholders anticipate future decisions, including those that were completed after the entry into force of BRRD but had started before.[85] Because our analysis focuses on non-viable banks, it also leaves aside cases of interventions in banks that were not deemed to have reachedthe point of non-viability, irrespective of whether state aid was granted.[86]

[83] See Rachel Sanderson and Martin Arnold, "Italian banks: The rescue mission", *Financial Times*, 15 April 2016, at https://www.ft.com/content/f52f1ca6-02ec-11e6-af1d-c47326021344.

[84] In the case of an IPS, the incentives to provide mutual support to a non-viable member go beyond consideration of an arm's-length transaction. This is because IPS membership entails derogations from prudential requirements under EU law, such as exemptions of intra-IPS exposures from credit risk-weighting and from leverage ratio calculations, and discounted contributions to the SRF. A failure to provide support would entail a risk of derecognition of the entire IPS and therefore loss of these derogations.

[85] These cases include Banco Espirito Santo / Novo Banco in Portugal, Cooperative Bank in Cyprus, Hypo Alpe Adria / HETA in Austria, and HSH Nordbank in Germany.

[86] Such cases of banks that were troubled but deemed viable include those of National Bank of Greece and Piraeus Bank in late 2015 (Greece, both precautionary recapitalisations); Monte dei Paschi di Siena in July 2017 (Italy, precautionary recapitalisation); and Carige in early 2019 (Italy, early intervention). At least in the case of Monte dei Paschi, there have been suggestions that the bank benefited from supervisory forbearance, namely that the ECB should have declared it FOLTF in

With this in mind, all relevant EU cases of which we are aware are listed below. Of these, only Popular, the two Veneto banks and ABLV were SRB banks.

- Banks that were resolved by national authorities in the second half of 2015, after BRRD's entry into force but before its 8-percent bail-in condition became applicable on 1 January 2016: Jadranska Banka Sibenik (Croatia, October 2015); Banca delle Marche, Banca Popolare dell'Etruria e del Lazio, Cassa di Risparmio di Ferrara, CariChieti (Italy, November 2015); Cooperative Bank of Peloponnese (Greece, December 2015); and BANIF (Portugal, December 2015).
- Andelskassen JAK Slagelse and København Andelskasse: deemed FOLTF by the Danish Financial Supervisory Authority in January 2016 and in September 2018 respectively, and resolved by the Danish resolution authority (Finansiel Stabilitet) following positive PIA. The resolution involved, respectively, a sale of business (to Netfonds) and the creation of a bridge bank (FS Finance VI). No state aid was involved in either case.
- Banco Popular Español: deemed FOLTF (for illiquidity) by the ECB, and resolved by the SRB in June 2017 following positive PIA. The bank was sold to Santander for a nominal price of one euro. No state aid was involved. Multiple lawsuits are ongoing.
- Banca Popolare di Vicenza and Veneto Banca (known as the "Veneto banks"): deemed FOLTF (both for insolvency) by the ECB in June 2017, with a negative PIA by the SRB resulting in their treatment through the Italian NBIP known as compulsory administrative liquidation (see above). Most operations of the two banks were taken over by Intesa Sanpaolo, which associated liquidation aid in the form of nearly €5 billion in cash injections and €12 billion (maximum) in government guarantees, backed by the Italian State's senior claims on the assets in liquidation.[87] In addition, retail former shareholders and creditors that are deemed victims of past misselling by the two banks will be partly compensated.
- ABLV: deemed FOLTF (for illiquidity following the publication by the US government of findings deeming it "of primary money laundering concern") by the ECB in February 2018, with a negative public interest assessment by the SRB. The group's parent entity was liquidated under the Latvian NBIP. The Luxembourg affiliate was found by a local court not to meet the criteria for liquidation under Luxembourg's NBIP, then continued to operate for some time as a consequence (under the name ABLV Bank Luxembourg SA), but has eventually entered a process of liquidation.[88]
- Smaller (non-SRB) banks that were handled through NBIPs: Maple Bank (Germany, liquidated by BaFin in February 2016); Trasta Komercbanka (Latvia, license withdrawn by the ECB in March 2016); Nemea Bank (Malta, put under public administration in April 2016); Banka Splitsko-Dalmatinska (Croatia, license withdrawn by the Croatian resolution authority in May 2016); several Polish credit unions liquidated by the Polish Financial Supervision Authority in 2016-17; several Lithuanian credit unions liquidated by the Bank of Lithuania in 2017-18; Tesla Stedna Banka (Croatia, license withdrawn by the Croatian resolution authority in February 2018); Dero Bank (Germany, liquidated by BaFin in March 2018); Versobank (Estonia, license withdrawn by the ECB in March 2018); Banca Sviluppo Economico (Italy, liquidated in April 2018); Pilatus Bank (Malta, license withdrawn by the ECB in November 2018).[89]

2016. See Elisa Martinuzzi, "What the ECB Didn't Say About Monte Paschi's Bailout", *Bloomberg*, 30 June 2019, at https://www.bloomberg.com/graphics/2019-opinion-monte-paschi/.

[87] European Commission press release, "State aid: Commission approves aid for market exit of Banca Popolare di Vicenza and Veneto Banca under Italian insolvency law, involving sale of some parts to Intesa Sanpaolo", Brussels, 25 June 2017, available at http://europa.eu/rapid/press-release_IP-17-1791_en.htm.

[88] See ABLV announcement, "To minimise further losses ABLV Bank Luxembourg, S.A. has agreed to the start of the judicial liquidation process", 26 June 2019, at https://www.ablv.lu/en/press/2019-06-26-to-minimise-further-losses-ablv-bank-luxembourg-s-a-has-agreed-to-the-start-of-the-judicial-liquidation-process; and Laura Fort, "La mise en liquidation d'ABLV prononcée", *Paperjam*, 2 July 2019, at https://paperjam.lu/article/mise-en-liquidation-ablv-luxem.

[89] See EBA website at https://eba.europa.eu/regulation-and-policy/recovery-and-resolution/notifications-on-resolution-cases-and-use-of-dgs-funds for relevant public notifications.

It is noteworthy that almost none of these cases are in the EU's three largest economies and banking systems, namely France, Germany and the United Kingdom (namely, two cases of German private banks). This may be related to the highly concentrated structures of the banking sectors in France and the UK, with few small or medium-sized banks left following extensive consolidation in recent decades (including the first few years of the crisis); and to the "three-pillar" structure of the German banking system, with many small banks in the public and cooperative pillars but covered by mutual support arrangements,[90] and a fairly concentrated private pillar broadly as in the British and French cases.[91]

Inevitably, some cases have been more controversial than others. In some member states, e.g. Austria and Germany, there are widespread perceptions that the granting of state aid without 8-percent bail-in, for example in the two Veneto banks' case, represented a breach of BRRD. This opinion, however, fails to recognise the fact that BRRD only governs EU resolution, not NBIPs, and grants wide discretion to the SRB for its public interest assessment. Conversely, the *de facto* exemption from BRRD resolution strictures for banks that participate in IPSs is often perceived, in member states were IPSs are not much or at all developed, as a damaging distortion and a breach of market discipline.

3.4 Summary assessment

The following observations are intended to highlight selected salient features of the EU regime for non-viable banks, as informed by the summary description above.

In the euro area, NBIPs are emerging as the rule and resolution as the exception

The first observation that leaps from the cases since 2016 is the fact that the SRB made a negative public-interest assessment in several cases involving sizeable banks, particularly the two Veneto banks (each of them with total assets around €30 billion), thus directing them to the relevant NBIPs. This decision, taken together with the SRB's positive PIA on Banco Popular Español (whose assets at the time of resolution were close to €150 billion) a few weeks earlier, gave the first concrete indication of the actual scope of resolution in the euro area and suggested it might be restricted to fairly large banks, typically with total assets above €100 billion[92] – even as other criteria than size are expected to be taken into account in future PIA decisions. As the then chair of the European Banking Authority,[93] Andrea Enria, commented, "the decision that there was no EU public interest at stake in the crises of two ECB-

[90] The number of German cooperative and public (savings) banks has declined regularly over recent years, but the operation of the respective IPSs makes it hard to determine from outside which if any of the disappearing (merged) banks were non-viable.

[91] Even in Germany's private-sector "pillar", mutual support arrangements are more developed than in France or the UK. For example, in March 2015, troubled Düsseldorfer Hypothekenbank was rescued and taken over by the BDB's deposit guarantee fund, which also compensated the depositors of Maple Bank and Dero Bank well above the EU's €100,000 minimum. See Hanno Mussler, "Bankenverband übernimmt Bank in Not", *Frankfurter Allgemeine Zeitung*, 16 March 2015, https://www.faz.net/aktuell/wirtschaft/bankenverband-uebernimmt-duesseldorfer-hypothekenbank-13486643.html; Georgina Prodhan, "Germany's BaFin declares Maple Bank an indemnification case", *Reuters*, 12 February 2016, at https://www.reuters.com/article/maple-bank-bafin/germanys-bafin-declares-maple-bank-an-indemnification-case-idUSL8N15R26D. Also in Germany, the state aid control decision on the proposed rescue of NordLB, a regional public bank (*Landesbank*), is still pending at the time of writing.

[92] Based on *The Banker* data, there are fewer than 40 euro-area banking groups with total assets above €100 billion, and an additional 20-odd with assets between €60 billion (combined assets of the two Veneto banks) and €100 billion. SRB banks are about twice as numerous: they include around 114 "significant institutions" directly supervised by the ECB, (as of 1 June 2019, list at https://www.bankingsupervision.europa.eu/banking/list/who/html/index.en.html), plus 11 "cross-border groups" added by the SRB's own determinations (as of 12 June 2019, list at https://srb.europa.eu/sites/srbsite/files/12_june_2019_list_of_other_cross-border_groups.pdf).

[93] The European Banking Authority is an EU agency that was established in 2011 and plays a coordinating role on banking regulatory matters in the EU/EEA, including the regime for non-viable banks. It has no direct authority on individual bank cases, however, except in highly restrictive conditions of crisis that have never been activated so far.

supervised banks that were hoping to merge and operate in the same region with combined activities around €60 billion sets the bar for resolution very high."[94] The SRB decision is made more striking by the contrasting stance of the Danish FSA, which made a positive PIA despite the two above-listed banks' tiny size.

On the face of it, the SRB's decision to set a "high bar" for resolution is aligned with BRRD, which states that "A failing institution should in principle be liquidated under normal insolvency proceedings" (recital 45).[95] It stands in contrast, however, with the public rhetoric that accompanied BRRD, which had tended to highlight the EU resolution process as the solution to future banking crises and especially as the device that would avoid future use of taxpayers' money for bank rescues. In this regard, there is an inherent tension in the current regime. On the one hand, when the SRB makes a public-interest assessment by comparing a resolution scenario with a NBIP scenario, the latter must assume no state aid (and similarly, no state aid is assumed in the NBIP side of the no-creditor-worse-off determination). On the other hand, state aid may be provided in NBIP, to a greater extent than in resolution given the European Commission's current state aid control stance as described in the previous subsection. This, combined with the significant litigation risk associated with resolution (as illustrated by the case of Banco Popular Español, which generated scores of lawsuits), creates powerful incentives for the SRB to lean on the side of a negative PIA. In other words, in theory the SRB must assume no state aid in its public interest assessment, but in practice, the prospect of state aid may influence its decision. Similarly, in theory the no-creditor-worse-off principle is applied assuming no state aid in NBIP, but in practice, the prospect or likelihood of such aid may influence the SRB's stance. Future developments of SRB practice will depend on the gradual build-up of MREL buffers, on the evolution of the state aid control stance, and on the evolving features of NBIPs and propensity of individual member states to grant state aid and/or to encourage or discourage mutual support arrangements.

The latter point deserves further elaboration. Past cases suggest that several, perhaps most, individual member states have a preference for public support over fostering market discipline (or in colloquial terms, "bail-out over bail-in") in actual cases, even when their general rhetoric leans towards the protection of taxpayers' money. A case in point was the reported (though unconfirmed) German government plan to acquire a 25 percent equity stake in Deutsche Bank when its soundness was questioned by investors in 2016.[96] Motivations may include a combination of "banking nationalism", or the propensity of national governments to protect or promote national banking "champions" in the EU competition; and "financial repression", or a government' propensity to leverage the domestic banking sector to direct credit towards itself (e.g. through "captive" purchases of domestic government bonds) or towards preferred borrowers or sector for motives of social, industrial, or other policies. Surely, there are also cases that point in the opposite direction of no appetite for state aid, such as Banco Popular Español, ABLV, or the smaller Danish banks; but these are not prevalent enough to indicate a sense of direction.

As for the European Commission's future stance on state aid control in the banking sector, there is an evident disconnect between public perceptions in several member states, which view the Commission as excessively strict in its enforcement practice, and our reading of the Banking Communication 2013,

[94] See Silvia Sciorilli Borrelli, "Europe's top bank watchdog makes case for optimism", *Politico*, 5 July 2017, at https://www.politico.eu/article/europes-top-bank-watchdog-makes-case-for-optimism/.

[95] The SRB has further explained its approach to PIA in a brief document published in July 2019, available at https://srb.europa.eu/sites/srbsite/files/2019-06-28_draft_pia_paper_v12.pdf.

[96] See Arno Schuetze, "German government prepare Deutsche Bank rescue plan: Die Zeit", *Reuters*, 28 September 2016, at https://www.reuters.com/article/us-deutsche-bank-bailout-idUSKCN11Y0XI.

which is that its assessment of a general state of financial crisis (allowing for claims that state aid may "remedy a serious disturbance in the economy") may render the whole stance more permissive than suggested in the Treaty. That stance could be challenged from a political and/or a legal perspective, and may evolve with new leadership at the European Commission. If the assumption of crisis and the corresponding reference to Article 107(3)(b) TFEU is removed, then the balance between resolution and NBIPs could shift significantly. Conversely, if the current stance is extended, more member states might optimise their NBIPs to facilitate the treatment of future cases of bank non-viability with state aid, and that could lead the SRB to further "raise the bar" for its public-interest assessment.

A somewhat vexing consequence of the current situation is the contrast between what may be respectively termed the ex-ante and ex-post public-interest assessment. A significant number of EU banks are subject to resolution planning and, as a consequence, to MREL requirements that go beyond their minimum capital requirements (in the euro area, these include all SRB banks). Demanding MREL requirements could generate potentially crippling challenges for those banks which have been described as the "middle-class", too large to escape them but too small to issue subordinated debt instruments on attractive terms (Restoy 2018). If it turns out that such "middle-class" banks are not likely to receive a positive PIA in case of non-viability, as the case of the Veneto banks suggests, then the wisdom of this framework must be questioned. The recently adopted revision of BRRD (new Article 45c BRRD, in Directive (EU) 2019/879) attempts to address this issue by prioritising so-called "top-tier" banking groups, those with consolidated assets above 100 billion euro, plus so-called "fished" banks designated by national authorities, for stringent requirements on subordinated MREL. It remains to be seen, however, to which extent this category will remain aligned with positive PIA decisions by the SRB in future cases of bank non-viability.

The current regime perpetuates the bank-sovereign vicious circle

As described above, implicit national public financial commitments are pervasive in the current regime, well beyond the obvious point that deposit insurance remains national in the absence of EDIS. Many (though not all) member states have exhibited a propensity to use the leeway for public support to the maximum extent allowed by BRRD and/or state aid control; NBIPs potentially offer a lot of space for public financial support, even as the BRRD resolution framework does not. Thus, the observed wide preference for NBIP over resolution in the euro area contributes to the perpetuation of large implicit national guarantees on domestic banking sectors, and as a consequence, to the bank-sovereign vicious circle which the banking union was intended to break.

As observed above, mutual support arrangements also participate in the same dynamic even if no state aid is involved, to the extent they may be perceived as implicitly guaranteed by the national government – at least for the larger ones. (Mutual support arrangements that in aggregate don't cover a significant share of the national banking sector, such as Spain's *cajas rurales* or Italy's *banche di credito cooperativo*, may not be viewed as benefiting from such implicit guarantee.)

Anticipations of government support, of course, can only be amplified by situations of actual systemic fragility. Thus, if the NBIP allows for greater public financial intervention than resolution, there should be no expectation that, in a crisis, the boundary between resolution and NBIP would shift in favour of resolution. On the contrary, it is plausible that crisis-related legislative changes would make NBIPs more flexible so as to escape the tight structures of BRRD (and of the SRM regulation and intergovernmental agreements on the SRF, which also refer to the 8-percent bail-in condition). In a new systemic crisis situation, moreover, the state aid stance may be further relaxed by the European Commission.

4. EU REFORM OBJECTIVES AND POLICY OPTIONS

The dust has not settled yet on the EU regime for non-viable banks as framed by the legislation adopted in 2013-14. While the previous section suggests that NBIPs play a larger role than envisaged by many reformers at the time, this may still evolve, not least if the European Commission tightens its state aid control stance, and also with the gradual build-up of additional MREL buffers. Even so, there is a case for proactive consideration of further reform to address the regime's apparent flaws. Given the severity of the last crisis, it is not self-evident that the EU can weather the next one (if and when it erupts) with its current lopsided policy framework.

The following points on possible reform are made in that proactive spirit. Here again, no attempt is made at exhaustive coverage of all issues, let alone at providing a comprehensive reform blueprint. This section only aims to highlight selected elements that appear relevant in light of the analysis presented in the two previous sections.

The successes and failures of the evolving US regime for non-viable banks can usefully inform EU choices, but the respective historical paths of the EU and the US are also fundamentally different. The US started with political and (to a large extent) fiscal union, and took a long time to build its banking union. Safety nets for the banking system were patchy to non-existent for a long time. In the EU, by contrast, the banking union is ahead of fiscal let alone political union. National safety nets for banks are generally strong, so strong in some cases that they leave too little room for market discipline – but also potentially undermined by doubts about sovereign creditworthiness, which has not been an issue for the US federal government as the backstop funder of the FDIC's DIF. Despite the differences, however, the US experience is useful in shedding light on some of the costly pitfalls of managing bank distress and bank failure against the background of two centuries of institutional experimentation.

4.1 Countering forbearance

The introduction in BRRD of an explicit, harmonised process to pull the proverbial trigger on a non-viable bank represents significant progress compared with antecedent frameworks in most EU member states. It clarifies the responsibility of bank supervisors and strengthens the overall market discipline in the system. The collapse of banks such as IKB, RBS or Dexia in 2007-08 prompted governments or their agencies to buy these banks' shares at unrealistically high prices. Such a blunt form of rescue intervention has become unthinkable. Even so, the temptation of forbearance still exists for supervisors.

In the United States, the primary and backup supervisory authorities of the FDIC play an essential part in the system of checks and balances that make the regime reasonably effective. The FDIC, motivated by its responsibility for the DIF, provides a fairly effective check on any primary supervisors' propensity towards forbearance. This mechanism does not appear to go too far in the opposite direction of premature intervention: there is no compelling evidence of any US authority moving too precipitously to close a bank – whereas forbearance has always been, and remains, a pervasive challenge. Further consolidation of FDIC authority to include savings and loan (thrift) institutions between 1989 and 2010 was in important part a response to thrift regulators' forbearance propensities and reputation for political capture, and the insolvency of both state and federal thrift insurance schemes.[97]

[97] The Office of Thrift Supervision, formerly a separate prudential supervisor, was merged into the FDIC by the Dodd-Frank Act.

Empowering the SRB on FOLTF determination independently from the ECB was thus a wise choice on the part of EU legislators. It still needs to be put into practice, however (Véron 2019). The ECB is unsurprisingly wary of having its assessments second-guessed by an independent SRB, but that would enhance the effectiveness of the regime as a whole.

4.2 Protecting deposits

The creation of the FDIC following the bank runs and national banking holiday episodes in 1933 was the foundational act of the contemporary US regime for non-viable banks. Although many of the tools used by the FDIC throughout its history predate its establishment, that establishment shifted the emphasis dramatically. It is highly significant that deposit protection is central to the name (and the mandate) of the authority which is itself central to the whole US regime, and has from the start combined deposit insurance with acting as receiver for non-viable banks. The balance between deposit protection and the need to limit its cost to the public has adjusted over time, for instance, when federal law expanded the scope for burden-sharing by uninsured depositors with a rigorous least-cost requirement in 1991, and restricted it again in 1993 with national depositor preference. By placing insured deposits (and by extension the DIF as their subrogee) on a par with uninsured ones in the ranking of liabilities in resolution, national depositor preference creates powerful incentives for the FDIC to minimise losses to uninsured depositors. In practice, US deposit protection is both ironclad for insured deposits, and extensive for uninsured ones. It is fair to say that enshrining deposit protection as the *de facto* organising principle of the entire regime has served the United States well for close to a century.

Despite the disruption and suffering brought on by the transatlantic financial crisis that began in 2007, the EU has never had a traumatic collective experience that would compare with the US national bank holiday of early March 1933. The EU has gradually adopted and strengthened the principle of deposit protection, but neither wholeheartedly nor unconditionally – as illustrated by the fiasco of mid-March 2013 in Cyprus, when the European Commission, ECB and IMF endorsed a decision to breach the national deposit insurance as a condition for the assistance programme, only for it to be reversed a few days later by the Cypriot parliament.

The key missing link, of course, is EDIS – an EDIS that should provide an unconditional and unambiguous insurance of all covered deposits irrespective of location in the euro area, i.e. completely insulated from national institutions (except as automatic payoff/payout agents) and from national politics. This suggests that EDIS should be operated by the SRB. Beyond the principle of ironclad insurance and the SRB assignment, the design of EDIS, including the important question whether the insurance fees should be differentiated by country, is outside the scope of this study.[98] But as the US experience suggests, deposit protection goes beyond the scope of statutory insurance, with implications for financial stability. In its reflections on future reform, the EU should re-examine the case for adopting the US principle of general and *pari passu* depositor preference, as opposed to its complex three-level tiering of differential seniority for covered deposits, deposits of SMEs and natural persons, and other deposits that may (depending on national law) rank no higher than senior creditors.[99]

[98] See Schnabel and Véron (2019) for a tentative sketch of an incentive-compatible EDIS.

[99] In an opinion on the European Commission proposal on the ranking of unsecured debt instruments in insolvency (eventually adopted in late 2017 as Directive (EU) 2017/2399 as mentioned above), the ECB wrote that it "sees merit in the introduction of a general depositor preference, based on a tiered approach, in the [European] Union." That recommendation, however, was not adopted by the EU legislators. The text of the ECB's opinion is at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L2399&from=EN.

4.3 Minimising public cost

Among the motives for introducing the least-cost test in the United States in 1991 was the imperative to restore market discipline, perceived to be weakened in the 1980s by the practice of transferring insured and uninsured deposits in P&A transactions. The reform was supposed to ensure that neither P&A, nor any other resolution method, would amount to an improper bail-out of uninsured depositors and sometimes other creditors using DIF resources. The balance between protecting deposits and reassuring creditors on the one hand, and market discipline on the other hand, is tricky to maintain, and the application of the least-cost requirement is anything but mechanical. It rests on an elaborate set of discretions and constraints that shape FDIC practice, varies according to system-wide conditions, and has been subject to increasingly rigorous scrutiny (on both methodology and output) by the US Congress. The introduction of the TLGP in October 2008, with its two components of Debt Guarantee Program and Transaction Account Guarantee Program, revealed ample flexibility in the framework, and the way it could be adapted to crises. Similar flexibility was arguably displayed in the European Commission's successive Banking Communications on state aid control, though not in the relevant provisions of BRRD and the SRM Regulation (especially the 8-percent bail-in condition) which may appear unnecessarily rigid to veterans of systemic crisis management. (e.g. IMF 2018, Recommendation 18). TLGP also illustrates the political risk inherent in broad emergency lending authority, since the Dodd-Frank Act subsequently narrowed the scope for similar FDIC intervention in the future.

In the EU context, the objective to minimise the public cost of restructuring failed banks is undermined by the multiplicity of sources of relevant public funds, which generates pervasive unhelpful incentives, as analysed in Subsection 3.4. The establishment of the SRM and SRF has not substantially reduced this problem, and has added the possibility of trade-offs between the use of national versus euro-area (SRF) money. The onerous conditions for the use of the SRF may well result in it being underutilised (perhaps even never utilised at all), compared to what would be optimal to fulfil the intended objectives of safeguarding financial stability while minimising (aggregate, i.e. national and mutualised) public expense. The flipside of SRF underutilisation is the excessive use of national public money in bank rescues, on motives that typically combine banking nationalism and financial repression intent, even when outright capture is absent.

The compelling response to this challenge would be to eliminate the multiple potential sources of public financial support by centralising all such support to handling non-viable banks under the SRB's authority, with a backstop from the ESM as already exists (though in limited and constrained form) for the SRF. FDIC experience suggests that the SRB should be able to wield a range of financial tools to be effective, including the current SRF and an appropriately calibrated fund for EDIS with the possibility for the latter to undertake "alternative measures" as defined in Article 11(6) of DGSD.[100] An ESM backstop to both the SRF and EDIS (or possibly, in the future, a single fund into which both would merge) would not be formally unlimited, since the ESM is itself limited in size, but could be sufficient to generate the required trust. Simultaneously, stricter state aid control should effectively deny such instruments to individual member states in the banking union. That restriction should become acceptable once member states are reassured that the central authorities (i.e. the SRB and ESM) would do what it takes to safeguard financial stability.

[100] Simultaneously, either the SRB or the ESM should be empowered to provide aid to banks in troubled conditions before the point of non-viability, i.e. precautionary recapitalisation (possibly under more stringent conditions of systemic turmoil than in the current wording of BRRD) and guarantees and liquidity support to facilitate the funding of solvent banks. Such instruments, however, are outside of what this study has defined as the regime for non-viable banks, and thus not elaborated here.

Centralisation of authority should not imply that all activity would be located in Brussels, the seat of the SRB. On the contrary, the SRB should rely on outposts in member states, as is the case in other mechanisms such as the SSM or EU competition policy enforcement. The nature and organisation of such outposts would be an important matter in the design of reform of the EU regime.

The centralisation of public resources, regulated by an EU version of the least-cost requirement, would naturally eliminate multiple opportunities that may currently exist in member states for local malpractice. The central authorities, in turn, can be subjected to greater transparency and accountability to ensure unimpeachable use of the public resources granted to them. Here again, the FDIC experience suggests this is not an unattainable objective.

4.4 Franchise marketing

A key task of dealing with failed banks is to market their franchise in order to sell their business for the best possible price, generally to another bank (or to an occasional private-equity investor), managing the trade-off between swift execution and price optimisation. This is an area in which the FDIC has accumulated considerable experience, from which the EU has much to learn. Contrary to the widespread but inaccurate received wisdom, and as explained in Section 2, the process of franchise marketing does not happen during the proverbial restructuring weekend, but actually takes weeks if not months *before* the supervisor pulls the FOLTF or equivalent trigger.

The exigencies of effective franchise marketing are among of the most powerful arguments for centralisation of the regime for non-viable banks in the EU, or at least in the banking union area. National authorities simply cannot be expected to have either the same capacity and willingness as European ones to seek acquirers on a cross-border basis, if at all. Conversely, pan-EEA franchise marketing would not eliminate all advantages to consolidation within a given member state, but would certainly act as a massive catalyst for cross-border purchases of assets and/or entire businesses. The centralisation of the process would also entail economies of scale and facilitate the use of suitable technologies for remote due diligence and the proper handling of transaction-relevant information.

4.5 Dealing with too-big-to-fail

As is described in Section 2, the United States had no separate regime to deal with the largest banking groups until the introduction of Orderly Liquidation Authority in the Dodd-Frank Act of 2010—corporate bankruptcy was the only option for BHCs and large nonbank conglomerates, such as Lehman Brothers. Failure to recognise expressly the challenge of institutions that were "too big to fail" did not prevent their special treatment. Instead, it led to reinterpretation and repurposing of authorities such as open-bank assistance, initially introduced for small banks, but ultimately adapted for behemoths such as Continental Illinois in 1984 and Citigroup in 2008, using the statutory systemic risk exception. This largely explains the salience of the too-big-to-fail issue in US policy and in the political debates about banking sector oversight.

Conversely, the EU has moved from a system of extensive national guarantees and bail-out practice towards an emphasis on open-bank resolution and fostering market discipline through rigid bail-in requirements, enshrined in BRRD. While the BRRD legislators' intent appeared to imply a much wider scope for BRRD resolution than OLA in the United States, the revealed preferences in the first few years of practice, as analysed above, suggest that NBIPs are the rule and EU resolution the exception, at least in the euro area. If so, the respective regimes – OLA in the US, resolution in the EU – may indeed be viewed as effectively reserved for the largest banks, more or less what the respective frameworks now call Large Banking Organisations in the US and Top-Tier Banks in the EU (Federal Reserve, 2019; Directive (EU) 2019/879). Both regimes are essentially untested, the only exception being Banco

Popular Español on the EU side but with circumstances that were too idiosyncratic to have general precedent value.

4.6 Regime predictability

A running theme of this study is that the US regime is far from permanent, and indeed has been shaped by a constant process of evolution and learning. Even so, it offers a remarkable degree of predictability to investors and market participants, which in turns underpins the degree of market discipline exhibited by the US banking system, particularly for smaller banks—which is quite high compared to the EU. The key to this is the continuity offered by the FDIC itself over eight and a half decades. While the FDIC has made mistakes and should by no means be idealised, it has endured as the central pillar of the US regime for non-viable banks, and a credible backstop for the dizzying array of financial regulators in the US system. EU policymakers should aspire to develop the SRB into a EU equivalent, and then to improve on the model.

Centralisation in the context of bank failure management would foster predictability. 28 (EU) or 31 (EEA) different NBIPs with their idiosyncratic concepts and separate case law cannot offer the same wealth of comparable cases and precedents as a single regime can. They imply that the "no-creditor-worse-off" comparison in resolution is country-specific, and thus introduces competitive distortions across member states – namely, the "single resolution mechanism" is anything but single. This is compounded by the fact that, as emphasised in the previous section, in the EU context national law (including NBIP) is easier to change, including in rapid response to a crisis situation, than EU law, or than US federal law for that matter.

Beyond its designation as a central agency, the SRB should suitably be empowered and made accountable to the EU public through relevant institutional mechanisms. It should be relieved of the unnecessary current tutelage by the European Commission and Council on individual resolution decisions, which is justified neither by legal nor operational considerations.[101] A centralised framework, with a hub-and-spokes architecture (in which the frontline teams are in the member states as now, but ultimate decision-making is integrated within the SRB) would enable the SRB to foster specialist skills and experiences much more effectively than in the current scattered architecture. It would reduce the risk of dysfunction in resolution resulting from the diverging mandates and interests of national resolution authorities, sometimes separate DGSs, and the SRB. It would benefit from much more cross-border knowledge transfer. Overall, one can expect considerably enhanced operational credibility of the EU regime (and of the SRB as its central agent) as a result, and greater effectiveness and efficiency in the handling of future cases of non-viable banks.

Another dimension in which the SRB can learn a lot from the FDIC is the public provision of research, insight and data on its activity and on the scope of its mandate. The FDIC's own books on its successive experiences (FDIC 1984, 1997, 1998, 2017) are exemplary in this respect. So is much of its research on individual cases and themes.

4.7 Breaking the bank-sovereign vicious circle

There is a fundamental alignment between the above arguments to centralise the EU regime for non-viable banks, in order to make it more effective, and the objective of the banking union project itself,

[101] See e.g. Lintner (2017) and Véron (2019) on the respective legal and operational aspects. The European Commission and/or Council may however retain involvement in the decision-making process when SRF resources are to be used, as is the case of the US Treasury and Federal Reserve for activation of the OLF.

namely the “imperative to break the vicious circle between banks and sovereigns.” Given the parallel imperative to defend financial stability, this cannot be achieved with state aid control alone – the possibility of public financial intervention may be restricted but should not be eliminated. Thus, centralisation of the regime for non-viable banks, including its financial components such as deposit insurance (i.e. EDIS) and the already existing SRF, is a necessary, though not sufficient, condition for breaking the bank-sovereign vicious circle. (Other conditions include, prominently, capital regulations to disincentivise concentrated sovereign exposures, centrally provided funding liquidity and guarantees for viable banks in troubled times as mentioned above in Subsection 4.3, and the eventual elimination of intra-euro-area ring-fencing of capital and liquidity.)

The US has not had to deal with this problem at the national level. Its banking sector initially developed in the absence of a comprehensive financial safety net. Even in the 19th century, the bank-sovereign nexus at the state level was generally ad hoc and less solid than in most EU member states now (Gelpern and Véron 2018). The US fiscal framework came to be dominated by federal taxes and transfers level since the immediate aftermath of the Civil War, a trend that only intensified in the early 20th century and with the New Deal in the 1930s (Kirkegaard 2018). When a robust safety net, centered on deposit protection, was introduced following the crisis of the early 1930s, it was built at the federal level after the field had been cleared of competition from state schemes. As a result, that nexus did not become a vicious circle at the US state level, in contrast to the euro area. As for the national (federal) level, the creditworthiness of the US government was never materially questioned even at the peak of financial crisis in late 2008.

If and when the public safety net on banks is pooled at the European level, the role of state aid control will not disappear (if only because the banking union area is not expected to extend to the entire single market any time soon), but it will be significantly reduced. The above-outlined policy package does not necessarily imply the complete decorrelation of bank credit conditions from idiosyncratic national features, which can be expected to linger for the foreseeable features given differences within the euro area in the frameworks for taxation, corporate and personal insolvency, housing finance, pension finance, and countless other areas. But what can and should be achieved in the near term is the decorrelation of bank credit from sovereign credit. This is a realistic aim for EU reformers.

5. CONCLUSIONS

Reform of the EU regime for non-viable banks is in the air, often combined with broader discussion about the unfinished banking union. The SRB has advocated EU harmonisation of NBIPs for more than a year.[102] Recent contributions that advocate further reform, with various degrees of ambition and/or specificity, include IMF (2018); Deslandes, Dias and Magnus (2019); Lastra, Russo and Bodellini (2019); Restoy (2019); and last but not least, von der Leyen (2019)[103].

This study does not allow for the formulation of a comprehensive blueprint for reform of the EU regime for non-viable banks, let alone for the completion of the banking union. We also do not suggest a specific sequencing of the suggested reforms, but we believe that all the key legislative decisions could – and should – be made within the next five-year term of the incoming European Commission. The examination of the US regime supports the proposition that completing the banking union and making the EU regime for non-viable banks effective may be viewed as two facets of the same policy effort. The shortcomings of the EU status quo are most compellingly addressed through centralisation and empowerment of the SRB as the decision-making hub for a unitary regime that encompasses what is currently covered in EU law by resolution, bank insolvency proceedings, and deposit insurance.

A deep understanding of the US antecedent can unquestionably accelerate the EU learning and reform process. One of our findings is that the United States has reached a reasonably appealing balance between the broad objective of protecting deposits and the need to limit moral hazard, at least for all but the largest banks. Having the European deposit insurance fund participate in the funding of P&A-type transactions, i.e. allowing a future EDIS to finance "alternative measures" as in Article 11(6) of DGSD, would appear apt in light of our analysis; so would adopting general depositor preference, implying changes to the current Article 108 of BRRD.

For the largest banks, where the regime is untested on both sides of the Atlantic, the EU could choose to keep its current preference for a resolution approach that signals a predetermined amount of bail-in (the BRRD's 8-percent bail-in condition) as opposed to the more flexible US approach under OLA. It should complement its approach with credible arrangements for liquidity in resolution. Conversely, for small and medium-sized banks, we see no compelling reason for an EU unitary regime not to adopt the defining features of the largely successful FDIC toolkit, with the economies of scale and operational efficiency that that entails.

If our suggestions sound radical, it may be worth emphasising the core finding of our analysis of the EU regime. The EU resolution framework set by BRRD is being circumvented – one could go as far as arguing it was designed for circumvention. This state of affairs implies both that the intent of the BRRD legislators is not being achieved, and that the objective of breaking the bank-sovereign vicious circle cannot be met within the current framework. We do not believe that the future build-up of additional MREL buffers will fundamentally alter the incentives that we describe in Section 3. To change that situation, a comprehensive overhaul of the entire EU regime for non-viable banks will be needed.

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[102] See e.g. Elke König, "Real defragmentation of the Banking Union: the way forward", article for Eurofi, 26 April 2018, available at https://srb.europa.eu/en/node/544.

[103] In her policy manifesto published on the day of her election on 16 July 2019, the President-elect of the European Commission pledged to "focus on completing the Banking Union", adding "we need a European Deposit Insurance Scheme. [...] I will also put forward measures for a robust bank resolution and insolvency framework".

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For 85 years, the US regime for non-viable banks has maintained a high degree of stability and public confidence by protecting deposits, while working to minimise the public cost of that protection. With awareness of the difference in context, EU reformers can draw valuable insights from the US experience. On balance, a review of the US regime supports arguments in favour of harmonisation and centralisation of bank insolvency proceedings and deposit insurance in Europe's banking union. A unitary regime would improve on the current EU status quo along multiple dimensions: deposit protection, creditor rights, controlling moral hazard, predictability and operational effectiveness, transparency and accountability, and financial stability. It would help break the bank-sovereign vicious circle in the euro area. The US experience suggests that substantial improvements are achievable in a well-designed system of institutional checks and balances that learns and adapts over time.

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