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# Towards an optimal composition of bail-inable debtholders?\*

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## ABSTRACT

The core insight of the new EU framework for bank resolution is to allocate losses to bank's insiders (bail-inable creditors). This affects both financial stability and the corporate governance of banks. The current academic debate on bank resolution overlooks the relevance of identifying the investors in bail-inable securities (ie who is going to bear losses) and the role of counterparty risk. This article identifies the investors that are better suited to hold those instruments and highlights the trade-offs between the corporate governance role and the threat to financial stability posed by different investors. The article demonstrates that the composition of bail-inable debtholders matters and shows – empirically and theoretically – a transition towards a desirable composition of holders; although a considerable room for improvement remains. This exercise deepens the understanding of the impact of the resolution framework and the importance of counterparties for its credibility and future applications.

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## 1. Introduction

In the aftermath of the Global Financial Crisis (2007–2009), regulators worldwide committed to a new ‘no bailout’ policy, arguing that taxpayers should

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not be burdened by the failure of financial institutions. In contrast, the new framework should be based on the antithetical concept: bail-in.<sup>1</sup> The bail-in is the power granted to the resolution authority to write down the principal amount or convert eligible liabilities of failing banks into equity. Those liabilities are, consequently, called bail-inable instruments. The main idea behind the bail-in and, more generally, the new resolution framework is to allocate bank losses to investors and not to the general public through bailouts. Studying the specific role of the counterparties of banks in bail-inable securities seems a natural approach to the problem of the efficiency and effectiveness of the new framework. Nonetheless, both regulators and academics have overlooked this issue.<sup>2</sup>

The positions of academics and policymakers on the new resolution framework can be broadly divided into two strands. The first argues that the new framework yields a more sound and resilient system, protecting taxpayers, and (at least partly) addressing the too-big-to-fail problem.<sup>3</sup> The second, supported by many other authors, expresses a more sceptical view, claiming that the resolution framework is unfit to address the too-big-to-fail problem and might even create additional systemic concerns.<sup>4</sup>

These two strands of literature have, accordingly, different takes on the role of holders of bail-inable instruments. The ones believing in the new resolution framework argue that bail-inable creditors have all the incentives to effectively monitor bankers' activities in times of normal market conditions. Conversely, others have challenged this view, arguing that bail-inable creditors have neither the incentives nor the capabilities to positively and significantly impact on the risk-taking appetite of the borrowing bank.<sup>5</sup>

Policymakers have sided with the first view. The Financial Stability Board (FSB) states that an effective resolution regime should, among other objectives, 'be credible, and thereby enhance market discipline and provide

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<sup>1</sup>Paul Calello and Wilson Ervin, 'From Bailout to Bail-In' *The Economist* (28 January 2010).

<sup>2</sup>With the notable exception of a recent working paper by Wolf-Georg Ringe and Jatine Patel, 'The Dark Side of Bank Resolution: Counterparty Risk through Bail-In' (2019) European Banking Institute Working Paper Series no. 31 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3314103](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3314103)> accessed 01 December 2020. In this working paper, the authors approach the issue from the perspective of systemic risk creation through counterparty risk.

<sup>3</sup>See, for instance, Jianping Zhou and others, 'From Bail-out to Bail-in: Mandatory Debt Restructuring of Systemic Financial Institutions' [2012] IMF SND/12/03, 8 <[https://www.elibrary.imf.org/doc/IMF006/12756-9781475503906/12756-9781475503906/Other\\_formats/Source\\_PDF/12756-9781616353926.pdf](https://www.elibrary.imf.org/doc/IMF006/12756-9781475503906/12756-9781475503906/Other_formats/Source_PDF/12756-9781616353926.pdf)> accessed 01 December 2020. See also, more specifically in the EU context, Thomas Huertas, 'The Case for Bail-Ins' in Patrick S Kenadjian (ed), *The Bank Recovery and Resolution Directive: Europe's Solution for "Too Big To Fail"?*, vol 13 (Walter de Gruyter 2013); Thomas Huertas and Maria J Nieto, 'A Game Changer: The EU Banking Recovery and Resolution Directive', (2013) <<https://voxeu.org/article/banking-recovery-and-resolution-directive>> accessed 01 December 2020.

<sup>4</sup>Emilios Avgouleas and Charles Goodhart, 'Critical Reflections on Bank Bail-Ins' (2015) 1 *Journal of Financial Regulation* 3, 28.

<sup>5</sup>See, with different arguments, Emilios Avgouleas and Jay Cullen, 'Market Discipline and EU Corporate Governance Reform in the Banking Sector: Merits, Fallacies, and Cognitive Boundaries' (2014) 41 *Journal of Law and Society* 28; Tobias H Tröger, 'Too Complex to Work: A Critical Assessment of the Bail-in Tool under the European Bank Recovery and Resolution Regime' (2018) 4 *Journal of Financial Regulation* 35.

incentives for market-based solutions'.<sup>6</sup> Similarly, in the Bank Recovery and Resolution Directive (hereinafter, BRRD),<sup>7</sup> the European legislator affirms that: 'The bail-in tool will [therefore] give shareholders and creditors of institutions a stronger incentive to monitor the health of an institution during normal circumstances'.<sup>8</sup>

Consequently, a credible resolution framework should itself enhance the quality of bank governance. In this perspective, bail-inable creditors play a crucial role, as their incentives are in line with the regulatory goal of keeping the bank stable and solvent.

Nevertheless, closer scrutiny unveils an inherent tension between market discipline and financial stability.<sup>9</sup> Sophisticated investors are theoretically more willing and capable of disciplining risk-taking of their borrowers; however, these raise more stability concerns. Thus, this article aims at answering a heavily debated yet unsolved question: do investors that are theoretically more willing and capable of disciplining risk-taking of their borrowers pose financial stability concerns? And if so, how can these two components be reconciled?

In so doing, I argue that the composition of the holders of bail-inable securities (hereinafter, holders) matters for both governance and financial stability. Then, I discuss what composition yields better results.

In studying the composition of bail-inable creditors, one must also consider their regulatory framework. The resolution framework requires each bank to comply with the minimum requirement for own funds and eligible liabilities (hereinafter, MREL),<sup>10</sup> hold a certain amount of eligible liability with residual maturity longer than one year. Estimations say that, on average, the required MREL capacity amounts to 26% of risk-weighted assets and that European banks are far from reaching this goal.<sup>11</sup>

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<sup>6</sup>Financial Stability Board, 'Key attributes of effective resolution regimes for financial institutions' (2011) 3 <<https://www.fsb.org/2014/10/key-attributes-of-effective-resolution-regimes-for-financial-institutions-2/>> accessed 01 December 2020.

<sup>7</sup>Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms [2014] OJ L 173/190 (BRRD).

<sup>8</sup>Recital no. 67 BRRD.

<sup>9</sup>Andrew Crockett, 'Market Discipline and Financial Stability' (2002) 26 *Journal of Banking & Finance* 977, 983; Markus K Brunnermeier and others, *The Fundamental Principles of Financial Regulation*, vol 11 (ICMB, Internat Center for Monetary and Banking Studies 2009), 69.

<sup>10</sup>See Article 45 BRRD. For Globally Systemic Important Banks (G-SIBs), more specific quantitative requirements are required at a supranational level, according to the total loss-absorbing capacity (TLAC) framework. See Financial Stability Board, 'Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution. Total Loss-absorbing Capacity (TLAC) Term Sheet' (2015) <<https://www.fsb.org/wp-content/uploads/TLAC-Principles-and-Term-Sheet-for-publication-final.pdf>> accessed 01 December 2020.

<sup>11</sup>Dominique Laboueix, Speech at 6th Industry Dialogue: 2017 MREL Policy, accessible at <[https://srb.europa.eu/sites/srbsite/files/20171120\\_6th\\_industry\\_dialogue\\_item\\_2\\_mrel\\_dominique\\_laboueix.pdf](https://srb.europa.eu/sites/srbsite/files/20171120_6th_industry_dialogue_item_2_mrel_dominique_laboueix.pdf)> accessed 10 February 2020. The MREL shortfall was estimated at 117 billion euro.

In this regard, a salient feature deserves our attention. The amount of bail-inable securities needs to be issued and, consequently, held. My analysis shows how such elementary observation has many consequences, since finding a 'good' buyer for the entire stock of bail-inable debt can prove to be problematic. Throughout the article this will be called the 'existence constraint'.

The article unpacks the meaning of 'good' buyer, demonstrating that who holds those debt instruments matters for both financial stability and corporate governance.<sup>12</sup> This represents an important contribution to the literature. The (limited) literature on the topic focused mainly on who should not buy bail-inable debt for financial stability purposes.<sup>13</sup> To the best of the author's knowledge, no detailed analysis on the consequences of different compositions exists. This article shows that different investors play distinct roles and have diverging incentives in entering the market for bail-inable securities, so that a balanced mix of investors yields a more efficient outcome both for corporate governance and financial stability.

This article also closely considers the policy implications, both for supervisors and resolution authorities. If different compositions yield different outcomes in terms of market discipline, the activities of supervisors and the resolution planning should adjust accordingly, relying more (or less) on market information.<sup>14</sup> From the perspective of the resolution authority, the composition of bail-inable debtholders makes a remarkable difference in resolution planning and the resolvability assessment.<sup>15</sup>

The article proceeds as follows. Section 2 highlights the relevance of the matter and sets the methodological specifications. It builds a benchmark of a theoretically perfect buyer, drawing from the existing literature on the holders of bail-inable securities. Section 3, after describing available data and their limitations, provides a snapshot of the knowledge that is currently

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<sup>12</sup>Following professors Paces and Heremans, who argued that 'all aspects of behaviour of financial firms can be ultimately understood as Corporate Governance issues'. See Alessio M Paces and Dirk Heremans, 'Regulation of Banking and Financial Markets', *Encyclopedia of Law and Economics - Volume 9* (Edward Elgar 2012) 558, 597. With specific regard to bail-in, professor Armour and co-authors claimed that: 'This [the use of the bail-in tool] has both financial and governance consequences for the bank [...] as the former debt-holders become equity holders', John Armour and others, *Principles of Financial Regulation* (Oxford University Press 2016) 359.

<sup>13</sup>In the same sense, see Martin R Götz and Tobias Tröger, 'Should the Marketing of Subordinated Debt Be Restricted/Different in One Way or the Other? What to Do in the Case of Mis-Selling?' (2016) SAFE White Paper, No. 35, 15 <<https://www.econstor.eu/bitstream/10419/129668/1/853470006.pdf>> accessed 01 December 2020.

<sup>14</sup>For the difference between direct and indirect effects of market discipline see Mark J Flannery, 'The Faces of "Market Discipline"' (2001) 20 *Journal of Financial Services Research* 107, 112.

<sup>15</sup>Especially in relation to the exclusions and exemptions provided by Article 44 (3) of BRRD, influencing the ex ante credibility of the bail-in itself. For a deeper analysis of the exemptions from bail-in see Tröger (n 5) 42. Here it suffices to note that in case of high levels of cross-holdings among banks, the resolution authority might exempt a large part of the debt from bearing losses to avoid contagion, pursuing Article 44(3)(c) BRRD. Taking into account the composition of bail-inable debtholders beforehand, such an outcome can be anticipated, and the resolution plans adjusted accordingly.

available. The analysis encompasses geographical and sectorial distributions of holders. Section 4 discusses the suitability of each category of investors to hold bail-inable securities both from a corporate governance and a financial stability perspective. Section 5 builds on the analysis and proposes a socially desirable composition of holders. Section 6 concludes.

## 2. Bail-inable debtholders: framing the problem(s)

### 2.1. Creditors' governance and financial Stability

The bail-in is the power granted to the resolution authority to write down the principal amount or convert eligible liabilities into equity. Those are, consequently, called bail-inable instruments.<sup>16</sup> In principle, all the liabilities not backed by collateral and not insured by a deposit guarantee scheme are eligible.<sup>17</sup> This should allow for an internal recapitalisation of banks that are 'failing or likely to fail'.<sup>18</sup> The allocation of losses follows the seniority waterfall in bankruptcy: equity absorbs losses first, then other capital instruments, subordinated debt, and – finally – senior unsecured debt. Moreover, each bank must comply with MREL, ie issue a certain amount of eligible liabilities with residual maturity longer than one year.<sup>19</sup> These creditors represent the main focus of the analysis.

One important purpose of the bail-in is to counter moral hazard which arises from (the expectation of) bank bailouts. As long as the bail-in is credible, market participants expect to bear the losses in the event of bank failure. This reveals the twofold nature of resolution: on the one hand, a framework to handle bank failures; on the other hand, a set of rules changing the incentive structure of the bank creditors. Hence, the resolution framework also has many governance implications insofar as bail-inable creditors are expected to actively engage their borrowers and help to optimise their risk-taking appetite.<sup>20</sup>

The corporate governance and corporate finance literature have extensively discussed mechanisms through which creditors can impose market discipline on their borrowers, restraining their risk-taking appetite.<sup>21</sup> Market discipline is here defined as the ability of financial markets to provide signals leading borrowers to engage in projects consistent with their solvency.<sup>22</sup>

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<sup>16</sup>See Article 43 BRRD.

<sup>17</sup>Thomas Conlon and John Cotter, 'Anatomy of a Bail-In' (2014) 15 *Journal of Financial Stability* 257, 259.

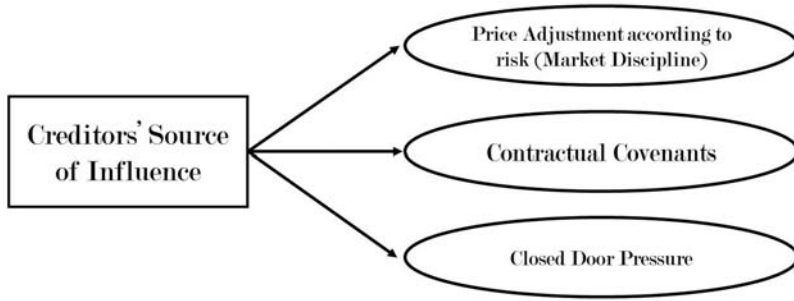
<sup>18</sup>See Article 32 BRRD.

<sup>19</sup>Article 45 BRRD. For a deeper analysis of MREL after the 2019 reform package, see Edoardo Martino and Katarzyna Parchimowicz, 'Go Preventive or Go Home – A New Role of MREL.' *Amsterdam Law School Research Paper* 2020–50 (2020).

<sup>20</sup>Zhou and others (n 3) 20.

<sup>21</sup>For a comprehensive overview, see Jean Tirole, *The Theory of Corporate Finance* (Princeton University Press 2006) ch 1.6.

<sup>22</sup>Timothy D Lane, 'Market Discipline' (1993) 40 *IMF Staff Papers* 53, 55.



**Figure 1.** Channels for creditors' influence.

In the context of banking, one can think of three main channels: price adjustment (ie trading or threat of trading), contractual design of debt securities, and private engagement of investors (see Figure 1).<sup>23</sup> The literature has widely discussed the promises and perils of these channels,<sup>24</sup> highlighting how market discipline is largely impaired in banking.<sup>25</sup>

Furthermore, countering moral hazard by incentivising the governance engagement of creditors can threaten financial stability. Broadly speaking, a threat to financial stability can materialise in two different forms: time-series and cross-sectional.<sup>26</sup> The former relates to the cyclical nature of credit and finance.<sup>27</sup> In this respect both the price adjustment and the contractual channels can prove problematic as they are both known to be procyclical.<sup>28</sup>

The case for market discipline through price adjustments<sup>29</sup> insists on the long-debated ability of bank creditors to efficiently price their instruments according to their risk.<sup>30</sup> To efficiently do so, creditors should be able and

<sup>23</sup>This represents an unexplored black box. Some preliminary anecdotal evidence can be read in Douglas G Baird and Robert K Rasmussen, 'Private Debt and the Missing Lever of Corporate Governance' (2005) 154 U. Pa. L. Rev. 1209, 1245.

<sup>24</sup>For a comprehensive overview see Mark J Flannery and Robert R Bliss, 'Market Discipline in Regulation: Pre- and Post-Crisis' in Allen N Berger, Philip Molyneux and John OS Wilson (eds), *Oxford Handbook of Banking* (3rd edn, Oxford University Press 2018).

<sup>25</sup>Crockett (n 9) 981.

<sup>26</sup>Armour and others (n 12) 410.

<sup>27</sup>Claudio Borio, 'The Financial Cycle and Macroeconomics: What Have We Learnt?' (2014) 45 *Journal of Banking & Finance* 182.

<sup>28</sup>Ulf Lewrick et al., 'Believing in bail-in? Market discipline and the pricing of bail-in bonds' (2019) BIS Working Paper No. 831 <<https://www.bis.org/publ/work831.pdf>> accessed 01 December 2020. The authors found that a bail-in premium exists, but it is procyclical.

<sup>29</sup>This is the point on which the current literature mostly focuses. See, with different arguments and perspectives, Avgouleas and Cullen (n 5) 48 ; Robert R Bliss, 'Market Discipline and Subordinated Debt: A Review of Some Salient Issues' (2001) 25 *Economic Perspectives* 24, 31.

<sup>30</sup>A recent review of the empirical literature on the disciplining effect of debt yields is provided by Flannery and Bliss (n 24) 11. Reading through this review makes clear how a clear-cut empirical answer is far from being reached, since the evidence is mixed and highly dependent on the design and assumptions of each model. There are also few preliminary empirical studies on market discipline and bail-inable securities; see, with different designs and slightly different results, Fabrizio Crespi, Emanuela

willing to convey and compute all the relevant information. Moreover, the commitment of the state not to bail out the bank should be fully credible. Yet, creditors are not sensitive to the risk profile of their borrowers in good times, allowing the build-up of systemic risk. On the contrary, they tend to punish the borrowers in times of distress, as exemplified by the Global Financial Crisis.<sup>31</sup> Thus, a fully effective market discipline through price adjustment is impaired in banking, as the main conditions are far from being fulfilled.<sup>32</sup>

The case for contractual discipline insists on the possibility to incentivise the borrowers not to engage in excessively risky activities through contractual provisions. Think, for instance, of the covenant restraining the possibility to pay dividends should the financial situation of the bank deteriorate. Yet, several factors prevent this channel from working appropriately. Among them, it is worth mentioning the incompatibility of many common covenants used in debt contracts with the regulation on capital instruments and other eligible liabilities.<sup>33</sup> For instance, the most common of covenants, allowing the creditor to speed up the repayment in case a pre-specified trigger event is breached, cannot be contracted upon.<sup>34</sup> These covenants would, in fact, disqualify the instruments from counting towards regulatory capital.<sup>35</sup> Moreover, the same argument on procyclicality applies to the credit standards, such as the amount and the tightness of covenants, which tend to relax in times of expansion and tighten in times of distress.<sup>36</sup>

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Giacomini and Danilo V Mascia, 'Bail-in Rules and the Pricing of Italian Bank Bonds' (2018) 25 *European Financial Management* 1321; Jannic Alexander Cutura, 'Debt Holder Monitoring and Implicit Guarantees: Did the BRRD Improve Market Discipline?' (2018) SAFE Working Paper No. 232 < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3263375](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3263375) > accessed 01 December 2020.

<sup>31</sup>Constantinos Stephanou, 'Rethinking Market Discipline in Banking: Lessons from the Financial Crisis' (2010) World Bank Policy Research Working Paper No. 5227, 9 < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1565988](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1565988) > accessed 01 December 2020; Gary Gorton and Andrew Metrick, 'Securitized Banking and the Run on Repo' (2012) 104 *Journal of Financial Economics* 425.

<sup>32</sup>See Tröger (n 5) 47; Avgouleas and Goodhart (n 4) 20. On the specific impact on market discipline of the BRRD legal design, Edoardo Martino, 'Bail-in beyond Unpredictability. Market Discipline and the Corporate Governance of Banks' (2020) 21 *European Business Organization Law Review* 789, 815.

<sup>33</sup>On the typical covenants used in debt contracts see Charles K Whitehead, 'The Evolution of Debt: Covenants, the Credit Market, and Corporate Governance' (2008) 34 *The Journal of Corporation Law* 641, 664.

<sup>34</sup>For a deeper analysis, see Edoardo Martino, 'Bail-Inable Securities and Financial Contracting: Can Contracts Discipline Bankers?' (2019) 10 *European Journal of Risk Regulation* 164, 171.

<sup>35</sup>For the qualitative characteristics of MREL-eligible instruments, see Article 72b Capital Requirement Regulation. This new rule was introduced in the Capital Requirement Regulation by the reform package of 2019. In particular, by Regulation (EU) 2019/876 of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements. OJ L 150/1.

<sup>36</sup>Mathias Drehmann, Claudio Borio and Kostas Tsatsaronis, 'Anchoring Countercyclical Capital Buffers: The Role of Credit Aggregates' (2011) 7 *International Journal of Central Banking* 189, 198. See also Adam B Badawi and Elisabeth de Fontenay, 'Contractual Complexity in Debt Agreements: The Case of EBITDA' (2019) Duke Law School Public Law & Legal Theory Series No. 2019-67, 13 < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3455497](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3455497) > accessed 01 December 2020. The authors provide empirical evidence that credit standards are quickly deteriorating in the period after the Global Financial Crisis.



This contribution adds a further layer of complexity, decomposing the category of bail-inable creditors and highlighting the different incentives and abilities of different types of holders. A straightforward example in this regard is the case in which the holder of a bail-inable security is a household as compared with the case of a hedge fund. The difference between the two types of holder is clear in terms of sophistication, business models, investment strategy, portfolio diversification, ability to convey and process available information, etc.<sup>37</sup>

Taking into account the holders' composition brings about concerns also from the cross-sectional perspective on financial stability. In the context of bank resolution, allocating losses through a bail-in impacts other players of the financial system that could, in turn, enter into distress and spread the contagion.<sup>38</sup>

These brief notes highlight an inherent tension between financial stability and debt governance in banking. Namely, incentivising a more active role of bank creditors in disciplining their borrowers endangers financial stability. Conversely, regulations safeguarding financial stability deprive bail-inable creditors of their disciplining role and foster moral hazard.

## ***2.2. Reconciling creditors' governance and financial stability: a framework***

Benefits cannot be considered without the costs they imply. A composition assuring the maximum level of benefits in terms of corporate governance and, at the same time, creating considerable concerns from a financial stability perspective is far from being optimal.<sup>39</sup> In searching for an optimal composition of holders, corporate governance considerations must complement financial stability ones. This section frames the relevant trade-offs.

The holders' impact on corporate governance encompasses four main aspects:<sup>40</sup> (1) the incentives and the ability to monitor bank activities ex

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<sup>37</sup>The fact that different holders of the same security behave in different ways and pursue different objectives has been acknowledged long ago in equity-related research, as exemplified by the gigantic amount of research on shareholder activism. For a broad introduction to the matter, see Stuart L Gillan and Laura T Starks, 'The Evolution of Shareholder Activism in the United States' (2007) 19 *Journal of Applied Corporate Finance* 55.

<sup>38</sup>Roy Havemann, 'Can Creditor Bail-in Trigger Contagion? The Experience of an Emerging Market' (2019) 23 *Review of Finance* 1155, 1170.

<sup>39</sup>In this setting, the reference to costs and benefit must be understood in their qualitative characterisation and not as a quantitative exercise. A quantitative cost-benefit analysis appears in this setting unfeasible. See, with general reference to cost-benefit analysis for financial regulation, John C Coates IV, 'Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications' (2014) 124 *Yale Law Journal* 882.

<sup>40</sup>Following the definition given by Andrei Shleifer and Robert Vishny back in 1997: 'Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment.' Andrei Shleifer and Robert W Vishny, 'A Survey of Corporate Governance' (1997) 52 *The Journal of Finance* 737.

ante; (2) the investment strategy and consequent risk appetite of the holder; (3) the ability to influence the decisions of the borrower.<sup>41</sup> Finally, (4) the holdings of bail-inable debt need to be relatively concentrated to avoid rational apathy.<sup>42</sup>

The ability to influence management for creditors represents a black box and shining light into it is all but straightforward.<sup>43</sup> The main channel one can think of is private engagement:<sup>44</sup> the growing tendency of investors to directly address management and directors out of the official channels, in the shadow of corporate law powers. Private engagement is nowadays particularly popular for equity investors. For instance, Michelle Edkins, Global Head of the Investment Stewardship Team for BlackRock, stated: 'In our experience [private engagement] has a fair degree of traction with management. And we can raise [an] issue without having to dictate how management should address it'.<sup>45</sup> This basic intuition behind private engagement holds also for investors in debt instruments.<sup>46</sup>

Assessing the governance role of individual classes of investors accounts for only one side of the story. The other consists of the adverse spillovers generated by the holders. These are twofold: contagion risk and adverse economic consequences.

Contagion risk relates to the cross-sectional threat to financial stability.<sup>47</sup> Losses of one bank spill over to counterparties, endangering the resilience of the whole financial system. In the context of the new resolution framework, the easiest example in this setting is the case of cross-holdings, ie the case of bail-inable securities issued by banks and held by another bank. Consider this example: Bank A holds in its portfolio a substantial amount of bail-inable instruments of Bank B. If Bank B enters into financial distress and the resolution authority decides to allocate losses on bail-inable instruments, the

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<sup>41</sup>The differentiation between monitoring and influence is consistent with the economic literature on market discipline. See Flannery (n 14) 114.

<sup>42</sup>On shareholders' apathy see Wolf-Georg Ringe, *The Deconstruction of Equity: Activist Shareholders, Decoupled Risk, and Corporate Governance* (Oxford University Press 2016) 9. Another crucial element that falls beyond the scope of this analysis is the trading activity close to conversion: who steps in and who opts out once the probability of default increases? Unfortunately, there is no available data on such flows.

<sup>43</sup>In a broader view, the influencing mechanisms of all the investors represent a sort of black box, especially when it comes to analysing the corporate governance role of institutional investors. In this respect, a growing literature is attempting to investigate private engagement strategies. See Joseph A McCahery, Zacharias Sautner and Laura T Starks, 'Behind the Scenes: The Corporate Governance Preferences of Institutional Investors' (2016) 71 *The Journal of Finance* 2905.

<sup>44</sup>See 'Shareholder Engagement: A New Era in Corporate Governance' *The Wall Street Journal* (13 October 2013) <<https://deloitte.wsj.com/riskandcompliance/2013/10/01/shareholder-engagement-a-new-era-in-corporate-governance/>> accessed 01 December 2020.

<sup>45</sup>Barry B Burr, 'Money Managers Increasing Activism on Governance—But Quietly, Pension and Investments' <<https://www.pionline.com/article/20120319/PRINT/303199980/money-managers-increasing-activism-on-governance-but-quietly>> accessed 01 December 2020.

<sup>46</sup>See Baird and Rasmussen (n 23).

<sup>47</sup>See Avinash D Persaud, 'A Ticking Time Bomb: TLAC and Other Attempts to Privatise Bank Bail-Outs' [2016] *Butterworths Journal of International Banking and Financial Law* 160, 162.

value of Bank A's assets will decrease accordingly. These losses might, consequentially, result in Bank A's distress. This also exemplifies the tension between more concentration to enhance governance and more dispersion to decrease the risk of contagion.

Financial stability is not the only dimension worth considering, as other adverse economic consequences can result from the investment in bail-inable securities. Think of the case in which households hold a considerable stake of bail-inable debt. When losses materialise, households bear losses without generating contagion risk. Yet, this shrinks the spending capacity of households, with adverse consequences on the real economy. A similar argument can be made for other categories of investors, such as pension funds.<sup>48</sup> Again, allocating the losses to the pension fund and – in turn – to pensioners does not trigger contagion; however, it shrinks the spending capacity of those individuals, harming the real economy and generating political backlash.<sup>49</sup> Therefore, adverse economic consequences represent a residual category, ie negative externalities whose direct channel is not contagion.

The seniority of the claims represents a third dimension that horizontally influences both governance and adverse spillovers. Junior positions carry higher probability of actually bearing losses.<sup>50</sup> Consequentially, the more junior a liability is, the higher the ex ante incentives to monitor and the higher the adverse spillovers. Given the complexity of the framework, the analysis mainly focuses on governance and adverse spillovers, while the seniority of the holding will be addressed to the extent that is strictly functional to the other two.

Finally, the existence constraint also plays a decisive role. A few figures illustrate the relevance of this concept. At the beginning of 2017, the amount of risk-weighted assets of the 20 top European banks amounted to over 6 trillion euro.<sup>51</sup> For the same period, Dominique Laboureix, a member of the Single Resolution Board (SRB), estimated that the average MREL target, applying the SRB 2017 MREL policy,<sup>52</sup> was on average 26% of risk weighted assets.<sup>53</sup> The same estimation prudentially forecast an aggregate shortfall of 117

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<sup>48</sup>Ibid, 163. See also David A Skeel Jr, 'The Empty Idea of Equality of Creditors' (2017) 166 *University of Pennsylvania Law Review* 699, 719. The author provides several examples of cases where pension funds were treated preferably in the bankruptcy of the corporation the fund invested in, to avoid the political backlash of imposing losses on pensioners.

<sup>49</sup>This represents the underlying argument for preferring other types of investors, such as insurance firms, to pension funds, even though they pose similar threats to financial stability. See Section 5, text to (n 131).

<sup>50</sup>Articles 34 and 56 BRRD.

<sup>51</sup>See Jan Schildbach, 'Where Do European Banks Stand? 10 Years after the Start of the Financial Crisis.' (2017), 5 <[https://www.dbresearch.com/PROD/RPS\\_EN-PROD/PROD000000000450356/Where\\_do\\_European\\_banks\\_stand%3F10\\_years\\_after\\_the\\_.PDF](https://www.dbresearch.com/PROD/RPS_EN-PROD/PROD000000000450356/Where_do_European_banks_stand%3F10_years_after_the_.PDF)> accessed 01 December 2020.

<sup>52</sup>SRB, Minimum Requirement for Own Funds and Eligible Liabilities (MREL) SRB Policy for 2017 and Next Steps <[https://srb.europa.eu/sites/srbsite/files/item\\_1\\_-\\_public\\_version\\_mrel\\_policy\\_-\\_annex\\_i\\_-\\_plenary\\_session.pdf](https://srb.europa.eu/sites/srbsite/files/item_1_-_public_version_mrel_policy_-_annex_i_-_plenary_session.pdf)> accessed 10 February 2020.

<sup>53</sup>Laboureix (n 11). The estimation considers a sample of 76 banks, accounting for almost 80% of total assets of the banks subject to SRB authority.

CORPORATE GOVERNANCE	SPILLOVERS
(1) Ex-ante incentives and capability to monitor	(1) Contagion Risk
(2) Investment strategy & Risk preference	
(3) Ability to influence	(2) (Other) Adverse Economic Consequences
(4) Concentration in composition	
SENIORITY OF THE CLAIM	
EXISTENCE CONSTRAINT	

**Figure 2.** Relevant features for the analysis of the impact of different holders of bail-inable securities.

billion euro, of which 47 billion euro was to be met with subordinated instruments. This implies that an enormous amount of bail-inable securities must be issued and, consequently, held by investors. [Figure 2](#).

### 2.3. Who should hold bail-inable securities?

Is there an ideal buyer for bail-inable instruments? Such an ideal buyer will represent the benchmark against which to assess both the corporate governance impact and the adverse spillovers brought about by different investors. In searching for an ideal buyer, the article considers the current regulatory framework as given, without challenging its main building blocks, such as the burden-sharing policy and the resolution principles in allocating losses.<sup>54</sup>

To start with, it is useful to review some of the proposals in the recent literature, highlighting how those proposals are partial and fail to capture all the relevant features discussed in the previous section. The discussion differentiates between the characteristics related to corporate governance and those related to adverse spillovers. Adverse spillovers, in turn, can relate to either financial stability or other adverse consequences.

Krahnen and Moretti focus on minimising contagion risk, advocating in favour of institutional investors pursuing a long-term strategy such as pension funds, life insurance companies, and private bankers.<sup>55</sup> The authors also propose limiting the market for bail-inable securities to long-term only investors.

<sup>54</sup>European Commission '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 (Banking Communication)' COM (2013) 216.

<sup>55</sup>JP Krahnen and L Moretti, 'Bail-in Clauses' in E. Faia, A. Hackethal, M. Haliassos and K. Langenbucher (eds), *Financial Regulation: A Transatlantic Perspective* (Cambridge University Press 2015).

Persaud considers both contagion risk and adverse economic consequences.<sup>56</sup> The author argues that banks, leveraged investors, and long-term investors should not invest in bail-inable securities. The doubts about the first category mimic the arguments already discussed, ie cross-holding is a threat to financial stability. Persaud also adds a layer of complexity, embedding other potential economic downsides in the analysis. The author points to the fact that the preferred investment strategy of long-term investors focuses on assets whose risk falls over time. Therefore, they are not suitable to hold bail-inable debt, since its risk rises over time.<sup>57</sup>

Gotz and Tröger, in arguing against households holding, propose that the ideal investor in bail-inable debt must have three main characteristics: (1) being a sophisticated investor, (2) not being part of the banking sector, (3) having a business model with no asset/liability maturity mismatch.<sup>58</sup> Such a paradigm considers aspects of both governance and financial stability. The sophistication requirement refers to the ability of conveying and computing information, influencing a bank's decision-making, and therefore its governance. The other elements look at financial stability, such as the ban on both the banking sector and other investors performing maturity transformation activities.<sup>59</sup> Cross-holdings increase bank interconnectedness, thus generating contagion risk. The maturity mismatch of assets and liabilities increases liquidity risk and, consequently, reduces the loss-absorbing capacity of mismatched investors.<sup>60</sup> This also fosters the spreading of losses throughout the financial system, increasing contagion risk. According to Gotz and Tröger, insurance companies, pension funds, and high net-worth individuals are best positioned to hold bail-inable securities.<sup>61</sup>

These approaches are, in principle, not mutually exclusive: each of them points out relevant aspects of investing in bail-inable debt for specific classes of investors. Yet, piecing together the different and contradictory indications on the ideal buyers of bail-inable securities, the trade-off between governance and stability appears even clearer. Holders that would preserve stability have a limited scope for governance intervention and vice versa. The same argument goes for the level of concentration of holders: the higher the concentration, the more likely it is that holders engage in the governance of the borrowing bank. Conversely, a high level of concentration increases contagion risk, endangering financial stability.

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<sup>56</sup>Persaud (n 47) 162.

<sup>57</sup>The probability of a bank running into financial distress and facing the need for resolution in the short term is relatively low in good times, while it increases sharply in the long term.

<sup>58</sup>See Götz and Tröger (n 13) 6.

<sup>59</sup>On maturity transformation and its implication for the fragility of banks, see Armour and others (n 12) 278.

<sup>60</sup>Brunnermeier and others (n 9) 32.

<sup>61</sup>Götz and Tröger (n 13) 6.

Furthermore, considering the existence constraint, these approaches turn out to be incomplete. On the one hand, nobody should buy bail-inable securities, be it because of the threat posed to financial stability, the possible adverse economic consequences brought about or the inability to discipline the issuing bank. On the other hand, the amount of bail-inable securities that need to be marketed is stunning.

Identifying the ideal buyer of bail-inable securities represents a conundrum difficult to disentangle. The analytical framework developed in Section 2.2 is useful in balancing the trade-off between minimising the adverse economic consequences and maximising their positive impact on corporate governance, given the existence constraint.

Maximising the beneficial corporate governance impact means that investors should, to the greatest extent possible, be capable and willing to monitor the borrowers' activities, have a risk appetite that is compatible with a socially desirable level of risk-taking (ie a relatively low risk appetite) and be willing and capable to influence the decisions of their borrowers.

On the other hand, minimising adverse spillovers means that investors should have as little interconnection as possible among them.<sup>62</sup> Moreover, the probability of being bailed in must be consistent with the loss-absorbing capacity of each investor: investors with highly mismatched balance sheets should opt for senior holdings. Finally, investors should not have holdings accounting for a high proportion of their portfolio, especially if their desirable investment strategy seeks assets whose risk decreases over time.

This approach allows improvements to be sought at the margin, looking at the marginal contribution of different holders in a mixed composition. Note that a formal exercise, modelling and solving this maximisation problem, falls out of the scope of this article. On the contrary, the analysis focuses on the relevant functional and institutional characteristics of the holders.

By way of preliminary conclusion, it can be stated with a good level of confidence that no bulletproof investors in bail-inable securities exist. Therefore, it is necessary to look at a solution where a mix of different, individually suboptimal, investors can yield the best possible outcome.

To substantiate the story about creditors' influence in corporate governance think of a bank that, in good times, proposes an aggressive dividend and share repurchase policy.<sup>63</sup> Shareholders are likely to favour the proposal and the legal tools of the competent authority to block this decision are

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<sup>62</sup>Interconnectedness can be both sectorial and geographical. So, for instance, it is not desirable to have a high proportion of domestic holdings, while it is desirable to have a considerable amount of holdings out of the euro area countries. See Martijn A Boermans and Sweder van Wijnbergen, 'Contingent Convertible Bonds: Who Invests in European CoCos?' [2017] *Applied Economics Letters* 234.

<sup>63</sup>The underlying assumption of this example is that the considered policy is not economically justified and represents, at least partly, a rent extraction of shareholders and the management.

limited.<sup>64</sup> Moreover, the competent authority may act procyclically and be unwilling to prevent such course of action, as it does not want to intrude in the bank's decisions in good times. However, in this situation bail-inable creditors have an appropriate incentive to counter such excessive risk-taking in good times.

The crucial question of this contribution is which (mix of) creditors are better positioned to limit value-decreasing decisions, complementing the efforts of the regulator and the competent authority. This hypothetical clarifies some of the seemingly abstract arguments discussed above. Unsophisticated investors cannot gather and compute the necessary information, let alone engage with the bank to prevent excessive risk-taking. In the same vein, investors that expect to be bailed out despite the new regime may remain rationally passive, as conveying information and acting upon it is costly.

This hypothetical also clarifies the possible channels through which creditors may influence the decision of the bank. The threat to exit by selling the position may be neither viable nor credible for the reasons discussed above.<sup>65</sup> Again, the contractual channel may be available, but costly to draft and monitor.<sup>66</sup> Finally, the private engagement is only available to sophisticated, powerful investors that are able to engage the management.<sup>67</sup> This opens up a further problem: should bail-inable creditors have a statutory say on bank decision-making?<sup>68</sup> Even though this normative question falls out of the scope of this contribution, the complementary nature of the two issues deserves to be mentioned.

The aim of this article is, therefore, to understand whether a (mix of) investors can prevent disproportionate risk-taking decisions better than others and if such an efficient mix is already achieved or if there is further room for improvement.

To this end, Section 3 provides data about holders of bail-inable securities, so as to understand whether the current composition reflects the theoretical expectations discussed so far. Section 4 combines the theoretical framework depicted so far with the evidence provided by publicly available data and deepens the analysis of the incentives of the main investors in bail-inable securities.

### 3. What we know about bail-inable debtholders

This section evaluates available data on who owns bail-inable securities. The analysis is based on the data provided by the Security Holding Statistics (SHS),

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<sup>64</sup>See article 77 of the Capital Requirement Regulation. Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 [2013] OJ L 176/1.

<sup>65</sup>Text to (n 32).

<sup>66</sup>Michael Bradley and Michael Roberts, 'The Structure and Pricing of Corporate Debt Covenants' (2015) 5 *Quarterly Journal of Finance* 1, 6.

<sup>67</sup>McCahery, Sautner and Starks (n 43) 2906.

<sup>68</sup>Iris HY Chiu, 'Corporate Governance: The Missing Paradigm in the Mandatory Bail-in Regime for Creditors of Banks and Financial Institutions' [2014] *Journal of Business Law* 611, 629.

a database compiled by the ECB statistic services.<sup>69</sup> The SHS provides data on the (different categories of) holders of an array of securities issued by EU credit institutions (ie banks) as of 2013. Section 3.1 further discusses the specificities and the limitations of the data.

This empirical evaluation sheds light on whether and how market forces are adapting to the new regulatory environment as well as helps detect factors that impede an efficient adjustment. The available data do not allow for a comprehensive statistical exercise, but provide a clear picture of the current composition and recent trends.

### **3.1. Data and limitations**

The publicly available data in the SHS consist of a fraction of the data collected and are aggregated at country level. Thus, we only know the category of investors holding bail-inable securities issued by the banks of each euro area country. The data are collected on a security-by-security basis, according to the mandatory reporting of the holders. For this reason, only the holdings of euro area investors are part of the dataset.<sup>70</sup> The sample period spans from the fourth quarter of 2013 to the fourth quarter of 2017.<sup>71</sup>

The SHS provides data on the holders of ‘non-covered debt securities’, issued by European banks and with initial maturity longer than one year.<sup>72</sup> Non-covered debt securities are all the securities that are not secured by assets of the bank or any other collateral. As previously discussed, only non-covered securities are eligible for bail-in purposes; thus, the analysis focuses on this class of securities and their holders.<sup>73</sup>

The data suffer from two main limitations. First, the scope of the data is limited. The dataset provides information only on the holders located in the euro area, so that a complete view of the holders of all the outstanding debt of a bank is not available. Moreover, data consider only the securities issued by banks located in euro area countries, so that a comprehensive

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<sup>69</sup>Established by the Regulation (EU) No 1011/2012 of the European Central Bank of 17 October 2012 concerning statistics on holdings of securities (ECB/2012/24) as lastly amended by Regulation (EU) 2018/318 of the ECB of 22 February 2018 amending Regulation (EU) No 1011/2012 concerning statistics on holdings of securities (ECB/2018/7), OJ L 62/4. Reporting methodology has been furtherly developed in the Guideline of the ECB of 22 March 2013 concerning statistics on holdings of securities (ECB/2013/7), OJ L 125/17, as lastly amended by Guideline (EU) 2018/323 of the ECB of 22 February 2018 amending Guideline ECB/2013/7 concerning statistics on holdings of securities (ECB/2018/8), OJ L 62/38.

<sup>70</sup>Statistica Data Warehouse, <<http://sdw.ecb.europa.eu/browse.do?node=9689727>> accessed 22 January 2019.

<sup>71</sup>For a comprehensive overview, see ECB, ‘Who Holds What? New Information on Securities Holdings’ [2015] ECB Economic Bulletin 72.

<sup>72</sup>The data capture only holders that are residents in the euro area or non-resident holders whose securities are deposited with euro area custodians.

<sup>73</sup>Consistent with MREL requirement set out in Article 45(4)(d), pursuing which only securities with remaining maturity of at least 1 year can count to meet MREL.



assessment of the exposure of each sector in bail-inable securities is not possible.

Second, data only proxy 'bail-inable securities'.<sup>74</sup> In fact, knowing ex ante which securities are bail-inable is not straightforward, since the resolution authority retains considerable discretionary powers through the exclusions and exemptions provided by Article 44(2) and (3) of the BRRD.<sup>75</sup> Moreover, the dataset allows the extrapolation of non-covered debt issuances whose initial maturity is longer than 1 year. However, no specific information is available on the main characteristics, including the seniority of the claims.

Despite these limitations, the (limited) literature<sup>76</sup> on the matter has consistently relied upon this proxy as a sound representation of banks' 'own funds and eligible liabilities' other than common equity.<sup>77</sup> This represents a state of the art proxy for bail-inable securities and it can be prudently used – even more so, considering that the analysis refrains from any causal interpretation of the data.

The dataset divides the holders into five categories: (1) households;<sup>78</sup> (2) monetary financial institutions (other than central banks), which encompass banks and money market funds;<sup>79</sup> (3) insurance firms and pension funds (IF&PFs); (4) non-financial corporations; (5) other financial institutions (OFIs), such as private bankers, hedge funds, investment funds (other than pension funds) and mutual funds.<sup>80</sup>

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<sup>74</sup>According to the BRRD, all banks' liabilities that are not exempted ex Art. 44(2) [eg insured deposits] are bail-inable.

<sup>75</sup>On these issues, see Martino (n 32) 801. See also Tröger (n 5) 58.

<sup>76</sup>See, mainly, Claudia Pigrum, Thomas Reininger and Caroline Stern, 'Bail-in: Who Invests in Noncovered Debt Securities Issued by Euro Area Banks?' (2016) 32 *Oesterreichische Nationalbank Financial Stability Report* 101; Anne-Caroline Hüser and others, 'The Systemic Implications of Bail-in: A Multi-Layered Network Approach' (2018) 38 *Journal of Financial Stability* 81; Giovanni Dell'Ariccia and others, 'Trade-Offs in Bank Resolution' (2018) *International Monetary Fund Staff Discussion Notes No. 18/02*. See also, ECB, 'Financial Stability Review - November 2016' 98 (2016) <<https://www.ecb.europa.eu/pub/pdf/fsr/financialstabilityreview201611.en.pdf>> accessed 01 December 2020 (Box 7 analyses the evolution of sectoral holding of bail-inable debt).

<sup>77</sup>Pigrum, Reininger and Stern (n 76). See, with a different design and slightly different data used, Ringe and Patel (n 2).

<sup>78</sup>Together with Non-Profit Institutions Serving Households (NPISH), such as: trade unions; professional or learned societies; consumers' associations.

<sup>79</sup>This clearly implies some issues in separately assessing the two categories. Nonetheless, previous empirical evidence shows that the amount of MMF exposures is less than 1/6 as compared with banks and these exposures are particularly concentrated in the Netherlands, France, and partially Germany. Therefore, in the amount of cross-holdings that will be displayed in the proceeding of the section such overestimation shall be considered for those countries.

<sup>80</sup>On the methodology employed in aggregating the data on the basis of sector holders see Jose Cartas and Qi He, 'Issuance and Holdings of Securities in a "From-Whom-to-Whom" Framework', *Handbook on Securities Statistics* (International Monetary Fund) ch 8.

### 3.2. Distribution of holders by geographical area, sector, and seniority

This section discusses the holders' composition with regards to their geographical and sectorial distribution. It also provides some limited evidence on the distribution according to the seniority of their claim.

The available data allow discussion on some crucial aspects of the geographical distribution of bail-inable debtholders whose relevance encompasses both systemic-risk considerations and adverse economic consequences. In contrast, geographical distribution seems not to have direct governance consequences.

The geographical distribution of investors on bail-inable debt has a twofold impact on systemic risk. A high concentration of holders in the same jurisdiction increases the level of interconnectedness among local actors, intensifying the contagion risk.<sup>81</sup> In contrast, if investors in bail-inable debt are located worldwide, potential losses propagate to a larger part of the global financial system.<sup>82</sup> Small shocks can be efficiently absorbed globally, whereas large shocks might trigger a domino effect worldwide, generating a regulatory appetite for ring-fencing against foreign risks.<sup>83</sup>

Considering the adverse consequences on the economy at large, a greater geographical diversification seems to be desirable. Indeed, allocating most of the bank losses on domestic households, pension funds or banks would mean harming the spending capacity of the population and tightening to a large extent the ability to access bank credit. From the perspective of euro area stability, a substantial amount of non-euro area holding is therefore desirable even though, looking at the data, it is far from being reached in many euro area countries.<sup>84</sup>

Figure 3 shows the distribution of holders distinguishing between euro area and non-euro area holders. This represents a proxy of the ability of each banking sector to attract international investors. On average, the investors are mostly resident within the euro area (61%).<sup>85</sup> Beyond such an aggregate figure, the substantial cross-country variation immediately attracts the

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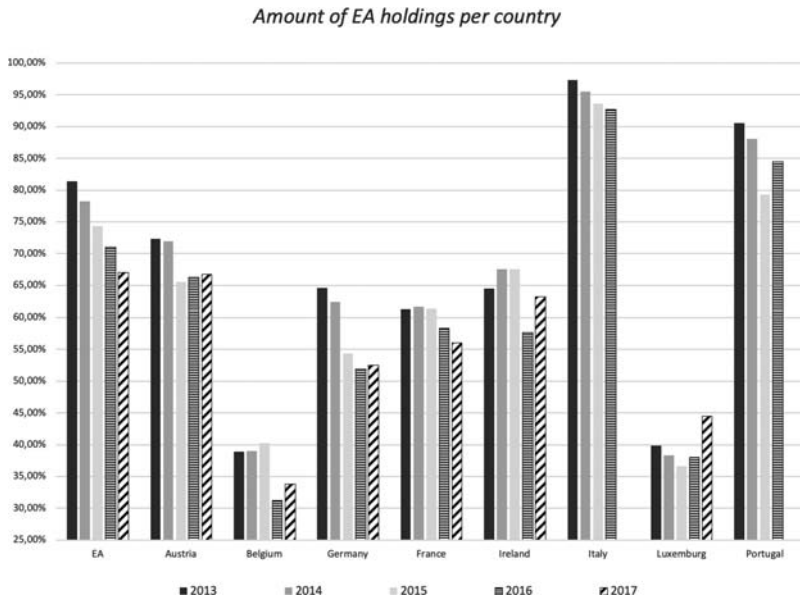
<sup>81</sup>On the so-called 'too-interconnected-to-fail' problem see, among many others, Anne-Caroline Hüser, 'Too Interconnected to Fail: A Survey of the Interbank Networks Literature' (2016) SAFE Working Paper No. 91 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2577241](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2577241)> accessed 01 December 2020.

<sup>82</sup>Geographical diversification also entails more cross-border issues in implementing resolution. Even though this aspect falls out of the scope of the analysis, the literature has monotonically insisted on cross-border issues as one of the main elements in arguing against the credibility of the new resolution regime. See, for instance, Federico Lupo-Pasini and Ross P Buckley, 'International Coordination in Cross-Border Bank Bail-Ins: Problems and Prospects' (2015) 16 *European Business Organization Law Review* 203.

<sup>83</sup>Katia D'Hulster and Inci Ötker-Robe, 'Ring-Fencing Cross-Border Banks: An Effective Supervisory Response?' (2015) 16 *Journal of Banking Regulation* 169, 174.

<sup>84</sup>Boermans and van Wijnbergen (n 62) 237.

<sup>85</sup>There is 2% of non-covered debt whose holding is unreported.



**Figure 3.** Geographical distribution (within or outside the euro area) of holders of non-covered debt securities. Own calculations.

attention of the observer. For instance, Italian banks rely heavily on the euro area market for bail-inable debt (95%). This reflects the hardship of the country in accessing the international financial market, suggesting that the link between banks and their sovereign has not been severed or, at least, that path dependency plays a major role.<sup>86</sup> Other countries show a much more balanced situation and some lean towards a non-euro area majority of holdings. German banks are among the balanced ones, with 47% of euro area holdings.

This domestic bias, together with the high cross-country heterogeneity, hampers the level playing field in the EU internal market.<sup>87</sup> As a matter of fact, the domestic effects of implementing a resolution procedure in Italy or in Germany would sharply differ.

<sup>86</sup>Valerie De Bruyckere and others, 'Bank/Sovereign Risk Spillovers in the European Debt Crisis' (2013) 37 *Journal of Banking & Finance* 4793, 4795.

<sup>87</sup>The establishment of a levelled playing field represents one of the primary goals of the entire resolution framework. See Recital 108 BRRD: 'Ensuring effective resolution of failing institutions within the Union is an essential element in the completion of the internal market. The failure of such institutions has an effect not only on the financial stability of the markets where it directly operates but also on the whole Union financial market. [...] Ensuring effective financing of the resolution of those institutions across Member States is not only in the best interests of the Member States in which they operate but also of all the Member States in general as a means of ensuring a level competitive playing field and improving the functioning of the internal financial market.'

Within euro area investors, it is informative to look at the distribution of holders according to their sector.<sup>88</sup> The analysis provides a snapshot of the sector-by-sector composition at the end of 2017 and discusses some observable trends on sector composition between 2013 and 2017.

Figure 4 shows the sector-by-sector composition of holders of debt issued by six euro area countries and the euro area average.<sup>89</sup> Looking at euro area data, the striking figure relates to the share of cross-holdings, accounting for 46% of holdings, while 37% is held by institutional investors. Such a figure is almost evenly distributed between IF&PFs and OFIs. Finally, households hold a smaller though significant share of non-covered debt (13%), whereas the exposures of governments and non-financial firms is limited (together 4%).

Nevertheless, compositions at country level vary considerably. First, some countries rely on cross-holdings much more than the euro area average shows. Notably, Spain (61%) and Portugal (79%) lead the way, and in Italy (50%) and Germany (54%) cross-holdings are above average. In contrast, French and Dutch banks exhibit a very low level of cross-holdings (31%).

Institutional investors seem to act as a substitute for cross-holdings. Indeed, the countries with lower amounts of cross-holdings show high holdings by IF&PFs and OFIs. That is the case for French and Dutch banks, 59% of whose non-covered debt is held by institutional investors %, well above the euro area average. Finally, the majority of the countries considered show a low stake of household holdings, with the notable exceptions of Italy and Germany.

From this snapshot, one can see how holders of non-covered debt are mostly sophisticated investors, with the notable exceptions of Italy and, to a certain extent, Germany. Moreover, data show a high degree of substitutability between cross-holdings and institutional investors' holdings.

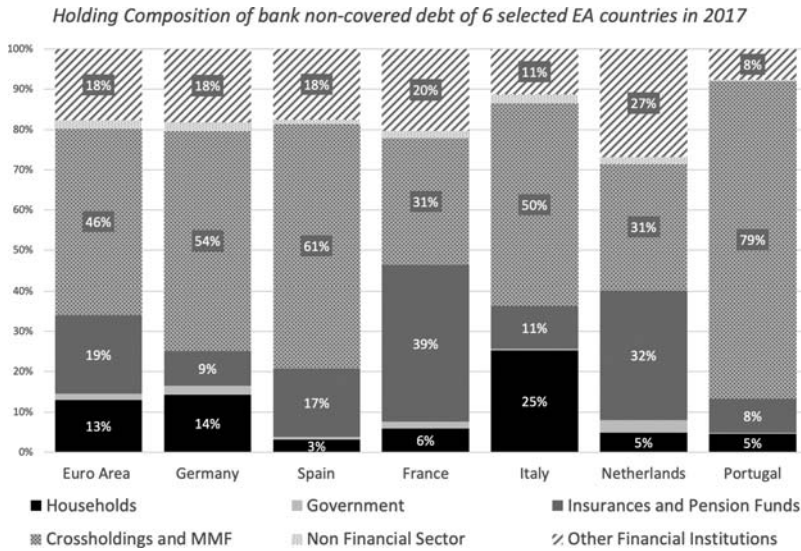
This is where the market for bail-inable securities stands now. It is also important to understand how it has arrived here. Figure 5 shows the percentage changes in sector holdings between 2013 and 2017, taking 2013 as a benchmark. The red line indicates the entrance into force of the bail-in tool, as of 1 January 2016.<sup>90</sup>

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<sup>88</sup>As discussed earlier, available data do not allow for having the same information for non-euro area investors. Therefore, the proceeding of the analysis captures only a limited share of outstanding debt that varies country by country depending on the percentage of euro area holding. For instance, sector-by-sector data cover 95% of non-covered debt issued by Italian banks, but only the 53% of debt issued by German banks. This might lead to overestimating the amount of household holdings that is reasonable to assume as mainly domestic, for the countries with a high stake of non-euro area holdings, such as Germany, the Netherlands, etc.

<sup>89</sup>Namely the countries with higher levels of outstanding non-covered debt.

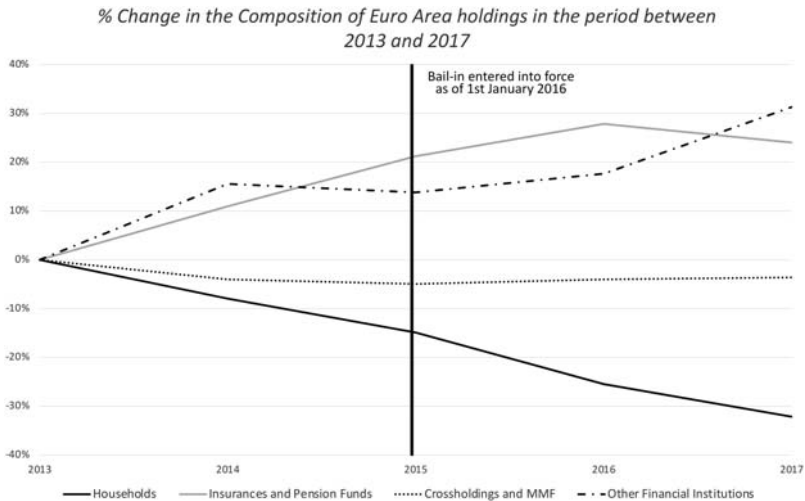
<sup>90</sup>Article 130 BRRD. Since the data takes into account the end of each year, the 2015Q4 observation coincides with the entrance into force of the bail-in. It is worth remembering that, given the nature of the available data, the analysis cannot infer any kind of causal relationship between the bail-in entering into force and changes in holding composition. Moreover, such an inference would be particularly difficult to prove even with granular data as the investors were likely to anticipate it, since the first drafts of the BRRD date back to 2012 and the final version was promulgated in May 2014.



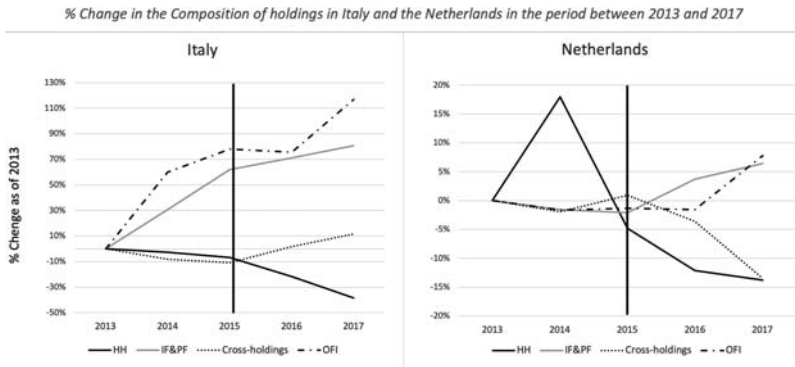
**Figure 4.** Sector composition of non-covered debt held by euro area investors 2017Q4 in selected euro area countries. Own calculations.

The graph shows a sharp increase of institutional investors’ holdings throughout euro area bank non-covered debt. The increase is particularly relevant for OFIs in 2017 (+31% as compared with 2013). On the contrary, household holdings have consistently decreased during the sample period, while cross-holdings have been rather stable over time.

Again, looking closer at the same trends at country level, a spectacular heterogeneity arises. For instance, [Figure 6](#) compares the same trends in sector



**Figure 5.** % variation of sector holdings as of 2013. Own calculations.



**Figure 6.** % variation of sector holdings as of 2013 in Italy and the Netherlands. Own calculations.

holdings for non-covered debt issued by Italian and Dutch banks. The differences between the two are striking both quantitatively and qualitatively.

The holding composition has been relatively stable for Dutch banks, where the stake of institutional investors increased mainly in the last two years of the sample period, while cross-holdings and household holdings have decreased in the same time period. In contrast, Italian banks experienced a sort of revolution. Institutional investors doubled their holdings (from 11.07% to 21.87%), while households nearly halved them (from 41.2% to 25.3%). Notably, cross-holdings had a ‘V’ trend, decreasing in the first part of the sample period and increasing in the second part, with an overall increase of 10%. This might be deemed as a transitional trend, where cross-holdings substitute for the sharp decrease in households’ holdings in the wake of the latest turmoil with failing Italian banks.<sup>91</sup>

The final aspect to consider is the distribution of holders according to the seniority of their claim, given its importance in defining the preferred mix of holders. Yet, in this respect, publicly available data are almost completely silent.<sup>92</sup> In the Financial Stability Review of November 2016,<sup>93</sup> the ECB showed a sizeable shift in security holdings according to their seniority between 2013 (Q4) and 2016(Q1). Specifically, cross-holding exposures shifted towards senior positions, while households exhibited a preference for junior, thus riskier and more remunerative, bank assets. The same shift towards junior exposures was observed for insurance firms, pension funds, and investment funds.

Boermans and van Wijnbergen described the composition of holders in the market for contingent convertibles between 2009 and 2015.<sup>94</sup> They

<sup>91</sup>For a deeper analysis about the Italian case, see Edoardo Martino, ‘Subordinated Debt under Bail-in Threat’ (2017) 2 *University of Bologna Law Review* 252, 271.

<sup>92</sup>With the notable exceptions of Boermans and van Wijnbergen (n 62); ECB (n 76).

<sup>93</sup>See ECB (n 76) 100 (Chart C).

<sup>94</sup>Boermans and van Wijnbergen (n 62) 237.

found that the market grew steadily and that contingent convertibles holders mainly reside outside the euro area (74%). The share of euro area holdings was dominated by investment funds (78%).

### **3.3. Sectorial composition in five EU countries: Data and Trends**

The analysis now spotlights the sectorial composition of five selected European countries with the largest banking sectors and the highest levels of non-covered debt issued: France, Germany, Italy, the Netherlands and Spain.<sup>95</sup> The analysis looks both at the composition at the end of the sample period (2017Q4) and the relevant trends during the sample period. It highlights abnormal variations that might be interpreted, at least partly, as a response to the new resolution framework.

The categorisation that follows is somehow artificial, while a functional approach could have been more useful in answering the research question. Labelling an investor as a pension fund or mutual fund is neither necessary nor sufficient for arguing about the business model and the corporate governance role of each investor. Despite such a limitation, it is still informative for the reader to grasp the fundamental characteristics of each class of investor as reported by the SHS. Sections 4 and 5 build on this limited evidence and provide a functional interpretation of both the state of the art and its desirable developments.

Figure 7 summarises the share of bail-inable debt held by each sector at the end of the sample period (panels on the left) and the percentage changes on such shares throughout the sample period (panels on the right). Four sectors are considered, according to the categorisation provided by the SHS database: (1) households (panels A and B); (2) cross-holdings (panels C and D); (3) IF&PFs (panels E and F); (4) OFIs (panels G and H).

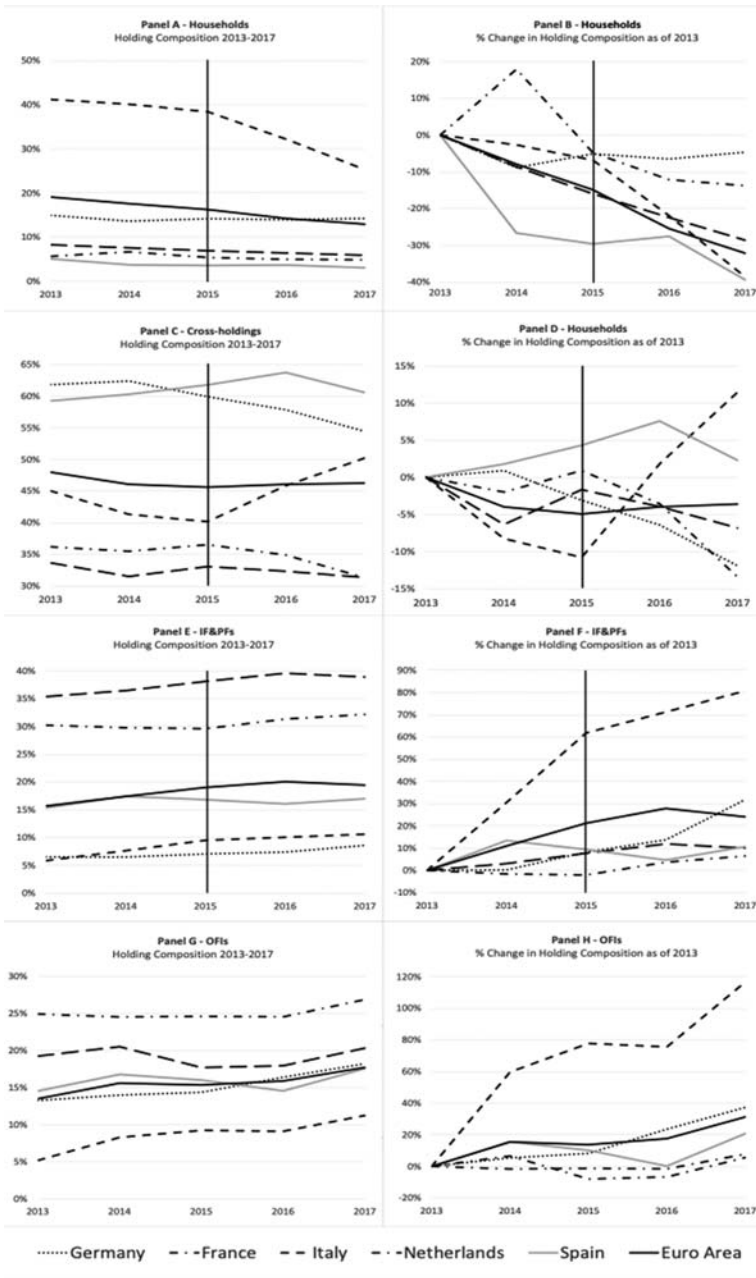
Considering households holdings, Panel A shows heterogeneous levels among the selected countries, while Panel B shows a common decreasing trend in households' holdings, taking 2013 as the reference year, with a sharp but not uniform decrease. Notably, household holdings in Italy nearly halved in the sample period, with a particularly steep decrease after 2015.<sup>96</sup> In this scenario, German banks represent a peculiar case. Throughout the sample period, the share of household holdings stayed constant, at around 14%, which is now higher than the euro area average. This signals that German households firmly believe in the resilience of their banks,

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<sup>95</sup>At the end of 2017, the banking sectors of these five countries issued 86.94% of the outstanding non-covered debt with original maturity longer than 1 year.

<sup>96</sup>This can be partly explained by the resolution cases of four small Italian banks that unveiled the problem of mis-selling of bail-inable securities to retailers largely unconscious of the risks those securities carried. On the resolution of the four banks see Martino (n 91) 270.





**Figure 7.** Data and Trends of Bail-inable Debt Holding in 5 European Countries.

while it is also possible that debt issued by German banks attracted households that rejected an investment in bank debt in other countries. Overall, the market forces seem to converge towards a low amount of household



holdings, in line with the expectations previously discussed. Nonetheless, legacy issues and path-dependent behaviours are still considerable.

In contrast, the scenario for bank cross-holdings only reflects the expectations to a limited extent. Panel C shows a high and relatively stable level throughout the sample period (48% in 2013 as compared with 46% in 2017). Given the available data, it is not possible to clearly understand whether such a situation represents the result of strategic behaviours. Some authors claimed that banks are incentivised to increase their interconnectedness and, hence, hold the bail-inable securities of other banks, anticipating that a high level of interconnectedness decreases *ex ante* the probability of a bail-in.<sup>97</sup> An alternative explanation is that the relatively constant overall amount is hiding a shift towards senior positions.<sup>98</sup> Therefore, the data have a low explanatory power for this category of holders.

Some countries have a high level of cross-holdings, whereas others exhibit a relatively low one. Germany and Spain belong to the first group, lying well above the euro area average, but expose divergent trends: cross-holdings in German banks slightly decreased over time (−11% between 2013 and 2017) while Spanish cross-holdings increased in the sample period (+3%). On the other side of the spectrum, ‘only’ 31% of French and Dutch non-covered debt is held by other banks, with a notable decreasing trend. Notably, heavily concentrated banking systems are also better able to position themselves in the international financial market, relying less on cross-holdings to satisfy the existence constraint. Italy plays a peculiar role, lying in the middle of the two groups. Moreover, while cross-holdings decreased in the first half of the sample period, eventually the figure increased again, with an overall net change of +11% between 2013 and 2017. This might be partly due to the sudden decrease of household holdings in the same portion of the sample period.

Assessing the figures on insurance firms and pension funds is even more complicated. This category suffers from further limitations as data are even more aggregated. These display in one figure the combination of two different types of investors: pension funds and insurance companies. Notably, these investors share an important common trait: investing does not represent the immediate core business of either pension funds or insurance firms. Rather, both invest the contributions of clients to realise future goals defining the objective of the business, ie paying out compensation if the insured harmful event happens and paying out pensions when the

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<sup>97</sup>This represents the main claim in Ringe and Patel (n 2) 15. See also Benjamin Bernard, Agostino Capponi and Joseph E Stiglitz, ‘Bail-Ins and Bail-Outs: Incentives, Connectivity, and Systemic Stability’ (2017) NBER Working Paper n 23747 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3031718](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3031718)> accessed 01 December 2020.

<sup>98</sup>See ECB (n 76) 100.

time is due. Data show a general increase in IF&PFs holdings (panel F), consistent with the general decrease in household holdings and cross-holdings. The euro area average at the end of the sample period was about 20%, having experienced a considerable increase throughout the period (+24.05%). Again, such a figure lies in between two groups of countries.

Countries such as France and the Netherlands have a high level of IF&PF holdings, respectively 38.90% (+10.01%) and 32.16% (+6.43%) at the end of the sample period. Consistently with the euro area trend, the share of IF&PFs increased. On the other hand, Germany (8.61%) and Italy (10.42%) lie below the euro area average. In relative terms, the Italian figure is striking: the share of IF&PFs' holdings increased by over 80% in 5 years. This figure is likely to partly offset the sharp decrease in household holdings that Italy experienced in the same period. Again, path dependency and country heterogeneity play a major role. The general trend shows a considerable increase in IF&PFs' holdings. Yet, this trend is difficult to assess. The two components of this category, though sharing some traits, differ dramatically when it comes to investing in bail-inable securities.

Finally, 'other financial institutions' represents a residual category characterised by a high degree of heterogeneity. However, these investors share an important feature: their core business is to professionally invest money that has been provided by their clients or borrowed (for leveraged institutions).

Despite the high level of heterogeneity, some limited insight can be provided. Throughout the sample period, OFIs' holdings increased significantly in the euro area (+31.30%). The increase was relatively modest in countries that already had a considerable share of OFI holdings at the beginning of the sample period, such as the Netherlands (+7.80%). This might signal that, given current legislation and incentive structures, the share of holdings is close to what is privately efficient for the investors falling under this category. In contrast, the increase is higher in countries where the initial amount of OFI holdings was below the euro area average, such as Germany (+37.34%). Again, Italy (+116.73%) represents a unique case of adjustment towards more sophisticated investors holding bail-inable securities, even though the share of OFI holdings is still below the euro area average.

Drawing some preliminary conclusions, it appears that the composition of holders is moving towards an increased level of sophistication. Nonetheless, this trend remains complex to interpret in light of the trade-off between financial stability and corporate governance, since the categories of investors provided by the dataset are uninformative in this respect. Overall, cross-country heterogeneity and path dependence play a significant role also for this category of investors. Nonetheless, a clear route towards more convergence in the euro area has started and it is in its early stage.

## 4. Divergent incentives and adverse spillovers: A functional appraisal

Which investors are better suited to hold bail-inable securities? Before addressing this core question, a brief recap of the previous sections will be useful.

Section 2 set the theoretical framework to analyse bail-inable debt holdings. In particular, the trade-off between financial stability and corporate governance constitutes the key feature to understand the discrete impact of different holders. On top of such a trade-off, one also needs to carefully consider other adverse economic spillovers, such as the shrinking of the spending capacity of households and the existence constraint that posits the legal obligation to issue enough eligible liabilities.

Section 3 carried out an empirical analysis using available data and described the current composition of holders. The analysis reveals a trend towards increased sophistication of holders despite the heterogeneity in data and trends among different countries. The analysis does not allow clear conclusions to be drawn regarding the trade-off between governance and financial stability.

This section functionally appraises investors' suitability to hold bail-inable securities, by discussing the characteristics that make them 'good' or 'bad' holders. To this end, our starting point is the threat to financial stability each of them poses.

In the context of bank resolution, the main threat to financial stability is the cross-sectional systemic risk of contagion. The functional characteristics of institutions prone to contagion are the high level of leverage and the undertaking of qualitative asset transformation. Performing qualitative asset transformation means that the institution, such as a commercial bank, faces a mismatch in terms of maturity, risk, and liquidity between its sources of funding and the assets in its balance sheet. Moreover, the institution guarantees immediate liquidity on demand to some creditors, such as retail depositors. This model makes the institution particularly prone to a run on its short-term funding in times of distress.<sup>99</sup>

In this context, losses on assets through a bail-in pressure the highly leveraged structure of the institution and increase the probability of liquidity crises. Indeed, short-term, liquid creditors have incentives to run in anticipation of further losses (funding illiquidity) and exposing the institution to selling its illiquid assets at a discount price to satisfy its liquidity needs (market illiquidity).<sup>100</sup>

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<sup>99</sup>On this dynamic see the seminal contribution by Douglas W Diamond and Philip H Dybvig, 'Bank Runs, Deposit Insurance, and Liquidity' (1983) 91 *Journal of Political Economy* 401.

<sup>100</sup>On liquidity spirals, see Markus K Brunnermeier and Lasse Heje Pedersen, 'Market Liquidity and Funding Liquidity' (2009) 22 *Review of Financial Studies* 2201, 2204.

Accordingly, investors are divided into three categories, according to the threat of contagion they pose:<sup>101</sup>

- (1) Highly leveraged investors that perform transformation activities. This category mainly includes bank cross-holdings and other financial institutions that shadow banks.
- (2) Investors with moderate leverage that do not perform transformation activities. This category mainly includes hedge funds.
- (3) Investors with low leverage that do not perform transformation activities. Within this category the section discusses pension funds, insurance firms, and mutual funds.

Finally, the analysis considers the case of retail investors, which this categorisation does not capture.

#### **4.1. High leverage and performance of transformation activities: cross-holdings**

Bank cross-holdings increase both the interconnectedness of banks and correlated counterparty risks and, consequently, are discouraged by virtually all academic studies.<sup>102</sup> This analysis departs from the consensus against bank cross-holdings. Such a departure is grounded on the existence constraint of bail-inable securities.<sup>103</sup>

Traditionally, policymakers did not regulate counterparties since it would be difficult to do and might have severe unintended consequences.<sup>104</sup> However, the current legal framework is no longer silent on this issue. From an ex ante perspective, the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS) modified Basel III standards

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<sup>101</sup>Within each of these functional categories, the suitability of investors to hold bail-inable securities is scrutinised in terms of the governance role they may play, the other adverse consequences they may bring about, and their ability to contribute to satisfying the existence constraint. When relevant, regulation regimes for specific investors are discussed.

<sup>102</sup>See text to n 58 in sec 2.3. On the strategic incentives to increase interconnectedness, see Bernard, Capponi and Stiglitz (n 97) 29. In a more general setting, see Xavier Freixas, Bruno M Parigi and Jean-Charles Rochet, 'Systemic Risk, Interbank Relations, and Liquidity Provision by the Central Bank' [2000] *Journal of Money, Credit and Banking* 611.

<sup>103</sup>In this view, it is worth remembering that systemic risk should be as low as possible but cannot be eliminated as it is inherent to the financial system. Jihad Dagher and others, 'Benefits and Costs of Bank Capital' (2016) IMF Staff Discussion Note No. SDN/16/04 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2838437](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2838437)> accessed 01 December 2020.

<sup>104</sup>See Viral V Acharya and Tanju Yorulmazer, 'Cash-in-the-market pricing and optimal resolution of bank failures' (2008) 21 *The Review of Financial Studies* 2705, 2730. For a more general argument on anti-herding regulation, see Ian Ayres and Joshua Mitts, 'Anti-Herding Regulation' (2015) 5 *Harvard Business Law Review* 1, 29. An indirect way to regulate counterparties risk in cross-holding is the limitation on large exposures. Any exposure to a counterparty or group of connected counterparties which is equal to or exceeds 10% of the firm's Tier 1 capital constitutes a large exposure (Article 392 CRR). Article 395 CRR limits large exposures to 25% large exposure of Tier 1 capital; 15% for G-SIBs.

to account for cross-holdings.<sup>105</sup> From an ex post perspective, the BRRD regulates cross-holdings in resolution.

In the total loss-absorbing capacity (TLAC) term sheet, the FSB provided for the necessity to deduct from one bank's TLAC the exposures to TLAC instruments issued by other banks.<sup>106</sup> This means that if a bank invests extensively in another bank's bail-inable securities (cross-holdings), the first bank must issue more capital or eligible securities to comply with TLAC requirements.<sup>107</sup> These modifications were implemented in the revised version of the Capital Requirements Regulation (CRR).<sup>108</sup> Therefore, if the 13 largest European banks (the ones labelled as G-SIBs) hold TLAC instruments issued by other banks, they will need to hold more capital to account for the increase in contagion risk this poses.

From an ex post perspective, the BRRD recognises the danger of triggering a domino effect allocating losses to other banks. Therefore, the resolution authority has the power to (partially) exclude, in exceptional circumstances, liabilities whose bail-in would give rise to widespread contagion.<sup>109</sup> This provision might have adverse consequences, generating strategic incentives to keep the level of interconnection high. This, in turn, would reduce the likelihood of being bailed-in and, more generally, the credibility of the resolution framework.<sup>110</sup>

The resulting regulatory framework provides ambiguous incentives for banks investing in bail-inable securities as two pieces of regulation point in different directions. On the one hand, cross-holdings are penalised ex ante by means of deduction on capital and eligible liabilities. On the other

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<sup>105</sup>This applies in relation to total loss-absorbing capacity (TLAC) representing a minimum requirement for 'loss-absorbing' liabilities that since 1 January 2019 onwards will be applied to systemically relevant institutions (G-SIBs). Conceptually, TLAC and MREL are similar and pursue the same objective, even though they are not completely overlapping. On differences and similarities between TLAC and MREL, see Jose Carlos Pardo and Victoria Santillana, 'The European MREL: Main Characteristics and TLAC Similarities and Differences' [2014] European Regulation Watch 1. On the perspective of reform to harmonise MREL with TLAC for the implementation of TLAC by European G-SIBs, see European Banking Authority, 'Final Report on MREL - Report on the Implementation and Design of the MREL Framework - EBA-Op-2016-21' (2016) 154.

<sup>106</sup>Financial Stability Board (n 10) Section 15: 'In order to reduce the risk of contagion, G-SIBs must deduct from their own TLAC or regulatory capital exposures to eligible external TLAC instruments and liabilities issued by other G-SIBs in a manner generally parallel to the existing provisions in Basel III that require a bank to deduct from its own regulatory capital certain investments in the regulatory capital of other banks. The Basel Committee on Banking Supervision (BCBS) will further specify this provision, including a prudential treatment for non-G-SIBs.'

<sup>107</sup>The BCBS implemented the FSB provision by modifying some of the Basel III provisions on capital definition. For what is here of strict interest, holdings exceeding 10% of TLAC instruments of the issuer must be deducted from Tier 2 capital for the investing bank. The same treatment is provided for non-regulatory capital TLAC holdings exceeding the 5% of the investing bank's common equity. On the other hand, no deduction is mandated by MREL regulation for non-G-SIBs. See BCBS, 'Standard. TLAC Holdings. Amendments to the Basel III Standard on the Definition Capital' (2016) <<https://www.bis.org/bcbs/publ/d387.pdf>> accessed 01 December 2020.

<sup>108</sup>Article 72a CRR.

<sup>109</sup>Article 44(3)(c) BRRD.

<sup>110</sup>This is the main point put forward in Ringe and Patel (n 2) 17.

hand, the BRRD grants the resolution authority the discretionary power of exempting cross-holdings from bail-in in case of risk of contagion, giving rise to potential opportunistic behaviours.<sup>111</sup>

Coming to the analysis of the governance role banks may play, the discussion can be short and clear-cut: no positive impact can be expected on corporate governance since banks, which compete with one another, are not willing to convey and compute relevant information to enhance the decision-making of other banks. Moreover, high levels of cross-holdings can negatively impact the ex ante governance effect of other investors as well. As discussed above, high cross-holdings increase the probability of bailout and, accordingly, market discipline is loosened. This also has a procyclical effect: the risk is not reflected in the price of the security in good times but materialises in bad times.<sup>112</sup>

Despite the fact that bank cross-holding generates considerable contagion risk and carries no benefits from a corporate governance perspective, a certain level of cross-holdings is desirable. This follows from the necessity to satisfy the existence constraint. The trends observed and discussed in Section 3 seem to confirm this assertion. Despite the difficulty in disentangling all the different covariates hinging upon the cross-holding figure, it is noticeable how the percentage of cross-holdings always remains above the 30% of the outstanding debt for each of the analysed countries.<sup>113</sup> This observation is particularly significant for countries such as France and the Netherlands whose main banks are highly capable of attracting funds in the capital market. Even more so considering that French banks displayed the lowest level of cross-holdings at the beginning of the sample period and this level remained very stable throughout the whole period. This does not allow us to determine what the equilibrium level of cross-holdings is, as many confounding factors interplay.<sup>114</sup> However, this evidence strongly supports the inference theoretically discussed above, ie that the equilibrium level of cross-holdings significantly differs from zero.

Nonetheless, the discretion of the resolution authority, which appears reasonable from an ex post perspective, is likely to generate opportunistic behaviours ex ante, especially for the majority of non-systemic banks that

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<sup>111</sup>In this sense, *ibid* 15. argues that banks have incentives to hold other banks' bail-inable debt and increase systemic risk so to reduce the likelihood of an actual resolution happening, i.e. hamper the ex ante credibility of the entire resolution framework.

<sup>112</sup>Recent empirical findings point at the cyclical nature of informational efficiency for bail-inable securities, showing the existence of a 'bail-in risk premium'. However the premium is procyclical, being lower in times of expansions for the riskier banks compared to the more prudent ones. See Lewrick et al (n 28) 13. In turn, this procyclical trend has real economy consequences in terms of risk incentives over the cycle, credit availability, and risk of crunches in bad times.

<sup>113</sup>See Figure 7 panel C.

<sup>114</sup>Among these confounding factors one can think of the room for strategic investment in cross-holding to decrease the probability of bail-in ex ante; the ambiguous incentives provided by the regulatory framework, the adjustment of other categories of investors, etc.

are not subject to capital deduction provided by the TLAC regulation. Thus, the arguments proposed so far root in favour of the application of a deduction system beyond G-SIBs, with a slightly laxer threshold so as not to impose excessive burdens on smaller banks.

In this conundrum, a further dimension comes into play: the seniority of cross-holdings. To minimise contagion risk, banks investing in bail-inable securities should have the lower possible probability of incurring losses and therefore cross-holdings should move towards a senior position.<sup>115</sup> In this sense, modulating the TLAC deduction according to the seniority of the cross-holdings, making junior cross-holdings considerably more costly, should improve their incentives.

Before moving to the other categories of investors, an important caveat is worth discussing. Banks are not the sole highly leveraged investor performing transformation activities. The whole shadow banking sector does so, without being subject to the whole banking regulation.<sup>116</sup> The analysis discussed some paradigmatic cases of shadow banking if a subset of the category considers performing shadow banking activities.<sup>117</sup> In all those cases, the arguments proposed in this section remain valid and even reinforced, as shadow banks still act largely unregulated and do not undergo a fully fledged supervisory scrutiny.

Cross-holdings are worrisome mainly because of the cross-sectional contagion risk. However, if one considers the shadow banking sector, the time-series source of systemic risk, ie procyclicality, is also worth discussing. Similar to licenced banks, these sophisticated and leveraged investors cannot be expected to improve market discipline ex ante when the probability of default is low. However, they may impose excessive burdens on banks when the financial situation deteriorates.<sup>118</sup> The non-runnable design of bail-inable securities is meant to prevent disruptive panics or adjustments in quantity close to default.<sup>119</sup> However, these sophisticated investors may hedge their position through derivatives and be willing to exit close to insolvency even at a loss, decreasing the market value of the security and worsening the crisis. This highlights once again the tension between financial stability and ex ante governance.

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<sup>115</sup>As noted in Section 3.2, limited evidence suggests that this shift is happening. See, ECB (n 76) 100. Chart C.

<sup>116</sup>Hossein Nabilou and Alessio M Paces, 'The Law and Economics of Shadow Banking', In Iris H-Y Chiu and Iain MacNeil (eds), *Research Handbook on Shadow Banking* (Edward Elgar Publishing 2018).

<sup>117</sup>Namely, insurance firms promising a rate of return and allowing for redeemable policies; money market mutual funds guarantee redemption value, bond funds tracking in index synthetically, through futures and warrants, without investing in the underlying assets.

<sup>118</sup>Stephanou (n 31) 8.

<sup>119</sup>Tri Vi Dang, Gary Gorton and Bengt Holmström, 'The Information View of Financial Crises' (2019) Yale ICF Working Paper No. 2019-15, 2 <<https://ssrn.com/abstract=3416824> or <https://doi.org/10.2139/ssrn.3416824>> accessed 24 November 2020.

## 4.2. Moderate leverage and no transformation activities: hedge funds

Hedge funds are financial institutions that engage in a variety of activities following diverse investment strategies, which makes hedge fund little more than a label. To cope with such heterogeneity, the EU Alternative Investment Funds Directive (AIFD)<sup>120</sup> defines hedge funds as investment funds that do not qualify as retail funds (undertakings for the collective investment in transferable securities (UCITS))<sup>121</sup> under the relevant legislation.

While it is impossible to account for all the possible variations and investment strategies of hedge funds, for the purpose of the present study some features are crucial. First, hedge funds are highly sophisticated investors whose services are directed to highly sophisticated clients. Second, client funds are, to different extents, locked up, so that withdrawal on demand is not possible. Third, most hedge funds are highly leveraged institutions, though not as much as banks are. Fourth, hedge funds often try to intrude in the governance of the firm they invest in to gain profits from reselling the securities at a premium.<sup>122</sup> These are the so-called ‘activist hedge funds’ and are the main focus of this section for the particular relevance they have for this study.

Despite the high leverage, the contractual lock-in of client funds minimises the risk of a run. On the other hand, being leveraged, hedge funds face a fire sale risk when they hold illiquid assets – such as bail-inable securities – in times of financial turmoil. Moreover, hedge funds may increase systemic risk through interconnection with other financial institutions. In this respect, the standard regulatory response has been to indirectly tackle the issue by increasing capital requirements and limiting large exposures of banks towards leveraged funds.<sup>123</sup> These measures do not seem completely fit for purpose as both risk-weighted capital requirements and limits to large exposure are procyclical.<sup>124</sup>

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<sup>120</sup>Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on Alternative Investment Fund Managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No 1060/2009 and (EU) No 1095/2010. *OJ L 174/1*.

<sup>121</sup>Directive 2014/91/EU of the European Parliament and of the Council of 23 July 2014 amending Directive 2009/65/EC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) as regards depositary functions, remuneration policies and sanctions [2014] *OJ L 257/186*.

<sup>122</sup>For an introduction to the impact of hedge fund activism on corporate governance, see John C Coffee Jr and Darius Palia, ‘The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance’ (2016) 1 *Annals of Corporate Governance* 1.

<sup>123</sup>On the desirability of indirect regulation, see Hossein Nabilou and Alessio M Paces, ‘The Hedge Fund Regulation Dilemma: Direct vs. Indirect Regulation’ (2015) 6 *William & Mary Business Law Review* 183, 222.

<sup>124</sup>On the necessity to account for the financial cycle in designing large exposure regulation see European Systemic Risk Board, ‘Flagship Report on Macro-prudential Policy in the Banking Sector’ (2014), 13 [https://www.esrb.europa.eu/pub/pdf/other/140303\\_flagship\\_report.pdf](https://www.esrb.europa.eu/pub/pdf/other/140303_flagship_report.pdf) accessed 01 December 2020.



In assessing the impact hedge funds might have on the governance of banks, the ability of hedge funds to target undervalued bail-inable securities represents a crucial feature. Activist hedge funds are specialised in corporate governance engagement. Nonetheless, some doubts can be cast on the desirability of hedge fund intervention. Section 2 defined the impact on corporate governance not only as the ability and willingness of monitoring and influencing the borrower, but also as a function of the preferences of the investor. This represents a particular manifestation of the long-lasting debate on hedge fund short-termism.<sup>125</sup> In times of distress a suitable strategy for a hedge fund is to lobby for the reduction of the bank's leverage by shrinking assets and, thus, reducing available credit for the real economy and generating adverse spillovers. This once again highlights the inherent tension between governance and adverse economic consequences.

However, such a criticism may understate the actual potential of hedge funds. Hedge fund activism usually works in combination with passive investors that decide whether hedge funds claims are worth supporting.<sup>126</sup> Moreover, in the specific case of banks close to financial distress, the law allocates pervasive powers to the supervisory authority.<sup>127</sup> Therefore, the supervisor itself can prevent hedge funds from implementing socially detrimental policies, such as deleveraging the bank via asset shrinking. All those aspects undercut the procyclical impact of hedge funds and accentuate their impact on governance.

In this regard, hedge funds can enhance market discipline based on price adjustment, reducing market volatility and enhancing the quality of price discovery thanks to their contrarian investment strategy. Nonetheless, the law being as it is, hedge funds might have limited incentives to invest in bail-inable securities since the room they have for engaging with the management is rather limited. In contrast, including bail-inable creditors in the internal governance dynamic may provide hedge funds with powerful incentives to enter the market for bail-inable securities.<sup>128</sup>

A different, and arguably more important, limitation of hedge funds as holders come from their investment strategy. Hedge funds actively investing in debt instruments are usually latecomers: they invest in debt instruments whose price has already dropped considerably. This way, the funds aim at

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<sup>125</sup>On short-termism and corporate governance, see Mark J Roe, 'Corporate Short-Termism—in the Boardroom and in the Courtroom' [2013] *The Business Lawyer* 977. Empirically, many studies have shown how activism yields long-term improvement in the profitability and value of the targeted corporations. See Marco Becht and others, 'Returns to Hedge Fund Activism: An International Study' (2017) 30 *The Review of Financial Studies* 2933; Lucian A Bebchuk, Alon Brav and Wei Jiang, 'The Long-Term Effects of Hedge Funds Activism' (2015) 115 *Columbia Law Review* 1085.

<sup>126</sup>Ronald Gilson and Jeffrey N Gordon, 'The agency costs of agency capitalism: Activist investors and the revaluation of governance rights' (2013) 113 *Columbia Law Review* 863, 897.

<sup>127</sup>See, for instance, the early intervention powers that the BRRD grants to the authority competent for the financial supervision of banks. Articles 27–29 BRRD.

<sup>128</sup>Text to (n 73).

realising a profit by selling back debt instruments at a higher price at a later stage.<sup>129</sup> This decreases the potential of hedge funds to positively impact corporate governance in good times but, conversely, increases such potential once the bank's stability deteriorates. In this regard, the governance impact of hedge funds seems more promising in idiosyncratic crises, where hedge funds can push for cutting inefficiencies so as to get the bank back on its feet.

These latter considerations highlight two further layers of complexity in analysing bail-inable debtholders: first, the discrete role of different investors over the life cycle of the issuing bank; second, the different impacts they may have in different types of bank distresses.

The observable data say little about the desirability of the current trend in terms of hedge fund investment. Hedge funds are part of the OFI category, together with other heterogeneous types of investors. The holding of this macro-category is increasing, which is to be considered positively. However, it is impossible to assess the volume and quality of hedge fund involvement.

In conclusion, it is desirable to have hedge funds investing in bail-inable securities since they pose limited risk of adverse spillovers. Moreover, they have the ability and willingness to impact on the corporate governance of the borrowing bank even though the desirability of such an impact is ambiguous, especially in times close to distress. In this respect, the relevance of a mix of investors in bail-inable securities supported by an effective supervision becomes clear.

### **4.3. Limited leverage, no transformation activities**

#### **4.3.1. Pension funds**

Pension funds are financial institutions whose primary source of funding consists in the contribution of employees and whose liabilities consist of the future entitlement of employees to receive their pension when the time comes due. Pension funds invest the contribution of the participants into the pension scheme with a medium-term perspective, so as to maintain and marginally increment the value of its assets and be able to meet obligations towards pensioners in the future.

To shield against investment risk, pension funds retain highly diversified portfolios and, as sophisticated long-term investors, are believed to closely monitor their investments. Moreover, pension funds pose few concerns from a financial stability perspective since they do not usually resort to leverage and do not face the risk of a run.<sup>130</sup> Therefore, many commentators

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<sup>129</sup>Michelle M Harner, 'The Corporate Governance and Public Policy Implications of Activist Distressed Debt Investing' (2008) 77 *Fordham Law Review* 703, 754.

<sup>130</sup>See Armour and others (n 12) ch 22.4.

envisaged pension funds as desirable holders. Nonetheless, bail-inable securities contrast with pension funds' preferred investment strategy,<sup>131</sup> since they seek assets whose risk decreases over time. This may disincentivise pension funds from investing extensively in bail-inable securities so long as they consider the resolution framework to be credible.

In addition, imposing losses on pensioners might be economically inefficient and politically unviable. In this respect, there is evidence that pension funds are often shielded from bearing losses in bankruptcy.<sup>132</sup> Imposing losses on pensioners represents a difficult political decision to make, so that the competent and resolution authorities may avoid or delay the necessary decisions if that would endanger the solvency of a pension scheme. Moreover, Article 44(3)(d) BRRD allows the resolution authority to exempt – on a case-by-case basis – liabilities that would result in a disproportionate value loss in the case of a bail-in. In this respect, a parallel can be drawn between cross-holdings and the holding of pension funds, in the sense that the resolution authority may decide to shield those investors from a bail-in, to safeguard financial stability or, in the case of pension funds, to minimise the adverse economic (and political) consequences. This, in turn, decreases the governance potential of pension funds, revealing once again the inherent tension between *ex ante* incentives and *ex post* consequences of a bail-in.

Thus, the loss-absorbing capacity of pension funds is – *de facto* – low and the probability of the state bailing them out one way or another is relatively high.<sup>133</sup> Pension schemes are not fit for investing extensively in bail-inable securities despite their positive potential impact on corporate governance and the limited threat they pose to financial stability. Thus, when investing in bail-inable securities, they should target senior positions.

#### 4.3.2. Insurance firms

Insurance firms are financial institutions that shield market players from risky events, allowing them to undertake activities that they otherwise would not have undertaken. Insurance firms can do so by pooling individual risks.<sup>134</sup> An insurance firm accepts the payment of a premium in exchange for the promise of future payments should the risky event materialise.<sup>135</sup> Consequently, insurance firms invest premia against future payouts.

Before considering the corporate governance role and the potential adverse spillovers of investing in bail-inable securities, it is essential to

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<sup>131</sup>See Persaud (n 47) 162.

<sup>132</sup>See, for the case of bankruptcy beneficial treatment in the U.S., Skeel Jr (n 48) 716.

<sup>133</sup>In this respect, many of the arguments on retail investors functionally apply to pension funds. See Section 4.4.

<sup>134</sup>Armour and others (n 12) 493.

<sup>135</sup>*ibid*, Ch 22.3.

preliminary define the scope of insurance firms. This section considers the case for 'traditional' insurance companies and does not take into consideration pathological cases where financial institutions are only labelled as insurance firms while de facto acting as shadow banks or broker dealers.<sup>136</sup> In this case, most of the arguments discussed for cross-holdings and shadow banks apply, as the risk of failure between the bank and the investor in bail-inable securities correlates, generating perverse incentives ex ante.<sup>137</sup>

Given the narrow definition of insurance firms provided above, the adverse spillovers of them being bailed-in are rather limited. Insurance firms perform no maturity or liquidity transformations and are not likely to experience runs on their liabilities that are due when a probabilistic event materialises.<sup>138</sup> This latter characteristic also implies that an insurer's risk has a relatively low correlation with the financial cycle, so long as they are not shadow banks.

On the governance side, insurance firms are sophisticated investors with medium-term orientation, so are able to monitor their investment and willing to influence their borrowers. Nonetheless, the preferred investment strategy of insurance firms may come into conflict with the design of bail-inable securities. In fact, the risk profile of the latter does not fall over time.

However, bailing-in an insurance firm is not as politically unviable as with pension funds and it is far less likely that the regulator will avoid imposing losses on insurance firms. From a legal perspective, unlike the case of cross-holdings and pension fund holdings, no possible cases of exclusion among the ones listed in the BRRD applies to insurance firms. Moreover, Solvency II already regulates capital requirements for insurance firms, mandating them to hold capital against their investment risk.<sup>139</sup> Consequently, insurance companies cannot rely on the bailout expectation from the state and the associated moral hazard. Hence, they should engage in monitoring, screening, and governance engagement. These arguments inform the preference for insurance firms over pension funds as holders of bail-inable instruments.

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<sup>136</sup>This is consistent with regulatory reforms striving for impeding shadow banking activities to insurance firms. The mind obviously goes to the case of AIG, an insurance company that acts as a dealer in the credit default swaps market and needed a government bailout during the 2008 financial crisis. On the role of credit default swaps in the latest financial crisis and, specifically the AIG case, see eg René M Stulz, 'Credit Default Swaps and the Credit Crisis' (2010) 24 *Journal of Economic Perspectives* 73.

<sup>137</sup>Richard Squire, 'Shareholder opportunism in a world of risky debt' (2009) 123 *Harvard Law Review* 1151, 1182.

<sup>138</sup>For a simple definition of maturity and liquidity transformation activities see Armour and others (n 12) 277. Insurance receives premia from clients to insure them against future risks. Premia, unlike bank deposits, cannot be withdrawn on demand; thence the risk of a run is minimal. As for the correlation with the financial cycle, the probabilistic, future, events can be correlated with the cycle. A spectacular example of correlation in the financial crisis were the credit default swaps issued by insurance firms. Yet, as specified in the main text, this kind of insurance, performing de facto shadow banking activities, is not part of the narrow definition employed here. Moreover, the insurance group should be able to pool its risks by insuring also non-cyclical events (eg hazardous activities, car insurance, etc.).

<sup>139</sup>Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II). OJ L 335/1.

In conclusion, insurance firms are suitable for investing in the whole spectrum of bail-inable securities, especially the junior ones. Insurance firms are well positioned to play a positive governance role while posing relatively low concerns in terms of adverse economic spillovers. Investment can be incentivised by making it relatively cheaper for insurance firms to invest in such securities through risk-weighting regulation so as to increase their willingness to buy. Going back to the trends observed in Section 3, the increase in the IF&PF macro-category appears as desirable. However, the aggregated nature of this macro-category and the differences between insurance firms and pension funds do not allow for a refined assessment.

#### 4.3.3. Mutual funds

The category of mutual funds includes diversified and heterogeneous investment funds where an asset manager invests the money on behalf of the clients. Broadly speaking, the funds can be passive or active. Passive funds are increasingly popular among investors as they are characterised by very low fees and an investment strategy that mimics a benchmark or an index.<sup>140</sup> Therefore, the decisions to enter or exit are not dictated by specific investment strategies and opportunities but by the value of the underlying shares and bonds composing the index. Active funds charge higher fees to their customers and engage in more elaborated activities of market screening and asset picking.

Mutual funds have a limited impact on contagion risk, since leverage in these institutions is limited if not prohibited.<sup>141</sup> Nonetheless, in high-yield bond funds, such as a fund investing in bail-inable securities, there is a moderate incentive to run.<sup>142</sup> If investors want to exit the funds in times of stress, they can redeem their share in the fund, with variable time windows and constraints depending on contractual arrangements.<sup>143</sup> When the market for the underlying instruments (in this case: bail-inable securities) is illiquid, then the first to exit will have an advantage, while the others will face the risk of a discount sale of the asset manager to match the demand for redemption.<sup>144</sup> This risk is amplified in the case of synthetic bond exchange traded funds, which track the index through derivative contracts and often have high levels of

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<sup>140</sup>As low as 3 basis points for the S&P500 trackers offered by Vanguard. See <<https://investor.vanguard.com/etf/profile/VOO>> accessed 10 February 2020.

<sup>141</sup>See Article 83(2) UCITS.

<sup>142</sup>Armour and others (n 12) 481.

<sup>143</sup>Some funds issue shares that can be traded, such as exchange traded funds, while other funds offer more limited possibilities to exit. For an introduction, see Mark Mobius, *Mutual Funds: An Introduction to the Core Concepts* (John Wiley & Sons 2007).

<sup>144</sup>Yao Zeng, 'A dynamic theory of mutual fund runs and liquidity management' (2017) ESRB: Working Paper Series (Topic) 201742 < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2907718](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2907718) > accessed 01 December 2020.

leverage.<sup>145</sup> In this case, the arguments proposed in Section 4.1 apply, since these funds perform shadow banking activities.

The difference between active and passive funds matters. Active funds are considered to be active players in the governance of the companies they invest in. Indeed, the higher fees allow them to engage in costly monitoring. They can either sell their position or try to influence the decision-making process of the bank.<sup>146</sup> In contrast, passive funds are often considered inert players from a corporate governance perspective in order to save costs.<sup>147</sup> Nonetheless, a new trend highlighted by the literature is that also passive investors privately engage the management of banks.<sup>148</sup>

For all these reasons, mutual funds are particularly apt to invest in bail-inable instruments as they pose a relatively low risk for financial stability and have a potential to play a positive role in corporate governance. Finally, it is worth noting that the more liquid the secondary market for bail-inable securities is, the more incentivised mutual funds will be to invest in such securities, since the risk of ‘redemption run’ is minimised.

This holds true for the ‘traditional’ mutual funds, whereas the so-called money market funds (MMFs) performing shadow banking activities pose considerable risks in terms of financial stability.<sup>149</sup> Nonetheless, the role of MMFs can be completely neglected here. In fact, after the latest reforms,<sup>150</sup> ‘constant net asset value’ MMFs cannot invest in instruments such as bail-inable securities anymore and, therefore, they can be considered out of the market.<sup>151</sup> Thus, the analysis can be limited to the mutual funds regulated under UCITS directives.

#### **4.4. The special case of retail investors**

Retail investors do not fit the functional categorisation proposed in this section. However, they deserve some attention because of the role they

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<sup>145</sup>Financial Stability Board, *Potential financial stability issues arising from recent trends in Exchange-Traded Funds (ETFs)* (12 April 2011), 3 <[https://www.fsb.org/wp-content/uploads/r\\_110412b.pdf](https://www.fsb.org/wp-content/uploads/r_110412b.pdf)> accessed 01 December 2020.

<sup>146</sup>On the comparative advantages of ‘voice’ as compared to ‘exit’, see Eleonora Broccardo, Oliver Hart and Luigi Zingales, ‘Exit vs. Voice’ (2020) University of Chicago. Becker Friedman Institute for Economics Working Paper 2020–114 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3680815](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3680815)> accessed 01 December 2020.

<sup>147</sup>On this debate, with convincing empirical analysis pointing at the active engagement of passive investment, see Ian R Appel, Todd A Gormley and Donald B Keim, ‘Passive Investors, Not Passive Owners’ (2016) 121 *Journal of Financial Economics* 111.

<sup>148</sup>McCahery, Sautner and Starks (n 43) 2915.

<sup>149</sup>See Section 4.1, text to (n 117). For an overview of the problems related to MMFs and the possible regulatory strategies to address those, see Jeffrey N Gordon and Christopher M Gandia, ‘Money Market Funds Run Risk: Will Floating Net Asset Value Fix the Problem?’ [2014] *Columbia Business Law Review* 313.

<sup>150</sup>Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds [2017] OJ L 169/8 (MFF Regulation).

<sup>151</sup>See Article 24 of the MMF Regulation.

played and are still playing in the market for bail-inable securities.<sup>152</sup> Many authors have already argued against retail investors holding bail-inable securities.<sup>153</sup> Such a general and intuitive scepticism about household holdings is consistent with the framework of this research, since they contribute neither to enhancing corporate governance nor to minimising adverse spillovers.

Households lack the necessary sophistication for disciplining the risk-taking of their borrowers. Moreover, in the case of bank distress, imposing losses on households bring about significant adverse economic consequences. The portfolio of retail investors is likely to be relatively undiversified, so that their spending capacity would shrink considerably. This harms the real economy and poses issues of social justice, making the option to bail-in politically unviable.<sup>154</sup> Consequently, a high level of household holdings increases bailout expectations *ex ante*.

The EU legal framework is no longer silent on the matter. The European Securities and Market Authority (ESMA)<sup>155</sup> included debt instruments eligible for bail-in among the 'complex' instruments under MIFID II,<sup>156</sup> imposing stringent information duties on investment firms. Specifically, investment firms are required to assess the specific knowledge of the client on the products she is willing to invest in. Additionally, if the client shows insufficient knowledge about the risk of the financial product, investment firms are required to warn the client that she is not in a position to judge whether to invest in the instrument.<sup>157</sup> This particularly aims at preventing mis-selling.<sup>158</sup> In this regard, the 2019 reform of the BRRD strengthened the regulatory scrutiny of retail investment in bail-inable securities, especially when it comes to mis-selling.<sup>159</sup>

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<sup>152</sup>Martino (n 91) 268.

<sup>153</sup>Both tangentially in articles about resolution framework in general and with specific pieces discussing households' holdings. For the former see Avgouleas and Goodhart (n 4) 16. For arguments against households investing in bail-inable securities see Simone Alvaro and others, 'The Marketing of MREL Securities after BRRD Interactions between Prudential and Transparency Requirements and the Challenges Which Lie Ahead' (2017) 15 CONSOB Legal Research Papers (Quaderni Giuridici) 65.

<sup>154</sup>A paradigmatic example in this regard is represented by the resolution of four small Italian banks in November 2015, where losses were widely borne by retail consumers that had often been victims of mis-selling. Such a resolution decision ('Decreto Salva Banche') opened up the floor for extensive political debate and social opposition as well as for indirect bailout expenditures in the form of reimbursement of the losses borne by retail investors. On this issue, see Bank of Italy, 'Financial Stability Report No. 1' (2016) <<https://www.bancaditalia.it/media/notizia/financial-stability-report-no-1-2016/>>. Specifically on legal and economic consequences of 'Decreto Salva Banche', see Martino, 'Subordinated Debt under Bail-in Threat' (n 91) 263.

<sup>155</sup>European Securities and Market Authority (ESMA), 'Guidelines on complex debt instruments and structured deposits' [2016] ESMA/2015/1787. Bail-in eligible instruments are included among the 'Debt instruments incorporating a structure making it difficult for the client to understand the risk' at paragraph 13.g.

<sup>156</sup>Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments [2014] OJ L 173/349 (MIFID II).

<sup>157</sup>Article 25(3) and 25(4)(iii) MiFID II.

<sup>158</sup>On the mis-selling, with specific analysis of the Italian and Portuguese case, see Götz and Tröger (n 13).

<sup>159</sup>Anotnella Sciarone Alibrandi and Ugo Malvagna, 'Misselling in Self-placement and Bank Resolution under BRRD2' (2020) 17 European Company and Financial Law Review 522.

The observable data seem to support the efficacy of these policies in preventing households from investing in bail-inable securities. The decrease in household holdings is steady and significant throughout the sample period. However, the stock of instruments held by households still remains above 10% (euro area average), signalling that much still has to be done both from a regulatory and a financial education perspective.

## 5. From individual incentives to a mixed composition. a way forward?

Figure 8 summarises the impact of different kinds of investors in terms of both governance and adverse spillovers. Upward arrows indicate positive effects or, in the case of spillovers, the minimisation of negative effects. Given the impact on governance and negative spillovers, Figure 8 also indicates the seniority of the instruments that investors should hold.

Households are the worst performers in terms of both financial and economic stability, closely followed by credit institutions. The residual amount of household holdings is therefore better allocated to more senior positions. A similar argument goes for banks, with the difference that they remain pivotal to satisfy the existence constraint.

Moving to institutional investors, insurance firms, mutual funds, and hedge funds, all for different reasons and with different specifications, pose few concerns in terms of adverse spillovers and are well positioned to play a positive role in corporate governance. Thus, their investment in junior, high-yield, bail-inable instruments is desirable. In contrast, pension funds should only hold senior positions, helping to fulfil the existence constraint. As discussed above, pension funds perform a crucial social and economic function that might encourage the regulator to shield them from losses even beyond the letter of the BRRD.

Building on this evidence and arguments, the remainder of this section discusses the desirable composition of bail-inable investors. In so doing, the analysis shifts from an approach focused on individual incentives of each investor category to a comprehensive approach, taking into consideration the whole spectrum of investors at once.<sup>160</sup> For this purpose, bail-inable instruments are broadly divided into 'junior' and 'senior' positions. One can take as a reference point the 8% threshold of shareholders and bail-inable

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<sup>160</sup>The analysis that follows is mainly based on social optimal outcome, while privately optimal investment strategies, and therefore market willingness to adjust to social optimum, is not considered here. Investors can be incentivised towards socially optimal outcomes through corporate governance adjustments granting them some ex ante governance role. A similar argument is proposed in Chiu (n 68) 629; Guido Ferrarini, 'Understanding the Role of Corporate Governance in Financial Institutions: A Research Agenda' (2017) ECGI Law Working Paper Series 347/2017 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2925721](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2925721)> accessed 01 December 2020.



Investor's category	Governance	Economic Stability	Seniority
Households	↓↓	↓↓	Senior
Cross-holdings	↓	↓↓	Senior
Insurance Firms	↑	↑	Junior and Senior
Pension Funds	↑↓	↓	Senior
Mutual Funds (active and passive)	↑	↑	Junior and Senior
Hedge Funds	↑	↑	Junior

**Figure 8.** Summary of the impact of different investor categories.

creditors that have to suffer losses before any state intervention becomes possible under the state aid framework.<sup>161</sup>

Reading the existing literature systematically, the arguments proposed by the various authors leave no suitable investor in bail-inable securities.<sup>162</sup> In contrast, this study highlights the relevance of the existence constraint for bail-inable securities, since the resolution authority mandates the issuance of enough instruments to comply with MREL. To reconcile these two – apparently contradicting – features, two salient elements deserve particular attention. First, some investors can perform the task better than others; second, a mix of investors, combining their business models, investment strategies, and risk preferences, have the potential to positively interplay with each other.

**A. Junior positions.** Junior bail-inable instruments, ie instruments that are the more likely to suffer losses in case of distress, should be held by investors that are both sophisticated and pose a low risk of adverse spillovers if losses materialise. This way, the positive impact on corporate governance would be maximised while the risk of adverse spillovers minimised.

Another relevant aspect to consider is the risk that junior creditors engage in gambling/bargaining for resurrection behaviours, once the bank enters into distress and gets closer to insolvency. This consists in the incentives for shareholders and junior creditors to accept big bets close to insolvency, shifting the downside risks to senior creditors.<sup>163</sup> Nonetheless, as noted when discussing hedge funds, in the case of distress both the competent and the resolution authorities should prevent these behaviours.

<sup>161</sup>Quote burden sharing and BRRD norms. Note that this differentiation is theoretical as it is ex ante unclear who the marginal creditor below the 8% threshold is.

<sup>162</sup>See Section 2.3, text to (n 60).

<sup>163</sup>For an application of risk-shifting and gambling for resurrection in banking, see Marco Becht, Patrick Bolton and Ailsa Röell, 'Why Bank Governance Is Different' (2011) 27 *Oxford Review of Economic Policy* 437, 459.

Specifically, three types of investors can positively interact with each other and yield good results in terms of corporate governance impact while adding few adverse spillovers.

- 1) Active investors, such as ‘activist hedge funds’, that screen the market, detect undervalued and badly managed firms, invest in the target firm with the aim of reversing the trend.
- 2) Specialised active funds, namely investment funds (eg mutual funds) that are specialised and actively invest in a vast array of bail-inable securities. This has two main advantages as compared with an atomistic investor. First, the fund is specialised in bail-inable securities, being able to pick them in the market and having the ability to influence the management while they are holding these securities. Second, the risk of bearing losses is pooled two-way: among the clients of the funds and along the securities issued by a diversified sample of banks held by the fund.
- 3) Indexed investors, that is, funds that invest horizontally in all the bail-inable securities.<sup>164</sup> This type of investors enjoy the same pooling characteristics of the specialised funds described above. Moreover, indexed funds do not usually engage directly and officially in the governance of the corporations they invest in, but rather privately engage the management (closed-door pressure) and/or can support the claim of more active investors, playing the role of an arbiter.<sup>165</sup> Only funds that physically track the index should invest in bail-inable securities, whereas synthetic trackers are not fit for purpose as they pose a considerable threat to financial stability.<sup>166</sup>

**B. Senior positions.** One of the pillars of the new resolution framework is to establish a sufficient MREL buffer and allow the resolution authority to orderly resolve institutions in the case of distress and, ex ante, to reinforce the resilience of institutions in good times. Hence, it is likely that not

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<sup>164</sup>There is a growing U.S.-based literature showing that passive investors that horizontally invest in corporations listed in one index have an incentive to horizontally maximise their investment, meaning that they do not have profit-maximising incentives in each and every corporation they invest in but rather a profit-maximising incentive of the network of investment they have. It is easy to raise a suggestive argument in the banking industry, since the case for horizontal maximisation implies stability and resilience much more than in the case of individual profit maximisation. Although this still represent nothing more than a suggestive idea, future research should focus on the positive potential of horizontal investment in specific industries such as the banking one. On costs and benefits of horizontal shareholders, see Alessandro Romano, ‘Horizontal Shareholding: The End of Markets and the Rise of Networks’ (2021) *Yale Journal of Regulation* (forthcoming).

<sup>165</sup>Gilson and Gordon (n 126) 897.

<sup>166</sup>For a more detailed analysis, see Pamela F Hanrahan, ‘Exchange Traded Funds in the Shadow Banking System’, *Research Handbook on Shadow Banking* (Edward Elgar Publishing 2018).

enough 'good' investors are willing or able to buy all the instruments needed to comply with MREL.

Therefore, other investors with deep pockets have to step in even though they are less suited to hold bail-inable securities. To achieve an optimal composition, these investors should hold more senior positions. This way, sub-optimal investors are shielded by more junior ones and probably also by the state, which can, at least partially, step in after burden sharing.<sup>167</sup> Therefore, the negative economic spillovers of them bearing losses is minimised as well as the negative effect of their inability/unwillingness to engage in corporate governance.

Therefore, in a mixed composition of holders, senior positions should be covered with the 'good' investors discussed under A to the extent this is possible. Then, other investors posing considerable contagion risk (such as other banks) or that generate the risk of considerable adverse consequences for the real economy (such as pension funds and retail investors) should step in. Thus, the deduction of cross-holdings from TLAC/MREL should be contingent on seniority, ie for banks it should be cheaper to invest in senior positions in other banks' bail-inable debt as compared with more junior positions.

The quality of the available data analysed on bail-inable debtholders limits the possibility to assess whether market forces are converging towards a desirable composition. Some of the observable trends point at a desirable adjustment, such as the steady decrease in households and the sharp increase in the holdings of institutional and sophisticated investors. However, the analysis revealed that the functional characteristics of the investors matter for both the ex ante governance impact and the financial stability threat. For instance, insurance firms and pension funds belong to the same macro-category of disclosed data but the two differ when it comes to the desirability of bail-inable debt holding. Likewise, the distinction between senior and junior positions is crucial for the analysis of a desirable composition but the data is almost silent from this perspective.

This brings two sets of consequences. First, the analysis builds a strong argument for a better and more granular data disclosure on the holdings of bail-inable debtholders. Second, and more parsimoniously, even in the absence of further public disclosure, the resolution authority should closely scrutinise the composition of holders. In particular, it should take it in serious account when drafting the resolution plans and carrying out the resolvability assessment.

## 6. Conclusions

The article discussed the composition of bail-inable securities holders, highlighted the lack of a bulletproof category of investors, and showed the

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<sup>167</sup>See Banking Communication (2013), para 9; Articles 37(10)(a) and 44(5)(a) BRRD.

relevant trends pinpointing how investors are adjusting to the new resolution framework. Finally, the analysis suggested the functional characteristics of an optimally mixed composition of investors in bail-inable securities.

In building the benchmark of an ideal investor in bail-inable securities, I argue that an ideal holder should maximise its positive corporate governance impact as well as minimise its adverse effect on the economy, in terms of both financial stability and other spillovers. On top of these two dimensions, the existence constraint must also be satisfied. In seeking an optimal composition, such a constraint plays a crucial role. Yet, the previous literature largely neglected it.

The second part of the article empirically assesses the composition of bail-inable debtholders and how it changed between 2013 and 2018. The analysis showed that investors are adjusting to the new resolution framework, with an increasing share of institutional investors, a relatively stable involvement of other banks and a sharp decline in retail investors' holdings. Data also show a severe cross-country heterogeneity where path dependency hinders the creation of a level playing field among European banks.

Finally, the article attempted to generalise its findings and discussed some functional characteristics of investors that should compose the optimal mix. Bail-inable securities are grouped according to the seniority of the claim: senior claims can be held by categories with deep pockets even though they might pose considerable stability concerns, while junior positions should be held by investors that are able and willing to influence the bank management and pose relatively low stability concerns.

This research highlights how the composition of bail-inable debtholders affects the outcome of any possible resolution decision and, therefore, has many policy-relevant implications – even more so from an *ex ante* perspective. A composition that would yield suboptimal outcomes in the case of resolution would make the decision of resolving a failing bank particularly difficult, endangering the overall credibility of the resolution framework. This, in turn, would erode the *ex ante* governance incentives of investors. In this regard, this research sheds further light on the tension between *ex ante* governance and financial stability.

As the functional argument of this analysis suggests, granting (some) *ex ante* governance rights to bail-inable debtholders might provide the correct incentives towards an optimal mix. Therefore, future research should critically scrutinise the desirability and feasibility of explicitly linking bail-in and corporate governance.<sup>168</sup>

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<sup>168</sup>This is consistent with the argument proposed by Chiu (n 68) 629 and John Armour and Jeffrey N Gordon, 'Systemic Harms and Shareholder Value' (2014) 6 *Journal of Legal Analysis* 35.

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