



The Bail-in Beyond Unpredictability: Creditors' Incentives and Market Discipline

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Abstract

The market discipline of creditors on the risk-taking behaviour of borrowing banks represents a long-lasting debate. Such a debate gained new attention after the post-crisis stream of reforms concerning resolution policy: creditors should be incentivized to make an optimal effort in monitoring their borrowers and, at the same time, their interests have been aligned with the social ones. Many commentators criticized such an expectation especially in the European context, arguing that the lack of credibility and excessive complexity of the resolution mechanism impair the ability and willingness of creditors to exert a disciplining role. This article aims at taking a step forward in this scientific debate, investigating whether the ability to exert disciplining activity is inherently impaired by the design of the Directive. In other words, this research wants to assess if, assuming an ideal environment, creditors would have optimal incentives to monitor banks' behaviour and to react accordingly. To do so, the article reviews the literature on market discipline, then carries out a legal analysis of the Bank Recovery and Resolution Directive (BRRD), focusing on those norms shaping the market for bail-inable securities. Eventually, the incentives stemming from those norms are discussed, assuming an ideal environment where a bail-in is certain and credible and the market for bail-inable securities works smoothly. The analysis highlights that the incentives of creditors toward market discipline are inherently diluted by the BRRD's legal design because of competing policy objectives pursued by the Directive. The direct normative consequence of such a finding is that enhancing information and predictability, though desirable in principle, will never lead to an optimal monitoring effort, leaving the floor to alternative rule-based strategies.

Keywords Law and finance · Bank resolution · Bail-inable creditors · Market discipline · 'No creditor worse off' rule

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1 Introduction

This article aims at assessing the role of creditors in imposing market discipline on the risk-taking behaviour of banking institutions. Regulators and academics have long since discussed the ability of junior creditors to correctly and continuously assess the risk profile of their borrowers, to promptly react to that information and, thus, to impact managerial behaviour.¹ Nevertheless, the creation of the Banking Union and, more specifically, the implementation of the Bank Recovery and Resolution Directive (BRRD)² have bestowed a new element in the market discipline debate in the banking sector.

An extensive amount of literature has highlighted the peculiar mechanisms of corporate governance in banks.³ In particular, the common wisdom in corporate governance, according to which maximizing shareholders' value leads to socially optimal outcomes, has been questioned. In fact, the very nature of banking activity shifts this paradigm and generates incentives toward excessive risk-taking.⁴

In contrast, bondholders are, broadly speaking, interested in limiting the risk-taking policies of their borrowers, so that the expected return on their investment increases. Therefore, in the banking sector, their incentives have been considered more aligned with the socially optimal outcome than the shareholders' one. This contingency has been reinforced since the BRRD has been in place, at least according to the policymaker.⁵ In fact, the policy goal of ending the 'too big to fail' problem led, among many other things, to the creation of a category of creditors whose claims can be written down to recapitalize distressed institutions, the so-called bail-inable creditors. The resulting incentives for bail-inable creditors are expected to match the social objective which is to avoid, or at least to prevent and mitigate, bank distresses.⁶ The BRRD itself makes clear that a renewed push toward market discipline represents a cornerstone of the regulatory architecture: 'The bail-in tool will therefore give shareholders and creditors of institutions a stronger incentive to monitor the health of an institution during normal circumstance'.⁷

Beyond these intuitive arguments, the ability of bail-inable creditors to influence managers' risk-taking attitude represents an open and extensively discussed issue. Specifically, this article aims at tackling a narrower question: within the BRRD framework, are bail-inable creditors provided with appropriate incentives to engage

¹ BCBS (1999); Lane (1993).

² 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 (hereinafter, 'BRRD' or 'the Directive').

³ See, among many others, Becht et al. (2011).

⁴ Armour et al. (2016b).

⁵ Within the Euro Area, the Single Resolution Mechanisms Regulation (SRMR) [2014] OJ L225/1 disciplines the powers of resolution authorities. Nonetheless, since the resolution tools, the resolution objectives and the conditions for resolution are identical in the BRRD and the SRMR, there is no need for a differentiation. This approach has been widely applied, see for instance Kunde (2015).

⁶ Zhou et al. (2012).

⁷ Recital 67 BRRD.

in efficient monitoring? How do they differ from the previous regime? This represents more than a theoretical exercise, as the answer to this question has relevant consequences for the possibility of the new resolution framework to enhance, *ex ante*, the resilience of the banking system, thereby decreasing the risk-taking appetite of financial institutions.

Many commentators have cast doubts on the actual ability of bail-inable creditors to discipline bankers. So far, the literature has only focused on impediments that are exogenous to creditors and prevent them from exerting market discipline. These impediments are mainly attributed to two factors: the lack of credibility of the bail-in tool,⁸ and the high level of unpredictability stemming from the bail-in process.⁹

This article brings this debate a step further arguing that, even assuming a world of certainty and full predictability, the outcome in terms of creditors' monitoring would not be efficient because of the legal design of the bail-in which, in turn, is ultimately rooted in the competing policy objective pursued by the Directive.¹⁰ In other words, the article will prove that the incentives for creditors to engage in monitoring activity are inherently diluted by the legal design of the BRRD.

The contribution to the current state of the literature is threefold. First, a detailed and comprehensive legal analysis of the rules shaping the market for bail-inable securities addressed through the eyes of the investors is currently lacking. Second, it builds a conceptual framework according to which *ex ante* decisions of creditors in term of monitoring can be analysed and partially explained. Finally, the article highlights the fact that the interplay of multiple policy objectives carried out by the new recovery and resolution framework entails unintended negative consequences.

The article is structured as follows: Sect. 2 defines market discipline in the context of banks relying on the relevant economic theories and their regulatory implications. Section 3 discusses the post-crisis regulatory environment for the recovery and resolution of distressed banks in Europe, highlighting the impact that the new rules are expected to have on market discipline. Section 4 analyses the norms shaping the legal status of bail-inable creditors, specifically pinpointing the different policy objectives that such rules stem from. Section 5 sets the necessary assumptions for an incentive analysis of the BRRD's legal design and conceptualizes the rules on creditors' treatment in terms of *ex ante* monitoring incentives. After the definition of the baseline incentive structure (Sect. 5.1), the analysis focuses on the impact of the 'no creditor worse off' rule (Sect. 5.2.1) and the rule on the possibility of granting public aid after the bail-in (Sect. 5.2.2), showing how they dilute the incentives toward the monitoring of investors; Sect. 5.3 provides anecdotal evidence supporting the findings of the research. Section 6 concludes.

⁸ Avgouleas and Goodhart (2015).

⁹ Tröger (2017).

¹⁰ Art. 31(2) BRRD.

2 Market Discipline in Banking: A Review of Theories and Regulation

Market discipline is a complex and multifaceted concept. For the purpose of this article, the concept of market discipline is intended as the ability of investors in the financial market to influence the decision making of the companies they invest in by adjusting the price to the risk profile of the company.¹¹ Price adjustment is not the only disciplining mechanism in banking, although it is the most prominent one. For instance, contractual clauses can have disciplining effects¹² as well as debt governance through voice.¹³ Price adjustment, contracts and voice can be seen as complementary mechanisms; nonetheless, these latter mechanisms fall outside the scope of this article. In fact, discipline through price adjustment has been seen as the dominant channel, especially in the policy discourse, as this section will show. Moreover, since these channels are complementary, focusing only on price adjustment and leaving aside the other channels, this does not hamper the overall argument.¹⁴

In its financial connotation, the underlying mechanisms on which the disciplining power of the market rely are the Efficient Market Hypothesis¹⁵ and the ability of prices to convey information.¹⁶

Nonetheless, in the context of financial institutions, market discipline is something different as well as being something more than the stock market monitoring of non-financial firms,¹⁷ even though these mechanisms share the same fundamental aspects. In fact, market discipline in financial institutions does not only cope with the efficiency of prices given the available information, but necessarily interplays with regulatory discipline in minimizing the threat to financial stability.¹⁸ Thus, it is not by chance that the literature, especially in the last three decades, has focused prominently on banking since the information produced can be used for supervisory purposes, potentially acting as a complement to prudential regulation.

Accordingly, Sironi defines market discipline as the ability of financial markets to discipline banks' behaviour by pricing their borrowings according to their risk

¹¹ Lane (1993), p 55 defined market discipline as the ability of financial markets to provide signals leading borrowers to engage in projects consistent with their solvency. Market discipline is not a bank-specific concept; indeed, many other examples where relevant actors need to be disciplined by the market have been pinpointed (Lane 1993, p 54). The clearest example is the disciplining effect of bankruptcy that imposes a budget constraint on the entrepreneur (Kornai 2001), shifting the control rights of the corporation to creditors, contingent on the event of default (Aghion and Bolton 1992). This optimizes, at least theoretically, the *ex ante* cost of finance (Schwartz 1998).

¹² On the ability of financial contracting over bail-inable securities to discipline banks' behaviours see Martino (2019).

¹³ This represents a heavily understudied aspect, especially in the European legal domain. For a general framework on that matter see Armour and Gordon (2014); Schwarcz (2016).

¹⁴ The complementarity between exit and voice in influencing decision making is well established in the literature, stemming from the seminal work by Hirschman (1970).

¹⁵ Fama (1970).

¹⁶ Grossman (1976).

¹⁷ Holmstrom (2015).

¹⁸ Flannery and Bliss (2018).

profile.¹⁹ Such a definition relies on two underlying assumptions, as pointed out and critically discussed by Bliss: first, bond yields' spread reflects the risk of individual banks; second, the payoff matrices of debtholders and regulators closely resemble one another.²⁰ The latter assumption involves the shape of the principal-agent conflicts at stake and so highly depends on both the institutional set-up and the type of debt instrument held by the investor. Therefore, when discussing the new regulatory framework, the arguments concerning its impact on market discipline are going to question whether such an assumption really holds true.

It is worth preliminarily noticing how, in the realm of banking, market discipline must be considered as a governance device, as it represents the means through which managers' behaviour is impacted by creditors.²¹ Indeed, as Paces and Heremans²² pointed out: 'all aspects of behaviour of financial firms can be ultimately understood as Corporate Governance issue'.²³

Building on our working definition, the remainder of this section discusses the channels through which market discipline impacts on bankers' behaviour, the conditions for making market discipline effective and, finally, the different regulatory approaches toward market discipline and their evolution over time.

The economic literature has disentangled various aspects of market discipline and identified several conditions under which debt holders can effectively impinge upon bank governance. In particular, Kwast et al. disentangled a direct and indirect channel of influence.²⁴ On the one hand, investors can directly push managers towards activities with a lower risk profile, thereby increasing the cost of funds for riskier banks. At the same time, the movement of market prices may indirectly attract the attention of supervisors, feeding them with new relevant information.²⁵

For both the direct and indirect channel of discipline to effectively work, four key conditions need to be fulfilled.²⁶ First, the relevant market has to be open and freely accessible to make interest rates sensitive to a borrower's risk profile.²⁷ Second, lenders need to have access to all relevant information about a borrower's debt.²⁸ Third, crucially, market participants must have no bailout expectations. This condition consists of two distinct aspects: the commitment of the government not to bailout a failing firm and the credibility that such a commitment generates toward

¹⁹ Sironi (2003).

²⁰ Bliss (2001).

²¹ On the agency conflict between shareholders and creditors and the peculiar shape it assumes in banking, where high leverage magnify the incentives to shift the risk to unsecured creditors, see extensively Becht et al. (2011), p 459.

²² Paces and Heremans (2011), p 597.

²³ Corporate governance has been defined as: 'the ways in which supplies of finance assure themselves of getting a return on their investment' (Shleifer and Vishny 1997).

²⁴ Kwast et al. (1999).

²⁵ Consistently with the motivation and the research goal of this paper, the direct channel is going to be the most considered; nonetheless, it is important to bear in mind that also the indirect disciplining channel works in the background.

²⁶ On those conditions, see extensively Lane (1993).

²⁷ See also Scott (2004).

²⁸ Crockett (2002).

the market. Finally, borrowers need to be able and willing to respond to the market signal and adjust their risk profile accordingly²⁹ which, to an extent, represents the direct consequences of the other conditions. In fact, increasing the interest rate represents an efficient answer to risk-taking only up to a certain level of risk; beyond such a level the borrower runs out of funding opportunities and is out of the market. This latter prospect is by no means in line with safeguarding the solvency of the firm.³⁰

Regarding the openness of the market, despite some specific and minor foreclosures, the market has to be considered open so that no impediments to market discipline arise from this perspective.³¹ On the contrary, the other three conditions raise delicate problems. In fact, the full availability of information is impaired by the very design of the commercial bank business model, given the maturity and liquidity mismatches of bank assets and liabilities.³² In fact, as for the second condition, the bank is better positioned than any other investors to monitor and screen the quality of its own assets because of their inherent opacity.³³ This impairs the ability of bank creditors to impose efficient discipline on bank management; therefore, to alleviate such a problem, regulators imposed massive disclosure obligations on banks.

Also the third condition (i.e.: the lack of bailout expectations) has proven to be problematic³⁴ where the State, historically, has implicitly guaranteed banks' solvency to avoid massive systemic externalities stemming from banks' failure.³⁵ In fact, the ability to price debt according to the risk profile of the borrowing bank is impaired by the fact that investors do not expect to suffer losses in the case of bank distress, so that their sensitivity to the risk profile of the borrowing bank decreases.³⁶ Crucially, the new resolution framework is supposed to iron out market discipline by eliminating, or at least minimizing, any bailout expectation.³⁷

Finally, the ability of the borrowing bank to promptly adjust the risk profile in response to market signals is limited for banks mainly because of the inherent maturity mismatch between assets and liabilities. Arguably, this can be a merely

²⁹ Llewellyn (2005).

³⁰ Brunnermeier and Pedersen (2009).

³¹ An instance in which market foreclosure can impair market discipline is the geographical segregation of banking activities that were common before the liberalization wave of the 90s both in Europe and in the US. After the crisis, some new foreclosures have been proposed and debated, as, for instance, a ban on retail sale of subordinated debt (Götz and Tröger 2016). Nevertheless, this kind of foreclosure seems to be socially desirable and, at the same time, preserve market discipline from more severe impairments.

³² Armour et al. (2016a), p 278.

³³ Diamond (1984).

³⁴ Between 2008 and 2017, the European Commission approved over 5 trillion euro of State Aid toward the banking sector to cope with the latest financial crisis. Data is retrievable at http://ec.europa.eu/competition/state_aid/scoreboard/index_en.html (accessed on 27 March 2019).

³⁵ See Bodellini (2018). On top of those arguments, Avgouleas and Cullen (2014) introduced into the analysis also behavioral features, arguing that—in line with the behavioral economics stream of literature—shareholder and stakeholders are not able to exactly convey and process the complex amount of information they are provided with.

³⁶ Santos (2014).

³⁷ Zhou et al. (2012). More details, especially for the European resolution framework, are provided in Sect. 3.

theoretical problem in times of economic expansion, when the markets are liquid³⁸ and the bank can adjust the composition of its assets and liabilities at low cost. On the other hand, in times of economic and financial turmoil, when liquidity dries up, adjusting the balance sheet to react to market signals might be disruptive as fire sales would be needed and funding opportunity might not be available for a reasonable price. This proved to be a decisive element in spreading and worsening the latest financial crisis.³⁹

The academic and regulatory debate on whether and to what extent the assumptions stated earlier hold true and whether the above-mentioned conditions are fulfilled has been lively and is still far from being settled. Three main approaches to the debt-discipline narrative are worth mentioning.

The first can be labelled as the 'substitutability approach', according to which the market is in a better position than the supervisor to discipline managers' behaviour because of the higher quantity and quality of the available information,⁴⁰ so that the direct disciplining channel is by far the most relevant one. The normative consequence of such an approach is financial deregulation and less stringent capital requirements⁴¹ complemented by pervasive regulation on disclosure and transparency to overcome the inherent information asymmetry problem.⁴²

A different, moderate, approach looks at market discipline mostly as a complement to supervisory activities. In such a complementary approach, the literature commonly differentiates two channels through which market discipline operates. Thus market discipline can be defined as the combination of 'mere' market monitoring and market influence,⁴³ the first being the ability of investors to screen and detect changes in firms' conditions and to incorporate them into the price of the security. On the other hand, 'market influence' defines the investors' impact on banks' behaviour,⁴⁴ pushing them toward 'sustainable policies'.⁴⁵ Following this approach, direct and indirect disciplining channels are equally relevant.

A third, more radical, approach denies the suitability of financial markets to discipline banks' managers. Particularly Admati and Hellwig argue that the discipline of short-term debt in banking is 'little more than a myth'.⁴⁶ These authors, in accordance with their claim of high-equity capital requirements as the only credible method to enhance systemic resilience,⁴⁷ contrast the narrative according to which debt holders can discipline the behaviour of bank management. Consequently, these

³⁸ In fact, Pistor (2013) defines liquidity as 'the ability to sell any asset for the other assets or cash at will'.

³⁹ Brunnermeier (2009).

⁴⁰ See, theoretically, Calomiris and Kahn (1991).

⁴¹ Calomiris (1998).

⁴² Nier and Baumann (2006).

⁴³ Bliss (2001).

⁴⁴ Flannery (2001).

⁴⁵ Lane (1993), p 56.

⁴⁶ Admati and Hellwig (2013).

⁴⁷ See, Admati and Hellwig (2014).

authors explain the reliance on short-term debt as an equity-avoidance strategy, thereby seeking a government subsidy on debt.

The prevalence of any of these approaches in the policy discourse has shaped the regulatory approach in the role of market discipline. Since the effectiveness of market discipline, as well as its efficiency, strongly depends on the incumbent regulatory framework, it is useful to briefly examine the regulatory context where market discipline operated in the last few decades. The deregulatory wave of the 1980s and 1990s and the increasing academic attention to market discipline in the banking sector marked its first cornerstone in the regulatory landscape with the Basel II Accords. Following Calomiris⁴⁸ and Meyer,⁴⁹ the Basel Committee for Banking Supervision (BCBS) issued a consultative paper on capital adequacy⁵⁰ stating that ‘supervisors have a strong interest in facilitating effective market discipline as a lever to strengthen the safety and soundness of the banking system’. Thereafter, market discipline became a pillar, together with minimum capital requirements and a supervisory review of capital adequacy, of prudential regulation in the final version of the Basel II Accords.⁵¹ In the end, despite different policy proposals, the channel through which the Pillar III rules aimed at strengthening market discipline was through regulation on the transparency and disclosure of information. This testifies to the fact that, especially in the early 2000s, the substitutability approach won over the others. In the aftermath of the financial crisis, with the new Basel Accords, the overall regulatory framework has been maintained, even though the role of the supervisor has increased and the regulation has been tightened, thereby leaning towards the complementary approach.

In fact, despite the academic and regulatory desiderata, the market discipline mechanisms massively failed both in the period leading up to and during the financial crisis. They failed to detect and prevent the build-up of systemic risk during good times, relying too much on the information provided by Credit Rating Agencies (CRAs) and Credit Default Swaps (CDSs) for monitoring purposes.⁵² Moreover, during the crisis, disciplining mechanisms functioned even too much, tightening the credit sources for risky institutions, with adverse repercussions for overall market confidence.⁵³ In other words, the markets played an *ex post* role which was neither informative nor disciplining. The effects were not in line with the ultimate goal of preserving banks’ solvency *ex ante* and the market did not act as the gatekeeper of financial stability.

⁴⁸ Calomiris (1998).

⁴⁹ Meyer (1999).

⁵⁰ Basel Committee (1999).

⁵¹ Lopez et al. (2003).

⁵² Stephanou (2010), p 11.

⁵³ Stephanou (2010), p 9. This is clearly shown by the required haircut for short-term secured funding, such as repos, that remained negligible until the beginning of financial crisis and skyrocketed as it began, failing to constrain the excessive risk-taking in good times and impeding market participants to access funding at reasonable conditions once liquidity dried up (Gorton and Metrick 2012). For a more sophisticated setting where the perverse incentives provided by bankruptcy remoteness to short term secured creditors is taken into account, see Matta and Perotti (2017).

In the aftermath of the financial crisis, the framework in which market discipline operates has changed. In fact, the Green Paper on Corporate Governance in financial institutions and remuneration policies, issued by the EU Commission,⁵⁴ focuses on a market-based approach to corporate governance, highlighting the role of monitoring both for shareholders and debt holders. Moreover, the reforms focused not only on providing the (allegedly) efficient quantity and quality of information, as laid down in the Pillar III rules, but also on incentivizing creditors to exert market influence.

In this same vein, the Financial Stability Board (FSB), in its Key Attributes for Effective Resolution,⁵⁵ states that an effective resolution regime should 'be credible, and thereby enhance Market Discipline and provide incentives for market-based solutions'. The EU's legal implementation of the Key Attributes and the legal rules affecting market discipline therefore represent the next building block in the analysis.

3 Market Discipline and the Banking Union: The Economic Rationale and Legal Framework

Since the first draft of the BRRD was published, back in 2012, many authors have criticized it because of its excessive complexity and lack of clarity.⁵⁶ Nevertheless, the European legislator, even without directly addressing the issue, made one point crystal clear: in the new regulatory environment the channel for creditors to discipline banks' behaviour has to be through bail-inable securities⁵⁷ as opposed to the narrative on short-term debt discipline that was the mainstream in the early 2000s.⁵⁸

Thus, before analyzing the role of bail-inable creditors in disciplining their borrowers, it is worth describing the rationale and the main rules on resolution procedures in the BRRD (Sect. 3.1) and the specific rules governing the position of creditors (Sect. 3.2).

3.1 A Glance at Resolution and Bail-in

The Bank Recovery and Resolution Directive entered into force in its entirety on the 1st January 2016. Its main goals are, generally speaking, twofold: protecting taxpayers' money by limiting the 'too big to fail' problem and harmonizing bankruptcy procedures for financial institutions throughout the European Union. The first goal is not a European peculiarity⁵⁹: back in January 2010, when presenting the Dodd-Frank Act, President Obama affirmed: 'Never again will the America taxpayer be

⁵⁴ EU Commission (2010).

⁵⁵ FSB (2011).

⁵⁶ Avgouleas and Goodhart (2015). For an analysis of the implementation of the first resolution cases in Italy and the relevant decision-making mechanisms, see Stanghellini (2016).

⁵⁷ Flannery and Bliss (2018).

⁵⁸ Eisenbach (2017).

⁵⁹ Sester (2010).

held hostage by a bank that is too big to fail'.⁶⁰ One year later, the Financial Stability Board issued the Key Attributes for Effective Resolution,⁶¹ stating in its preamble that: 'An effective Resolution regime should [...] not rely on public solvency support and not create an expectation that such support will be available'. The BRRD represents, to a certain extent, the European implementation of the Key Attributes.⁶²

On the other hand, the goal of harmonizing the resolution procedure is European-specific and is aimed at answering the severe problem faced in resolving the issue of failing cross-border banks during the financial crisis.⁶³ In fact, the lack of a common toolkit caused delay and inefficiencies in dealing with failing cross-border banks, such as the cases of Fortis and Dexia.⁶⁴

The pivotal insight provided by the BRRD is that losses arising from bank distress has to be borne, at least at first, by bank insiders, shifting the paradigm from the bailout to the bail-in policy.⁶⁵

The BRRD provides the resolution authority with four main tools to implement resolution: the sale of business tool,⁶⁶ the bridge bank tool,⁶⁷ the asset separation tool⁶⁸ and the bail-in tool.⁶⁹ Crucially, the bail-in tool can be considered the archetype of the new resolution framework⁷⁰ as it provides the resolution authority with the possibility to write down and convert into equity some part of the bank's liabilities to set off the losses and restore regulatory capital.⁷¹ In order to ensure that resolution is possible at any time, the resolution authority has the power to determine a

⁶⁰ On the too-big-to-fail problem and its legal implication in the European context see de Weijis (2013).

⁶¹ FSB (2011).

⁶² Brierley (2017). Indeed, consistently with the Financial Stability Board viewpoint, it immediately states that: 'The objective of a credible recovery and resolution framework is to obviate the need for such action [bailouts] to the greatest extent possible'. See, recital 1 BRRD.

⁶³ Binder (2016b).

⁶⁴ Cihak and Nier (2012). The necessity to avoid fragmentation and establish a common framework for bank insolvency was highlighted, unsuccessfully, also before the financial crisis. See, in particular, Hüperkes (2002).

⁶⁵ Calello and Ervin (2010); Gordon and Ringe (2015). This way, substantive regulation on bank distress complements the burden sharing rule imposed by the European Commission in the Banking Communication in 2013, according to which State Aid to failing banks can be considered complainant with the EU State Aid framework only if the losses are shared with investors in bank capital. Communication from the Commission on the application, from 1 August 2013, of State Aid rules to support measures in favor of banks in the context of the financial crisis, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2013:216:FULLandandfrom=IT>.

⁶⁶ Art. 38 BRRD.

⁶⁷ Art. 40 BRRD.

⁶⁸ Art. 42 BRRD.

⁶⁹ Art. 43 BRRD.

⁷⁰ Avgouleas and Goodhart (2015); Ringe (2018).

⁷¹ Wojcik (2016), p. 107. For deeper details on eligible liabilities and the application of the bail-in see Sect. 4. The power to write down and convert capital instrument can be used also outside resolution pursuant to Art. 63 BRRD, yet liabilities that are not part of regulatory capital can suffer losses through write down of principal amount and/or conversion only in resolution.

tailor-made Minimum Requirement for Eligible Liabilities and Own Funds (MREL) to be held by any individual bank at any time.⁷²

A resolution procedure is triggered when a bank is considered to be failing or is likely to fail by the competent authority.⁷³ Moreover, there should be no reasonable prospect of alternative private solutions and, crucially, the resolution shall be in the public interest.⁷⁴

The resolution authority has no absolute power to implement the resolution procedure. Indeed, it has to pursue the specific resolution objectives set out in Article 31(2). Namely, the resolution authority will have to ensure the continuity of critical functions; to avoid adverse effects on the financial system; to preserve market discipline; to protect public funds; and to protect insured depositors. The Directive states that the resolution objectives are of equal significance and should be balanced as appropriate.⁷⁵

For the sake of simplicity, assume that the resolution authority decides to apply the bail-in tool⁷⁶: the amount of the liabilities that need to bear losses has to be calculated.⁷⁷ Such an assessment needs to be conducted in accordance with the preliminary valuation of assets and liability carried out pursuant to Article 36. The amount of bailed-in liabilities has to be determined so that all the losses are covered and the level of required capital is restored.⁷⁸

Once the total amount has been determined, Articles 47 and 48 determine the sequence according to which the bail-in has to be applied: first, the holders of shares bear the losses; subsequently, other creditors can suffer losses if capital instruments have a lower value than the one calculated pursuant to Article 46. The creditors suffer losses in accordance with the seniority of their claim as provided by national insolvency laws.

The expected outcome of the procedure is to make the institution that was 'failing or likely to fail' once again viable.⁷⁹ Furthermore, *ex post* safeguards for the claim holders involved in the resolution process can be triggered pursuant to Articles 73–75 BRRD.⁸⁰

⁷² Wojcik (2016), p 113. On the problems specific to MREL design and calibration see Tröger (2017), on the differences between MREL and the Total Loss Absorbency Capacity (TLAC) mandated by the FSB to the Globally Systemic Institutions see Lee (2015) and Young (2015).

⁷³ Art. 32(1)(a) BRRD. For more details, see the guidelines of European Banking Authority (EBA 2015).

⁷⁴ Art. 32(5) BRRD. See, Binder (2019). The public interest test proved to be crucial in the recent cases involving Banca Popolare di Vicenza, Veneto Banca and ABLV. The non-confidential material on these cases is available at <https://srb.europa.eu/en/content/resolution-cases>.

⁷⁵ Art. 31(3) BRRD. This provision will prove to be crucial in the proceeding of the analysis.

⁷⁶ The proceeding of the argument would be functionally identical for other resolution tools.

⁷⁷ Art. 31(2) BRRD.

⁷⁸ Art. 46 BRRD. See, Wojcik (2016), p 110.

⁷⁹ It is possible, and likely, that the bail-in tool is used together with other resolution tools (Arts. 38–42) so that the resulting bank is not the same legal entity that entered in resolution. Nonetheless, the outcomes are functionally identical.

⁸⁰ Wojcik (2016), p 122.

3.2 A New Channel for Market Discipline (?)

Over time, the increasing awareness of the peculiar nature of banking institutions made it clear that depositors were unable to monitor and discipline their banks and had to be fully insured. In the same way, trying to impose market discipline through other types of creditors turned out to be unsatisfactory and, sometimes, disruptive.

What is conceptually closer to bail-inable securities, in terms of loss-absorbency capacity, are Subordinated Notes and Debentures (i.e.: subordinated debt) and, indeed, these kinds of securities were widely employed in studying market discipline in the banking sector after 2000.⁸¹

Yet, different from the market for subordinated debt, the market for bail-inable securities has a legal origin and is tailored to regulatory goals (i.e.: making distressed banks resolvable).⁸² The primary channel, at least chronologically, through which banking crises aim to be addressed is private sector involvement, meaning that when resolution is triggered (some of) the private creditors of the distressed bank bear the losses.⁸³ This, in the desiderata of the EU legislator, shall allow for the sufficient recapitalization of the bank, thereby avoiding public intervention.

Therefore, the pay-off of the regulator/supervisor should be—theoretically—aligned with the pay-off of the bail-inable debt holders, so that the theoretical assumption discussed in Sect. 2 should hold true.⁸⁴ This, in turn, would facilitate the alignment of bank insiders with the public interest through the market discipline channel. Article 32(1)(a) in fact states that a necessary condition to trigger resolution is that the institution is ‘failing or likely to fail’. This means that the holders of bail-inable securities will suffer losses once the institution is ‘failing or likely to fail’; therefore this latter instance is what both supervisors/regulators and debt holders will strive, *ex ante*, to avoid.

Given these regulatory expectations, one would expect the related rules to be consistently in line with providing bail-inable creditors with suitable incentives to engage in monitoring and allowing long-term investors to appreciate the risk profile of the instruments and behave accordingly. Nonetheless, the interplay between the multiple policy goals pursued by the Directive, as will be argued later on in this article, hamper the possibility to provide bail-inable creditors with optimal incentives. In particular, the protection of the property rights of creditors and the preservation of financial stability require norms that deviate from the market discipline objective.

⁸¹ See, for instance, Sironi (2003).

⁸² Bail-inable debt can be seen as a class of securities, which is in turn made up of sub-classes according to the seniority of individual securities. Nonetheless, it is highly doubtful that bail-inable creditors can be treated as a class, i.e.: interests are not homogeneous and therefore behaviors can be highly divergent. For the purpose of this study, as it aims to assess the reliability of regulator’s *desiderata*, the homogeneity of creditors is assumed as the regulator does.

⁸³ Hadjiemmanuil (2015).

⁸⁴ Bliss (2001).

4 Market for Bail-Inable Securities: The Rules of the Game

The BRRD shapes the market for bail-inable securities so that the analysis of the relevant norms can provide a good perspective of its functioning mechanisms and the resulting incentives for bail-inable creditors. Throughout the analysis, two main aspects have to be pointed out. On the one hand, BRRD rules can allocate a high degree of discretion to public authorities, generating *ex ante* uncertainty for the investor. On the other hand, legal provisions may hinge on investors' incentives, even concerning any discretionary considerations. The two instances are often concurrent; still, for the purpose of this article, disentangling them is crucial.

The relevant norms can be categorized into three broad groups. The first group of norms defines the borders of the market for bail-inable securities (Sect. 4.1); the second states the principles on bail-inable creditors' treatment (Sect. 4.2). These groups set the baseline of the analysis. The third group of norms, instead, squeezes overlapping policy goals into the statute on the market for bail-inable securities, thereby modifying creditors' incentives toward monitoring by shielding their claims from losses (Sect. 4.3).

4.1 Defining the Borders

Article 44(1) of the BRRD states that, in principle, all of the liabilities of the institution are bail-inable, allowing resolution authorities to re-engineer the whole liability side of the bank's balance sheet.⁸⁵ Nevertheless, the remainder of the same Article and other norms disseminated in the BRRD reduce the bail-in tool's scope of application.

Article 44(2) and (3) define the claims that are not to be written down or converted into equity if the resolution is triggered.⁸⁶ Specifically, Article 44(2) lists the classes of liabilities which are legally exempt from a bail-in. Differently, Article 44(3) lists the 'exceptional' factual instances in which, once the resolution is triggered, the resolution authority has the discretion not to apply the bail-in of otherwise bail-inable liabilities. The main rationale behind the exclusion of certain liabilities is, unsurprisingly, to safeguard financial stability.⁸⁷ Hence, deposits covered by Deposit Guarantee Schemes (DGSs), short-term claims by other banks or back-stop mechanisms and secured claims are legally exempt. Additionally, the resolution authorities retain the power not to bail-in, totally or partially, those liabilities that are necessary to ensure the continuity of crucial functions (e.g.: payment systems, IT infrastructure). The same holds true for liabilities whose bail-in might provoke the risk of contagion or a run (e.g.: SME deposits larger than the covered amount, as expressly stated in the Directive).

The other cases involving legal exemptions follow two additional rationales. First, the Directive aims to avoid de facto bailouts, meaning that public money is used to

⁸⁵ Tröger (2017), p 16.

⁸⁶ Gardella (2015), para. 11.39; Wojcik (2016), p 109.

⁸⁷ Zhou et al. (2012), p 13.

recapitalize the distressed banks even through the bail-in mechanism. Therefore, liabilities arising from mandatory contributions to DGSs⁸⁸ and to Tax and Social Security Authorities have been exempted. Second, the Directive exempts those liabilities whose very nature falls outside the purposes of the resolution procedure, such as retail and employment-related liabilities.

The BRRD allocates further discretion to the resolution authority which is entitled to exempt some classes of liabilities from a bail-in on a case-by-case basis. Among them, it is worth mentioning those liabilities that are impossible to be promptly bailed-in or whose bail-in would provoke a value destruction that is greater than in the scenario where they are not bailed-in.⁸⁹

Concerning deposits, in Articles 108 and 109 the Directive further specifies their special status. Indeed, Article 108 lays down that non-covered deposits, hence eligible for a bail-in,⁹⁰ shall be senior in comparison to unsecured, non-preferred claims.⁹¹ Moreover, Article 109 states that Deposit Guarantee Schemes are liable for the amount of covered deposits that would have been written down,⁹² making them an additional player that should, theoretically, exert market discipline.⁹³

Finally, it is important to address one last question: which purposes do Article 44 serve? Are those directly linked to the resolution objectives?

Figure 1 summarizes the interplay between the resolution objectives, as stated in Article 31, and the rationales underlying the provision of Article 44. The figure makes clear that, in general, the exemptions and exceptions in Article 44 directly serve the resolution objectives, as the match between the two is striking, sometimes even at the level of the individual wording.

⁸⁸ The public nature of the DGSs contributions have been recently questioned by the General Court of the European Union in the so-called ‘Tercas case’. In that case, the Commission prevented the Italian DGS, ‘Fondo Interbancario di Tutela dei Depositi (“the FITD”)’ from covering Tercas negative equity, claiming that it would result in a State Aid. The General Court annulled that decision, stating that the intervention of the FITD would have not resulted in State Aid; see Judgment of the General Court of 19 March 2019, *Italy and Others v. Commission*, Joined Cases T-98/16, T-196/16 and T-198/16. Such case does not hamper, *per se*, the argument proposed above, since the contribution due to the DGSs are still exempted for the same ratio. Moreover, the outcome of the case is still uncertain, as the appeal is now pending in front of the ECJ. Finally, it is worth noticing that the Italian case might not be prone to general application throughout all Member States. In fact, the FITD is *de jure* a private consortium, whereas the vast majority of other DGSs are public entities.

⁸⁹ Ringe and Patel (2019); Stiglitz et al. (2017).

⁹⁰ Those are deposits from natural persons and SMEs greater than 100,000 €, pursuing Art. 6 of the Directive 2014/49/EU.

⁹¹ Excluding eligible deposits, those are to be considered the most senior bail-in eligible liabilities.

⁹² Art. 108(b)(ii) rank this liability as senior compared to any other eligible liability, including eligible deposits.

⁹³ The role of Deposit Guarantee Schemes in Resolution might sharply changed after the General Court of the European Union recently annulled a decision of the European Commission that forbid the Italian Deposit Guarantee to provide aid to Banca Tercas, forcing it into liquidation. The decision, in the moment I am writing, has still to be published in the official journal, an unofficial version has been published in the form of a press release on 19 March 2019 and can be retrieved at: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2019-03/cp190034en.pdf>.

	Resolution Objectives (Article 31)			
	Continuity of Critical Functions	Avoid adverse consequences	Protect public funds and deposits	Protect client funds and assets
Safeguarding Financial Stability	Ensure the continuity of critical functions Art. 44(3)(b)	Original maturity less than 7 days Art. 44(2)(e)(f)	Covered deposits Art. 44(2)(a)	
		Secured Claims Art. 44(2)(b)		
		Avoid contagion and risk of run Art. 44(3)(c)		
Avoid Public subsidy			Preferred Claims of Tax and Social Securities Authorities Art. 44(2)(g)(iii)	
			Liabilities to DGSS Art. 44(2)(g)(iv)	
Out of Resolution purposes				Clients' assets and money Art. 44(2)(c)
				Fiduciary relationships Art. 44(2)(d)
Implementation Issues		Practical impossibility Art. 44(3)(a)		
		Avoid value destruction Art. 44(3)(d)		

Fig. 1 Article 44 and resolution objectives

Only the exemptions concerning the liabilities towards employees and retail creditors⁹⁴ can be considered exogenous. On the other hand, all other cases are to be considered a direct application of the provision of Article 31 on the resolution in general to the specific case of the bail-in tool.⁹⁵

⁹⁴ Art. 44(2)(g)(i) and (ii). See Nieto (2016), p 138.

⁹⁵ For the purpose of the present article, i.e.: assessing the impact of the BRRD on the functioning of External Governance mechanisms through market discipline, voting shares fall outside the scope of the analysis as well. Note that there is no parallel between voting rights and capital class, as even CET1 instruments can be issues without voting rights attached to the capital ones, as expressly stated by Art. 32(4) Regulation (EU) 575/2013—Capital Requirement Regulation (CRR) [2013] OJ L 176/1.

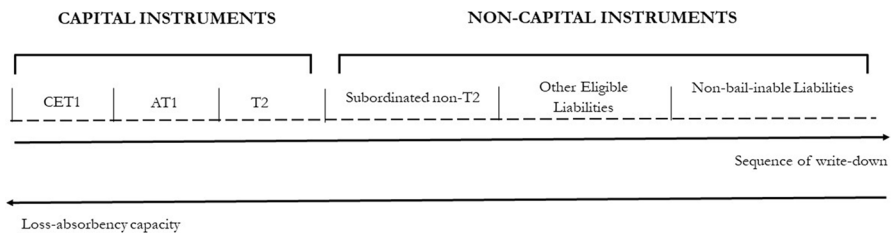


Fig. 2 Article 48 BRRD: sequence of write down and conversion

4.2 Principles Concerning the Creditor's Treatment: Hierarchy of the Equitable Treatment Principles

Article 34 BRRD lists the general principles that shall govern the resolution procedure. Unsurprisingly, shareholders bear the first losses. Thereafter, the Directive regulates the treatment of bail-inable creditors in three different directions: the order in which creditors have to bear further losses; the link between creditors belonging to the same class; the relationship between the losses borne during resolution and under normal insolvency proceedings.⁹⁶

In resolution, any class of creditors shall suffer losses in accordance with the order of priority of their claim under normal insolvency procedures (the hierarchy principle).⁹⁷ At the same time, within each class, creditors are treated in an equitable manner (the equitable treatment principle).⁹⁸ Even though the idea behind those two principles appears to be straightforward, their actual functioning is likely to generate more friction than expected because of the complexity of the legal issues tackled by the Directive.

In fact, in the bail-in context, the Directive sets out further rules to specify those principles. After the resolution authority has defined the amount by which a bank's liabilities have to be written down or converted (Article 46),⁹⁹ Articles 47 and 48 regulate the sequence of write down and conversions, according to the hierarchy principle. Such a sequence is the mirror image of the loss absorbency capacity, that is: the higher the loss-absorbency capacity of an instrument, the sooner it comes into the sequence of write down or conversion. Article 48 also regulates the conditions for moving from one class of holders to the following one¹⁰⁰: the latter can be bailed-in if and only if the bail-in of the previous class was insufficient to iron out the losses and restore a sufficient level of equity.¹⁰¹

Nonetheless, the bail-in tool cannot be plainly applied only according to the level of loss absorbency capacity. Indeed, for any of the rationales listed in Fig. 1, it can

⁹⁶ No creditors worse off, see Sect. 4.3.

⁹⁷ Art. 34(1)(b) BRRD.

⁹⁸ Art. 34(1)(f) BRRD.

⁹⁹ Such an assessment has to be carried out in accordance with the valuation of Art. 36.

¹⁰⁰ See Art. 47(3)(b) and (c).

¹⁰¹ Pursuant to the provisions on capital requirements embedded in the CRR-CRDIV package.

happen in quite the opposite direction, as the dashed line in Fig. 2 aim to symbolize. For instance, imagine two liabilities, A and B, belonging to the same class. When bail-in is triggered, the resolution authority appraises what is practically infeasible to promptly bail-in liability A,¹⁰² so the authority writes down or converts liability B, while liability A suffers no losses.¹⁰³

As noted earlier, the exemptions and exceptions contemplated by Article 44 are themselves closely tied to the objectives of resolution. Therefore, it is possible to infer that in the implementation of a bail-in, unequal treatment should be expected to be the rule rather than the exception.¹⁰⁴ This, in turn, decreases the predictability of the bail-in outcome, thereby impacting the incentives of the holders of bail-inable securities to be monitored.¹⁰⁵

4.3 Market Discipline and Competing Policy Objective: No Creditor Worse Off (NCWO) Principle

Within any resolution procedure, creditors cannot incur greater losses than those they would have incurred if the institution had been liquidated (the NCWO principle).¹⁰⁶ Accordingly, creditors who suffer greater losses are entitled to compensation equal to the shortfall they have suffered.¹⁰⁷ Intuitively, such a rule impacts on the incentives of bail-inable creditors to discipline bankers, as noted by Chiu: ‘no creditor worse off principle could also convince bail-inable debt holders that taking a back seat in monitoring would make no difference’.¹⁰⁸ The remainder of this section will describe the legal concept of NCWO and its impact on the incentives toward monitoring, explaining why the intuitive idea of Chiu is likely to materialize.

Functionally, the NCWO principle mandates that investors in bail-inable securities have to be indifferent between bail-in and liquidation.¹⁰⁹ Nevertheless, such a welfare-enhancing constraint is not through an *ex ante* property entitlement, but rather through an *ex post* liability rule.¹¹⁰ In fact, the BRRD gives the resolution authority the power to impact on the claim of bail-inable investors without granting them any procedural or substantive rights during resolution, as opposed to normal insolvency proceedings.¹¹¹ Therefore, the property rights embedded in the bailed-in claims cannot be protected through *ex ante* rights preventing the resolution

¹⁰² Art. 44(3)(a).

¹⁰³ Note that the same can occur even if liability A is junior to liability B. In the first case, where A and B belong to the same class, Art. 44 relaxes the equitable treatment principle; in the second case, where A is junior to B, Art. 44 relaxes the hierarchy principle.

¹⁰⁴ Binder (2016a), p 45.

¹⁰⁵ Tröger (2018), p 47.

¹⁰⁶ Art. 34(1)(g) BRRD.

¹⁰⁷ De Serière (2016), p 376.

¹⁰⁸ Chiu (2014), p 627.

¹⁰⁹ This is under the assumption of perfect compensation in the case of detrimental treatment in the implementation of the resolution tool and of the absence of judicial costs. See, Binder (2016a), p 44.

¹¹⁰ Calabresi and Melamed (1972).

¹¹¹ See, for instance, Arts. 38(1), 40(1), 42(1) and 85 BRRD.

authority from causing unjustified harm to bail-inable debtholders (the property rule in the Calabresi and Melamed framework). Yet, some degree of *ex post* protection is granted through compensation when the NCWO is violated (the liability rule).

The rationale for such a principle is twofold and reflects the interplay between competing policy objectives. On the one hand, the Directive wanted to avoid obstacles to prompt resolution by waiving all the procedural rights that creditors have in normal bankruptcy procedures, so as to safeguard financial stability. On the other hand, the NCWO represents a way to protect the creditors' property rights¹¹² by means of compensation so as to respect the right to property.¹¹³

In a nutshell, the NCWO principle should theoretically guarantee the protection of property rights so that they are not incentivized to engage in disruptive runs in the proximity of resolution.¹¹⁴ At the same time, it provides resolution authorities with some degree of flexibility to promptly implement a bail-in.

Indeed, the salient aspect of the NCWO's legal design is that the European legislator, for the sake of facilitating the prompt resolvability of distressed banks, has not provided any procedural rights to bailed-in creditors, as opposed to normal insolvency procedures.¹¹⁵ This allows the resolution process to be speeded up, which represents a crucial aspect of the success of any bank resolution.¹¹⁶

As previously mentioned, the maximum amount of losses that investors can bear is equal to the amount of losses that they would have borne in the case of liquidation. This was meant to be a safe harbour for the resolution authority,¹¹⁷ in the sense that any resolution action can be promptly implemented while any other order of consideration, such as creditors' treatment, was left to an *ex post* valuation. Nevertheless, such a design poses considerable legal challenges,¹¹⁸ so that many commentators doubt whether this tool can deliver the desired objective.¹¹⁹

In applying the bail-in tool, the resolution authority has to adhere to the valuation of assets and liabilities carried out under Article 36.¹²⁰ Article 36(8) mandates the independent expert to include in the valuation an estimate of the treatment that each

¹¹² Wojcik (2016), pp 116 et seq.

¹¹³ On the compatibility of the burden-sharing exercise in bank distress with the right to property the ECJ delivered a preliminary ruling in a Slovenian case, in which European Judges deemed that the right to property can be interpreted as not precluding the burden sharing of losses (*Kotnik and others*, Case C-526/14, ECLI:EU:C:2016:570). For a more extensive legal reasoning on this point, see the opinion of Advocate General Wahl, delivered on 18 February 2016 in the same case.

¹¹⁴ Wojcik (2016), p 120.

¹¹⁵ On the ontological difference between bank resolution and insolvency law see Hadjiemmanuil (2015), p 232.

¹¹⁶ Huertas (2016).

¹¹⁷ Zhou et al. (2012).

¹¹⁸ Gardella (2015); Jacobs and Mitchell (2014).

¹¹⁹ This is the reason why Wojcik (2015) has stated that the NCWO principle will be a crucial element for determining bail-in effectiveness.

¹²⁰ Such a procedure consists of a fair, prudent and realistic valuation carried out by a person independent from any public authority before the resolution authority takes any resolution action. If, as is likely, the urgency of the situation makes it impossible to perform the independent valuation, the resolution authority is entitled to carry out a provisional evaluation following a simplified procedure. See, Art. 36(2) and (9).

class of creditors would have been expected to receive under normal insolvency procedures.¹²¹ Therefore, in applying the bail-in tool, the resolution authority *ex ante* complies with the general principle of the NCWO by adhering to the preliminary valuation of the counter-factual insolvency scenario.

Nevertheless, given the opaqueness and complexity of banks' assets and liabilities and considering the large array of material impediments that the resolution process can face, it is possible and likely that the *ex ante* valuation differs from the real value of a bank's assets and liabilities.¹²² Therefore, after the resolution action has been taken and implemented, an independent expert shall carry out an *ex post* valuation (Article 74). This represents the moment when the lack of *ex ante* procedural rights is counterbalanced by *ex post* safeguards. Article 75 states that if creditors are worse off under the resolution process, they are entitled to be compensated.¹²³ The resolution financing arrangements shall pay out such compensation.

Therefore, from a functional perspective, the NCWO represents an (uncertain)¹²⁴ ceiling to expected losses that creditors might have suffered in a hypothetical world where a bail-in does not exist. This means that the NCWO also impacts on *ex ante* incentives toward monitoring: it *ex ante* caps the level of expected losses, so that even incentives to monitor are modified.

The NCWO can become a concrete impediment to the resolvability of distressed banks through some specific legal channels. Those can be described as belonging to three different categories: inherent in resolution; inherent in bankruptcy law; and deriving from specific obstacles to resolvability.¹²⁵

Among the channels inherent in the design of the BRRD, the application of exclusions and exemptions provided by Article 44(2) and (3) of the Directive are worth mentioning. In fact, by definition, that generates a mismatch between the treatment of the other creditors under resolution and under insolvency.¹²⁶

¹²¹ The same paragraph clarifies that such an estimate 'shall not affect the application of the "no creditor worse off" principle to be carried out under Article 74'.

¹²² Hellwig (2018).

¹²³ The same applies to DGSs in the case of Art. 109(2).

¹²⁴ To make this certain, one should assume that the preliminary valuation exactly matches the final valuation under Art. 74 BRRD and that investors have *ex ante* information about the preliminary valuation. On the assumptions necessary for a smooth functioning of the bail-in mechanisms see Sect. 5.

¹²⁵ For detailed examples of how each of these channels can result in impediments to resolvability because of the NCWO principle see the Appendix.

¹²⁶ For the interaction between Art. 44 and the NCWO principle see Hadjiemmanuil (2015), pp 236 et seq. For a concrete application of the NCWO principle to the exclusion of liabilities covered by netting arrangements from a bail-in, see Davies and Dobler (2011).

Speaking of the channels inherent in bankruptcy law, clawbacks¹²⁷ represent the main and most intuitive feature to be discussed.¹²⁸ In this case, the (potentially non-trivial) amount of money that is recovered from the clawback litigation procedure would enrich the amount of assets which should be devoted to creditors under normal insolvency procedures.

Regarding the third category, it is worth mentioning the case where theoretically eligible liabilities cannot be bailed-in due to cross-jurisdictional issues.¹²⁹ In fact, despite Article 55 mandating the issuers of bail-inable liabilities to include a contractual clause for the third-country recognition of the power of resolution authorities to bail them in, third-country investors, as well as third-country authorities, are not prone to accept such clauses.¹³⁰

All these cases show, along with many studies,¹³¹ that determining the counterfactual scenario under liquidation is, to say the very least, doubtful and will result in long-lasting and costly litigation.¹³² Nonetheless, the way in which the courts are going to decide these cases is unclear; namely, the extent to which courts will, implicitly or explicitly, take into account the recovery rates in similar cases as a guideline for their task.¹³³

So far, the only application of a resolution procedure at the European level, the Banco Popular case,¹³⁴ has somehow confirmed the fear that the NCWO principle will act as a disincentive toward monitoring *ex ante* given the expectation of the *ex post* safeguard. Indeed, several cases are currently pending before the European

¹²⁷ Clawback is a term used in bankruptcy law to indicate any repayment to receivers of a company in bankruptcy, any preference payments, or monies deemed to have benefited one party at the expense of others during the period of financial distress. Functionally this is a way to attract further assets for distribution to the mass of creditors subject to the condition that those assets were not meant to be allocated elsewhere in the first place because of bankruptcy norms. In this situation, the party whose assets are clawed back becomes a creditor that is ranked as it would have been if the unlawful repayment would never have taken place. It is worth noting that clawbacks can be bank-specific (Hill 2012).

¹²⁸ Consider the case, extensively discussed in the literature in recent years, of contractual or statutory clawback provisions pertaining to executives' remuneration (Murphy 2013; Sharfman et al. 2009). An example is the one introduced in Section 304 of the Sarbanes–Oxley Act in the US, on which see Schwartz (2008). That kind of provision states that, in case of managerial misconduct, bonuses and performance-related components of the remuneration packages can be clawed back.

¹²⁹ Lehmann (2017).

¹³⁰ This obstacle to resolvability has been directly acknowledged by the European Commission Explanatory Memorandum to the proposal for amending Article 55, Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/59/EU on loss-absorbing and recapitalization capacity of credit institutions and investment firms, 23 November 2016, COM (2016) 852 final.

¹³¹ See, for instance, Gleeson (2012); Hadjiemmanuil (2015).

¹³² De Serière (2016).

¹³³ For example, the anecdotal evidence of Lehman Brothers (Fleming and Sarkar 2013) shows that the NCWO could become extremely burdensome as far as the resolution is concerned—financing arrangements. In fact, the senior creditors' recovery rate in Lehman Brothers' German and UK subsidiaries have been reached 100% (Binder 2015, fn. 31). See, also, a further online article on the same topic, from which the figures reported here have been extracted. The article can be retrieved at <http://libertystreeteconomics.newyorkfed.org/2014/04/the-failure-resolution-of-lehman-brothers-.html>, accessed on 8 Oct. 2018.

¹³⁴ Fernández Acín (2018).

Court of Justice challenging the decision of the Single Resolution Board,¹³⁵ many of which are seeking compensation for a breach of the NCWO safeguard.¹³⁶

4.4 Market Discipline and Competing Policy Objective: The '8% Contribution' Threshold Rule for Granting Public Funds

In complying with the burden-sharing policy imposed by the Banking Communication in 2013,¹³⁷ the Directive mandates that any public support¹³⁸ to distressed institutions is conditional upon a minimum amount of private sector involvement.¹³⁹ Accordingly, Article 37(10)(a), in laying down the general principles regarding resolution tools, set the amount of burden sharing at 8% of the total liabilities (including own funds), measured in accordance with the valuation under Article 36.

The rationale for Article 37(10)(a) is to give the necessary flexibility to the new resolution framework and, at the same time, to mitigate the moral hazard problems arising from the implicit government subsidy for banks. Indeed, there is wide consensus, even among scholars and practitioners who strongly support the new legal framework, concerning the fact that in the case of a systemic crisis the bail-in tool will not be able to do all of the necessary work by itself. Therefore, the Banking Communication in 2013 and, eventually, the BRRD tried to strike a balance between the instances of financial stability, competition in the banking sector and safeguarding public finances.

Furthermore, Article 44(4) and (5) refer to the possibility of granting public funds when the losses that should have been borne by liabilities which have been excluded from a bail-in cannot be completely passed on to other creditors. Again, such a possibility is conditional on the fact that the at least 8% contribution to loss absorption has been complied with.¹⁴⁰ This represents a way to deal with insufficient eligible funds. It is worth noting that under Article 44 the presence of a 'very extraordinary situation of a systemic crisis' is not required for granting public aid.

¹³⁵ The decision and other relevant disclosed material can be retrieved at <https://srb.europa.eu/en/node/315>.

¹³⁶ See, for instance, Case T-570/17, *Algebris (UK) and Others v. Commission*, still pending before the ECJ where the plaintiff claims: 'the valuation of Banco Popular, which formed the basis for the resolution action taken under the Resolution Scheme, was not fair, prudent or reliable, and was inconsistent with the "no creditor worse off principle"; it did not therefore constitute accurate and reliable and consistent evidence on which to base the Resolution Scheme; and it was not capable of supporting the contested decision. Further and for the same reasons, the Resolution Scheme (and so the Decision) was manifestly disproportionate by going beyond the measures necessary to secure the resolution objectives'.

¹³⁷ 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') (2013/C 216/01).

¹³⁸ In the form provided by Arts. 56–58 BRRD.

¹³⁹ Hadjiemmanuil (2016).

¹⁴⁰ Art. 44(8) contemplates a situation in which even the 8% contribution is waived, subject to a series of conditions among which is the contribution of at least 20% of Risk Weighted assets (RWA) and assets below 900 billion EUR on a consolidated basis. Those requirements mean that this further flexibility in granting public funds is reserved for non-systemically relevant institutions with high quality assets.

From the perspective of bail-inable creditors, assuming that the Directive will be consistently implemented, those norms tell us that they can expect some public relief if and only if their claim is senior to at least 8% of the bail-inable eligible liabilities.¹⁴¹ The way in which this impacts on the investor's incentives is clear: junior claimers have, on paper, 'full skin in the game' so that they should be fully incentivized to monitor banks' behaviour.

Nonetheless, the 8% threshold is not necessarily and consistently applied in all cases of public intervention. Indeed, there might be cases, such as precautionary recapitalization and liquidation aid,¹⁴² where public funds can directly or indirectly cover the losses that should have been allocated to the private sector according to the bail-in rule. In particular, precautionary recapitalization¹⁴³ allows for a direct injection of capital that is 'necessary to address capital shortfall established in the national, Union or SSM-wide stress tests'. The measure can only be applied to solvent institutions and is conditional on approval under the EU State Aid framework.¹⁴⁴ This requires burden sharing according to the Banking Communication of 2013: private sector actors need to be involved, but the amount of burden to be shared in order to have clearance under State Aid law is not specified and, thus, it can be lower than 8%.¹⁴⁵ Therefore, also creditors below the 8% threshold can expect to be at least partially shielded by public intervention via a precautionary recapitalization of solvent but distressed banks.¹⁴⁶

¹⁴¹ This outcome consists of a combination of Art. 37(10), Art. 34(1)(b) on the hierarchy principle, and Art. 44(2) and (3) exemptions and exceptions in applying the bail-in tool.

¹⁴² This is a peculiar contingency that has materialized in the case of Veneto Banks and will be discussed in Sect. 5.3.

¹⁴³ Art. 32(4)(d) BRRD.

¹⁴⁴ Bodellini (2017).

¹⁴⁵ Precautionary recapitalization has been applied concerning the fourth largest Italian bank, Monte Paschi Spa, in 2017. European Commission, C (2017) 4690 final. State Aid SA.47677 (2017/N), Italy New aid and amended restructuring plan of Banca Monte dei Paschi di Siena. Retrievable at http://ec.europa.eu/competition/state_aid/cases/270037/270037_1951496_149_2.pdf.

The Italian government injected 5.4 billion euro of capital and guaranteed 15 billion of subordinated debt (Götz et al. 2017). In the decision of the European Commission on State Aid the Commission approved the recapitalization acknowledging that the burden sharing between the State and the investor had occurred in the form of a swap between subordinated debt and ordinary shares. The decision stated that: 'The Commission observes that there is sufficient burden-sharing by shareholders and also subordinated debt holder' (para. 103); yet, it refrained from quantifying the amount of burden sharing deemed to be sufficient. Note that precautionary recapitalization is one of the options currently on the table also to deal with the distress of Banca Carige Group. See Dias et al. (2019).

¹⁴⁶ The application of the precautionary recapitalization tool is critically discussed in Véron (2017).

5 Effort in Monitoring in an Ideal Environment

What prevents market discipline from effectively working is twofold. In the first place, the implicit guarantee is still in place, given the impracticability of the resolution framework.¹⁴⁷ Moreover, even assuming that resolution will be applied and will deliver efficient outcomes, scholars have argued that the high level of the *ex ante* unpredictability of the bail-in process would endanger the ability of the investor to discipline the risk-taking behaviour of their borrowers.¹⁴⁸

To test the hypothesis stated at the beginning of this article, i.e.: the incentives toward monitoring are inherently diluted by the BRRD's legal design, this section conceptualises an ideal environment where the exogenous impediments to resolution are ruled out by assumption, so as to assess the impact of the legal design in itself. This allows us to introduce and explain the basic structure of incentives to monitor provided by the Directive's legal design. Eventually, Sect. 5.2 introduces the NCWO principle and the 8% rule, discussing how they dilute the investors' incentives to monitor.

5.1 Dreaming of a Smooth Resolution: Assumptions for an Ideal World

A smooth and credible resolution is what the EU financial regulator dreams of. Or, in more hopeful words, the medium-term objective to be pursued. In any case, for studying the impact of the legal design of the BRRD, it is necessary to dig into the dream, indeed assuming that resolution works smoothly and credibly. Specifically, it is necessary to adopt two broad assumptions:

- (a) the smooth functioning of the bail-in mechanism; i.e.: a bail-in is always and consistently applied in the case of bank distress and the role of supervision is taken for granted¹⁴⁹;
- (b) the smooth functioning of the market for bail-inable securities; i.e.: investors are able to screen and monitor the risk-taking behaviour of the bank and adjust the price accordingly.

The latter assumption, which specifically pertains to the market for bail-inable securities, can be further disentangled in consequent assumptions that are necessary for (b) to hold true. Namely:

¹⁴⁷ Many problematic instances have arisen from this perspective. The most discussed and serious one is the inability of the resolution procedure to deal with systemic crises.

¹⁴⁸ Tröger (2018).

¹⁴⁹ This broad assumption is made up of several narrower ones discussed in the literature. See, for instance, Avgouleas and Goodhart (2015) and Stiglitz et al. (2017).

- the bail-in commitment is *ex ante* credible¹⁵⁰;
- the market for bail-inable securities is liquid¹⁵¹ and a secondary market for them exists, so that the risk profile of the bank's behaviour can be continuously monitored¹⁵²;
- investors have perfect information in determining the outcome of applying the rules disciplining the market of bail-inable securities, as discussed in Sect. 4;
- supervisory and resolution authorities exercise their discretionary powers consistently, so that investors are able to fully anticipate the outcome of the resolution procedure;
- bail-inable creditors have homogeneous interests; hence, they can be treated as a class;
- the MREL is adequately determined by the resolution authority and is complied with by the borrowing banks.¹⁵³

Given that these assumptions hold true, the (fully rational) investor will be faced with the norms discussed back in Sect. 4 and will respond accordingly. That is to say, as long as the return on their investment is fully subject to the viability of their borrower, investors will take each and every efficient action to maintain such viability. Specifically, investors will undertake those actions as long as the marginal cost of exerting monitoring is lower than the marginal benefit investors' gain, in expected terms. Indeed, monitoring is not a costless activity since gathering and computing relevant information about the risk-profile and sustainability of the borrowing bank involves activities that come at a cost, e.g.: a team of analysts can be employed to take the investment decision and to determine the investor's willingness to pay for bail-inable securities. Moreover, since a secondary market for bail-inable securities exists by assumption, monitoring shall be carried out on a continuous basis, so as to decide whether to exit (or enter) the market and at what price. Therefore, at this point, it is crucial to introduce the cost of engaging in monitoring to understand how the incentives toward monitoring respond to the legal framework. In fact, if monitoring were costless, investors would always monitor their borrower to the greatest extent possible so as to correctly price their investment. Therefore, one can think of monitoring cost as the dimension that any investor has to consider in deciding if and to what extent it seeks to discipline its borrower through price adjustment.

Within the framework described so far, the bank is entering into resolution with an attached probability which is discerned by assumption.¹⁵⁴ Investors decide, accordingly, the level of effort in monitoring that maximizes their return. Indeed, the

¹⁵⁰ This is the direct consequence of point (a); for a setting in which bail-in commitments are credible see Stiglitz et al. (2017).

¹⁵¹ Following Pistor (2013), p 316.

¹⁵² If such a secondary market does not exist, a further assumption has to be taken; namely, the risk profile of each security is stable over time, so that once it has been priced and sold in the primary market the disciplining activity is concluded. On the dynamic nature of the risk-profile of bail-inable securities see Tröger (2018), p 37.

¹⁵³ Dewatripont (2014).

¹⁵⁴ While in reality there is, at least to some extent, *ex ante* Knightian uncertainty.

assumptions ensure that investors are able to impact the probability of a bank entering into resolution.

The level of effort crucially depends on the costs and benefits of monitoring. The critical aspect is the amount of losses, in *ex ante* expected terms, that investors are going to suffer in the case of resolution (i.e.: the bank reaches the point of non-viability). The aim of the investor is to minimize the expected losses; accordingly, investors are faced with the actual costs of engaging in monitoring activities (e.g.: conveying information). On the other hand, the benefits stemming from engaging in monitoring activities consist of a decrease in the probability of entering into resolution. In this framework, each creditor will engage in monitoring as long as the benefits (i.e.: the reduction of expected losses in relation to the reduction in the probability of resolution) outweigh the costs (i.e.: the costs of engaging in monitoring). Throughout the analysis, the costs of monitoring will be stable so that the level of discipline that is efficient for investors varies according to the benefits stemming from monitoring.

To substantiate this theoretical and seemingly abstract construct, think of Investor 'I', according to its seniority, facing a loss of 100 in the case of resolution; the probability of resolution, which is here known by assumption, is 10%. The expected losses are 10 in this scenario. The investor knows, by assumption, that when engaging in monitoring activities that cost 2, the probability of resolution decreases to 7.5%. The expected losses are now 7.5 so that it is efficient for the investor to engage in monitoring. In a similar setting, for the investor it is not efficient to engage in monitoring activities that cost 4 if the probability of resolution decreases to 6.5% as the costs (the actual monitoring costs) outweigh the benefits (a decrease in the expected losses).

The underlying criterion to carry out the analysis is to understand what and who shields creditors from bearing losses. Indeed, according to this criterion the rules shaping the incentive structure of investors can be divided into two categories: the ones dealing with 'contractual shielding' mechanisms, i.e.: embedded in investors' contractual arrangements; and the ones introducing regulatory exceptions to the bail-in rules, further protecting investors than the protection granted to them under their contractual entitlement. This second category can be labelled as 'external shielding'. The first category of norms encompasses, for what is here of interest, the hierarchy and the equitable treatment principles, whereas the NCWO rule and the 8% rule belong to the second category.

Therefore, the rules on 'contractual shielding' represent the baseline scenario that each investor in bail-inable debt faces: the hierarchy and equitable treatment principles describe how losses are allocated, shaping the basic incentive structure of bail-inable creditors and pertaining to their contractual entitlement. In fact, for instance, an investor in a senior unsecured bond is contractually entitled to be shielded from losses by investors in subordinated debt. In the same vein, two investors in senior unsecured debt are contractually entitled to be treated in an equitable manner. Figure 3 depicts the baseline scenario where a bail-in works smoothly and the probability of resolution to be triggered depends on the level of monitoring. The y-axis represents the amount of the expected loss, while the x-axis represents the liability-side of the bank balance sheet, ordered according to the seniority of each class.

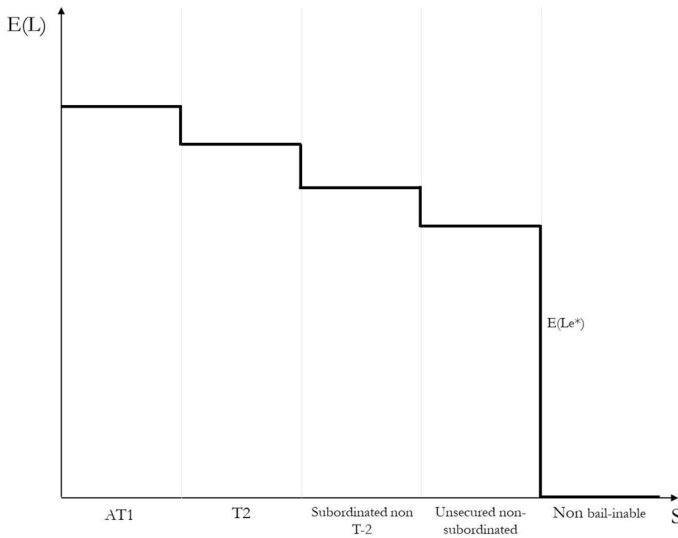


Fig. 3 Basic incentive structure of bail-inable creditors

The expected losses are decreasing in seniority and are stable within each class, thereby complying with the hierarchy and equitable treatment principles. In this scenario, the expected losses are plainly allocated to bail-inable creditors according to their seniority (the hierarchy principle) and are constant within each class of creditors (the equitable treatment principle).

Specifically, the hierarchy principle, from the investor's perspective, means that the higher the seniority of a claim, the lower the expected losses. Therefore, the optimal level of effort in monitoring is, unsurprisingly, lower for senior unsecured creditors than for subordinated ones. The equitable treatment principle implies that expected losses are not decreasing in a linear fashion, but in a staggered way so that the level of expected losses is constant for the creditors with the same seniority.

At this stage of the analysis, the assumptions allow us not to consider the impact of the exemptions/exclusions under Article 44(2) and (3). In fact, investors who know in advance which liabilities fall under those provisions embed the information in their behaviour. The consequences of such an instance are twofold: on the one hand, the creditors that will be excluded or exempted will not engage in monitoring.¹⁵⁵ On the other hand, the exemptions/exclusions do not directly affect investors' incentives, but only the level of expected losses.

Finally, it is worth noting that, according to the bold assumptions stated at the beginning of the section, the private incentives of single investors are aligned, at an aggregate level, with social welfare. In fact, investors will engage in monitoring

¹⁵⁵ The counter-intuitive consequence of this stream of argumentation is that, in the real world scenario, a non-trivial level of uncertainty in this respect increases the *ex ante* incentives to monitor for at least these creditors.

as long as the magnitude according to which the expected losses will decrease outweigh the costs of monitoring. At an aggregate level, this means that the probability of resolution will be minimized through creditors' monitoring.

5.2 A Dream Turning into a Nightmare?

The baseline scenario depicted in Fig. 3 represents something close to a dream for regulators: a distressed bank that can be internally recapitalized in a going concern without adverse spillovers. No credibility issues, information asymmetries or any other external factors can threaten such a dreamlike environment. Nonetheless, as this section will show, the dreamlike resolution can turn into a nightmare even without opting out of the assumptions designed in Sect. 5.1. It suffices to embed the rules stemming from competing policy goals (Sects. 4.3 and 4.4). In fact, in pursuing these competing goals, the Directive provides for an 'external shielding' mechanism which alters the incentive structure, resulting in the inherent dilution of incentives for monitoring.

Before discussing how the NCWO rules and the rules on public aid to failing banks alter the baseline scenario, it is important to stress, once again, the ontological difference between the two sets of rules discussed in this section. In fact, 'contractual shielding' rules imply that investors whose claim have different seniority will exert different levels of discipline. This only descends by the fact that the borrowing bank has issued claims that are more junior than others, so that the level of privately efficient discipline only depends on the existence of other investors that are more directly exposed to losses. On the contrary, 'external shielding' rules imply that investors, despite their seniority, can reduce their exposure in the case of resolution via external mechanisms (i.e.: the counterfactual liquidation scenario and State intervention) so that other investors that are directly exposed to losses might not exist.

To appreciate the fundamental difference between the two categories of rules being considered, think of the simple numerical example described in Sect. 5.1: when only 'contractual shielding' rules are in place (the baseline scenario), the investor is facing losses in the case of resolution and can influence the probability of resolution if it engages in costly monitoring. If 'external shielding' rules play a role the situation might dramatically change. Think, for instance, of the same investor expecting to recover 25% of its exposure under normal liquidation because of any of the mechanisms discussed in Sect. 4.3. Now, the investor expects to bear losses of 75 in resolution and if the probability of resolution is 10%, the expected losses are 7.5. The investor still has to choose whether to engage in costly monitoring (at a cost of 2) to decrease the probability of resolution from 10 to 7.5%. Now, given the extra contractual expectation of being shielded via the NCWO principle, the exerting monitoring is not rational for the investor, since the expected losses decrease to 5.6 and the expected benefits stemming from monitoring are lower than its costs. It

is worth noting that whether the NCWO really applies is irrelevant; what is relevant is the reasonable expectation being partly shielded via the NCWO.¹⁵⁶

5.2.1 No Creditor Worse Off

As discussed before, the NCWO principle imposes that a bail-in has to consist of an overall welfare-improving procedure from the creditors' perspective. In stating this, the European legislator has aimed at protecting investors' property rights, so as to comply with their constitutional rights.¹⁵⁷ From the perspective of the investors this means that, despite the level of expected losses stemming from the resolution procedure, they cannot bear actual losses that are greater than in the insolvency counterfactual scenario. In another fashion: creditors foresee that they will be shielded from losses that exceed the losses expected under a normal liquidation procedure.

This affects the incentives of monitoring investors. In fact, investors are artificially shielded by future losses through a device (i.e.: the insolvency counterfactual scenario) that is conceptually opposite to the idea of market discipline and serves a different policy objective.

As Sect. 4.3 discussed, the concrete impact of the NCWO principle can derive from different channels, some of which are endogenous to resolution; namely the exemptions/exclusions under Article 44.¹⁵⁸

The basic incentive structure has demonstrated that, under the assumption that investors are able to know *ex ante* which liabilities will be exempted and excluded from the bail-in procedure, they will be able to recalculate the expected losses they are going to incur. Nevertheless, those exemptions/exclusions hinge upon investors' incentives through the NCWO principle, since they increase the spread between the investors' treatment under the resolution procedure and in the alternative insolvency scenario.¹⁵⁹

In Fig. 4, the NCWO conceptualization is added to the basic incentive structure of Fig. 3: the dashed line in the figure represents an example of such a conceptualization, thus representing the amount of losses in the alternative insolvency scenario. The example provides a fairly conservative approach, as both the AT1 and T2 instruments are assumed to bear full losses in the counterfactual insolvency scenario. What is worth noticing is that if the dashed line (NCWO) intercepts the solid line (basic incentive) the expected losses are capped, consequently diluting incentives to monitor. This is exemplified by the grey area 'A' in the figure.

¹⁵⁶ This can happen both *ex ante*, when applying the resolution tool, or *ex post* through compensation under Art. 75.

¹⁵⁷ Valiante (2016); Wojcik (2016).

¹⁵⁸ Up to a certain extent, the same argument also holds true for theoretically eligible securities, which are issued by a third country which does not accept the contractual recognition under Art. 55. On the other hand, there are instances where the NCWO can play a role, such as an *ex post* clawback, which cannot be anticipated at all even assuming *ex ante* perfect information.

¹⁵⁹ In cases in which exemptions/exclusions would be treated differently under the two scenarios. This is, for instance, the case of Art. 44(3)(a) (a practical impossibility to implement the bail-in).

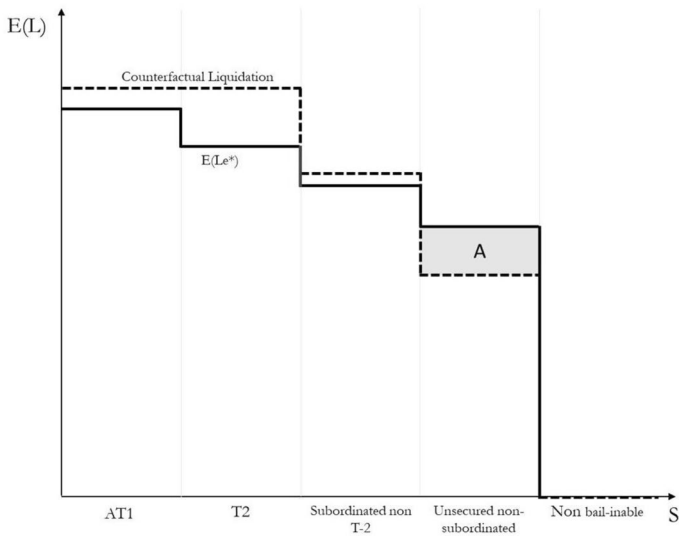


Fig. 4 Incentive structure of bail-inable creditors when the NCWO principle is in place

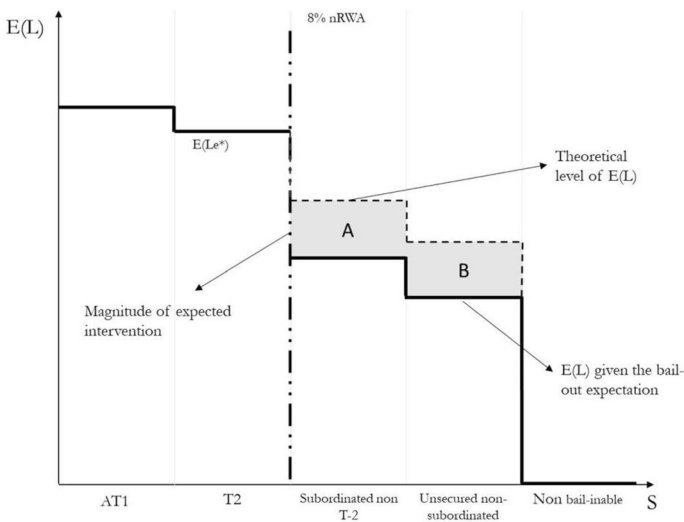


Fig. 5 Incentive structure of bail-inable creditors when the 8% threshold is in place

To sum up, the NCWO can dilute incentives capping the bearable losses that creditors can incur under resolution. The channel through which this can concretely occur consists of the rules applied in resolution whose spillovers affect the counterfactual insolvency scenario.

5.2.2 The 8% Threshold

There is wide consensus among scholars concerning the fact that a governmental guarantee of banks' solvency has not been eradicated once and for all with the BRRD. Indeed, as discussed back in Sect. 4.4, the BRRD itself recognizes the possibility of using public funds during resolution to prevent spillovers. Thus, even in the ideal setting plotted here, it is reasonable to expect public interventions once the legal conditions provided by the Directive are met; namely, there has been an 8% contribution by insiders.

From the investors' perspective, this exogenously impacts their payoff structure, altering the level of losses they expect to bear. In a more concrete fashion, if the claim of investor A has seniority above the threshold of 8% of the total liabilities (including own funds), it can reasonably expect to be, at least partially, shielded by public intervention.

For such a process to occur, the assumption of a smooth market for bail-inable securities needs to be specified. In particular, investors need to have perfect information about whether their claim is junior or senior to the 8% of eligible liabilities out of the total amount of liabilities. This has two implications: first, the investors need to have perfect information on the capital structure of their borrower; second, they must have perfect information about exemptions/exclusions of liabilities according to Article 44 and their impact in reaching the 8% threshold.

Figure 5, again, graphically depicts the situation. The 8% threshold has been assumed to fall at the end of T2 instruments. As expressed previously, the expectation to be shielded by public intervention lowers the expected losses. Hence, the graph highlights a discontinuity between the expected losses in the basic scenario (vertical line) and the resulting incentive if public intervention is expected. The grey areas 'A' and 'B' represent the incentive dilution corresponding to the public shielding of senior investors.

To sum up, the flexibilities embedded in the BRRD generate a discontinuity in the incentive structure of the investors lying above or below the threshold of 8% of eligible liabilities out of the total liabilities. Indeed, creditors above such a threshold can reasonably expect to be bailed out. Moreover, if the precautionary recapitalization detailed in Sect. 4.4 is considered, the threshold required for burden sharing can be lower than 8%, so that more investors can *ex ante* expect to be shielded by public intervention, worsening the *ex ante* incentives toward monitoring.

Finally, in terms of the effect of both the NCWO rules and the State intervention rules, the expected result is to lower the sensitivity of interest rates to the actual risk profile of the borrower, thereby decreasing the level of discipline imposed on managers' behaviour. Overall, both of the rules lower the expected losses of investors, so that the return on the investment (interest rate) required diminishes.¹⁶⁰

¹⁶⁰ It is important to note that this does not mean that the cost of funding for the bank has not increased after the BRRD entered into force, but that such an increase is not tightly linked to the behaviour of the individual bank, so that its discipline effect is limited.

5.3 A Dream or a Nightmare: Where Will We Wake Up?

So far, Sect. 5 has speculated about an ideal environment where, having specific assumptions, it is possible to conclude that certain aspects of the legal design of the BRRD inherently impair incentives toward market discipline. In this way, the article has shown how a dream-like environment where resolution works smoothly can easily turn into a nightmare. Now it is time to wake up and come out of such a dream/nightmare, assessing whether the theoretical speculation proposed can hold true in real life.

In other words, the question that still has to be answered is whether investors in bail-inable creditors are actually able to discount all the impediments that might stem from the legal framework and fully internalize the probability of future losses in their pricing.

Even though it is not possible to evaluate all the cases of resolution in light of the theory proposed so far, it is crucial to provide at least some anecdotal evidence showing the inability and/or unwillingness of investors to discount future losses.

Some cases, such as the resolution of Banco Popular and the precautionary recapitalization of Monte Paschi Bank, have already been briefly analysed and they support my findings.¹⁶¹ A further paradigmatic case of the inability of investors to *ex ante* discount future losses in pricing their bail-inable instruments has been provided by the investors in contingent convertible instruments¹⁶² issued by Deutsche Bank.¹⁶³ Deutsche Bank reported losses for the fiscal year 2015 and, once the news became public, the price of its shares fell, eroding the capital position of the bank and coming close to breaching the so-called 'combined buffer requirement'.¹⁶⁴ According to the incumbent regulation, if the capital ratio of a (still solvent) bank breaches such 'combined buffer requirements', then distributions of contingent convertible instruments (i.e.: payment of the 6% coupon) can be cancelled, so that the investors somehow bear the costs of early distress. This is in line with the new philosophy underpinning the resolution framework, i.e.: private sector involvement.¹⁶⁵

The market panic that stemmed from the fear of missing a coupon testifies to the fact that investors did not internalize the probability of future losses on their investment. The price of the instruments dropped, losing almost 30% of their value in one

¹⁶¹ A wider review of recent resolution cases can be found in Philippon and Salord (2017); World Bank Group (2016). For an up to date analysis of recent cases, see Ventrone and Sandrelli (2019).

¹⁶² Contingent convertible instruments (Cocos) are bail-inable instruments that are also part of regulatory capital. In this case, they were part of Additional Tier 1 capital pursuant to Arts. 51 and 54 CRR.

¹⁶³ An extensive description and analysis of the case can be found in Glasserman and Perotti (2018).

¹⁶⁴ Arts. 131 and 141 of the Capital Requirement Directive (CRD IV) (Directive 2013/36/EU [2013] OJ L 176/338). The combined buffer requirements consist of normal minimum capital requirements (Art. 92 CRR), institution-specific additional capital requirements (Art. 97 CRD IV) and additional buffers (Arts. 131 et seq. CRD IV).

¹⁶⁵ For more information on the underlying legal mechanisms and the ambiguities existing in EU law and supervisory practices, see Mesnard and Magnus (2016).

month and recovering only after the regulator had intervened by exploiting a legal loophole for allowing a lawful distribution of the coupon in 2016.¹⁶⁶

It is worth noting how skipping the payment of the coupon is a mild way of bearing losses as opposed to a fully-fledged bail-in. Moreover, incumbent regulation as well as in the contractual term of the instrument clearly signalled such a contingency. Yet, market participants were unable to discount such a possibility in pricing the instruments that they only react retrospectively once the problem has materialized, which is the exact opposite of what is expected from an effective market discipline that should have preventive effects. This, anecdotally, confirms the soundness of the findings of the qualitative model developed in the previous sections.

6 Concluding Remarks

The article has tackled the long-lasting debates on the ability of creditors to discipline banks' behaviour. In doing so, the article has adopted the perspective of the post-crisis stream of reforms and the alleged alignment between the interests of bail-inable debt holders and those of regulators/supervisors.

The rules shaping the market for bail-inable securities hinge upon features that are external to the status of investors under resolution (i.e.: a counter-factual insolvency situation; the possibility of granting public money to the bank). The analysis carried out in Sect. 5 showed that the overall outcome of these rules is to dilute the incentives to monitor banks' risk-taking behaviour. Such an outcome stems from the shielding effects that specific external features impacted by the BRRD rules have on investors. In other words, as long as investors rationally expect to be shielded from losses thanks to mechanisms out of their contractual arrangements, the incentives to discipline the borrowing bank's risk-taking behaviour will not be optimal.

It is worth noticing that the inherent dilution in incentive derives from the coexistence of a plurality of policy objectives. Indeed, all the features at stake, including creditors' monitoring, shall be included, *latu sensu*, within the resolution objectives.

In fact, 'maintaining market discipline'¹⁶⁷ and 'minimising reliance on extraordinary public financial support' are expressly mentioned by Article 31(2). Whereas the protection of property rights can be considered to be an implicit part of those objectives as that represents a pillar of the legal system in itself, protected by national constitutions as well as at the European level.¹⁶⁸ Even though the BRRD explicitly states that 'the resolution

¹⁶⁶ The legal point was the stacking order of Pillar 2 requirements imposed by the supervisor. The new praxis is to differentiate between Pillar 2 requirements and Pillar 2 Guidance, where only the former are binding and count for breaching the 'combined buffer requirements'. See, finally, EBA Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP), EBA/GL/2014/13, 19 July 2018.

¹⁶⁷ Even though this research has made it clear that the word 'maintaining' associated with the concept of market discipline in the banking industry is, to say the least, misleading.

¹⁶⁸ As enshrined by Art. 1, Protocol 1 of the European Convention on Human Rights. Whether or not the NCWO is an apt means to efficiently protect property rights falls beyond the scope of this research. On that see Tröger (2017) and Wojcik (2016).

objectives are of equal significance',¹⁶⁹ the actual legal design and the foreseeable resolution practice lean toward the primacy of the stability consideration. In a nutshell, the co-existence and the interplay of multiple policy goals addressed by the BRRD impede providing bail-inable creditors with optimal incentives to monitor their borrower.

Even though conflicting objectives in resolution have been seriously understudied, it seems unreasonable that an alternative design could rectify the incentive dilution toward monitoring, at the same time allowing for the same level of flexibility and the protection of property rights. In the same vein, preserving financial stability and protecting property rights clearly outweigh market discipline in terms of minimising resolution costs and avoiding the destruction of value.

In conclusion, it appears that the enthusiasm of the policymakers and some commentators on the disciplining capacity of the new resolution framework has been misplaced, or at least overemphasized. In fact, even though little evidence of the actual behaviour of bail-inable creditors has so far been provided, expecting them to carry out an optimal level of monitoring and adjust the price of securities accordingly is little more than a dream. Such an expectation is supported by neither theory nor current practice. Therefore, at least in the current regulatory framework, the effectiveness of a bail-in in preventing and addressing future crises cannot solely rely on the disciplining capacity of bail-inable creditors.

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Appendix: A Stylized Application of the NCWO Principle

The NCWO principle has been heavily criticized for its vagueness and complexity¹⁷⁰: beyond the appealing idea and the underlying rationales, it is difficult to grasp how it is supposed to work in a concrete fashion. Therefore, building on the previous

¹⁶⁹ Art. 31(3) BRRD. An identical provision can be found in the SRMR, Art. 14(3).

¹⁷⁰ Tröger (2018), pp 36–38.

(1) NORMAL TIMES			
ASSETS		LIABILITIES	
Loans	100	8	Capital
		25	Junior Debt
		17	Senior Debt
		50	Deposits
Total assets	100	100	Total Liabilities

(2) IDYOSINCRATIC SHOCK			
ASSETS		LIABILITIES	
Loans	70	8	Capital
		25	Junior Debt
		17	Senior Debt
		50	Deposits
		-30	Losses
Total assets	70	70	Total Liabilities

(3) APPLICATION OF BAIL-IN			
ASSETS		LIABILITIES	
Loans	70	6	Capital (converted 3 junior + 3 senior)
		14	Senior Debt
		50	Deposits
Total assets	70	70	Total Liabilities

(4) COUNTERFACTUAL LIQUIDATION			
ASSETS		LIABILITIES	
Loans	70	3	Junior Debt
		17	Senior Debt
		50	Deposits
Total assets	70	70	Total Liabilities

(5) COUNTERFACTUAL LIQUIDATION WITH CLAWBACK			
ASSETS		LIABILITIES	
Loans	70	8	Junior Debt
Clawed back assets	5	17	Senior Debt
		50	Deposits
Total assets	75	75	Total Liabilities

(6) APPLICATION OF BAIL-IN TOOL WITH EXEMPTED CREDITORS			
ASSETS		LIABILITIES	
Loans	70	6	Capital
DGS contribution	1	15	Junior Debt (excluded)
		0	Senior Debt
		50	Deposits
Total assets	71	71	Total Liabilities

Fig. 6 Application of the NCWO to the stylized balance sheet of Bank A

legal analysis, it is useful to provide some easy and simplified numerical examples. This allows one to better understand how the NCWO principle alters the incentive structures of investors. Moreover, this example shows that the NCWO is not just a theoretical safeguard, but it can have a concrete impact on the resolution process and investors in bail-inable securities.

‘Bank A’ in normal times owns assets worth 100, wholly made up of loans. Bank A’s funding consists of capital, two layers of debt and deposits (Fig. 6—Panel 1). For the sake of simplicity, we assume that the equity ratio (Total Assets/Equity) of Bank A is 8% of its total assets and it matches the regulatory requirements.

Baseline scenario (Panels 3 and 4) An idiosyncratic shock occurs and Bank A’s loans are now worth only 70, with a total amount of losses of 30 (Panel 2). Bank A is now failing and the resolution authority decides to apply the bail-in tool to restore a net asset value equal to zero and sufficient capital, in pursuance of Article 46.

In order to cover the losses capital holders are completely wiped out. Junior creditors are then partly wiped out [22] so that the losses are fully covered and partly converted into new equity [3]. Moreover, senior claims are partly converted into equity [3] to restore the appropriate level of regulatory capital (Panel 3). In this case,

no creditor is worse off, as in the counterfactual scenario of liquidation both depositors and senior creditors fully recover their investments and junior creditors have a recovery rate of 12%.¹⁷¹ In such a situation the NCWO has no impact on the resolution process and, hence, on investors' *ex ante* incentives, as shown in Fig. 7.

Let us now consider two alternatives in which the scenario depicted so far is altered. The first alternative scenario implies that during the liquidation procedure liabilities are clawed back; the second considers the case in which some of the liabilities are considered to be ineligible by the resolution authority, for any of the reasons provided by Article 44(2) and (3). The main difference between those two scenarios is that in the first the assessment of the counter-factual liquidation changes, while in the second what changes is the bail-in outcome.

Clawback Scenario (Panel 5) During the liquidation procedure, the Court orders the clawback of capital whose value is 5. Imagine, for instance, that the directors have unlawfully distributed dividends at a time of financial distress instead of increasing the bank's reserves. This alters the counterfactual liquidation scenario since the amount of distributable assets increases accordingly and junior creditors recover a larger share of their investment, with a recovery rate of 32%. In this scenario, junior creditors are worse off, as depicted in Panel 3. Figure 8 shows that junior creditors suffer higher losses under a bail-in than under liquidation. Thus, they are entitled to compensation pursuant to Article 75 BRRD.

Non-eligible liabilities scenario (Panel 6) For any of the reasons listed in Article 44(2) and (3), the resolution authority decides that a fraction of the junior debt [15] cannot be bailed-in. This can happen for a wide number of reasons. Imagine junior securities issued under the law of a third country that is not promptly bail-inable, or the even more compelling case in which the exempted junior liabilities are held by a distressed bank that cannot bear such losses without becoming failing. In this situation, for covering the losses [30], both capital [8] and the part of the eligible junior debts left [10] are wiped out. Moreover, a part of the senior debt is wiped out as well [12] to cover the remaining losses and the other part is converted into equity [5]. Finally, to restore the regulatory capital, the Deposit Guarantee Scheme has to step in and make a subrogated contribution under Article 109(1)(a). In fact, there are no other eligible liabilities: thus, the Deposit Guarantee Scheme is liable for the amount by which covered deposits would have been written down (Fig. 9).

Figure 9 shows that both junior and senior creditors suffer higher losses under a bail-in than under liquidation. Thus, they are both entitled to compensation pursuant to Article 75 BRRD. Moreover, since covered depositors would have incurred losses, the Deposit Guarantee Scheme has to step into bear such losses, so that the array of actors involved in the bail-in process is larger under these circumstances.

¹⁷¹ This is subject to the assumption that the debt-equity swap follows the rate of conversion of 1:1. The amount of converted capital remains approximately 8% of the total assets.

Level of losses		
	Bail-in	Liquidation
Capital	100%	100%
Junior Debt	88%	88%
Senior Debt	0%	0%
Depositors	0%	0%

Note: under the bail-in scenario, in determining the level of losses, we assume a 1:1 rate of conversion between equity and junior/senior debt.

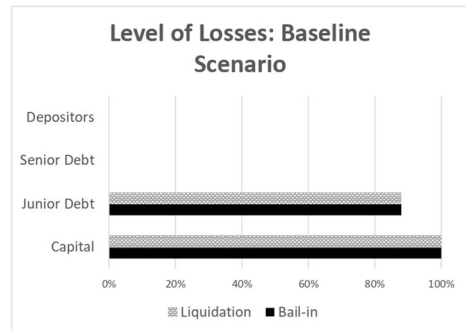


Fig. 7 Level of losses under the bail-in and liquidation regime in the baseline scenario

Level of Losses		
	Bail-in	Liquidation
Capital	100%	100%
Junior Debt	88%	68%
Senior Debt	0%	0%
Depositors	0%	0%

Note: under the bail-in scenario, in determining the level of losses, we assume a 1:1 rate of conversion between equity and junior/senior debt.

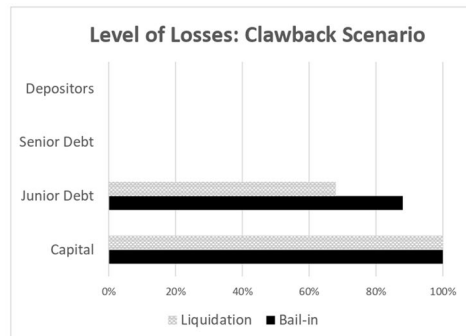


Fig. 8 Level of losses under the bail-in and liquidation regime in the clawback scenario

Level of Losses		
	Bail-in	Liquidation
Capital	100%	100%
(Eligible) Junior Debt	100%	88%
Senior Debt	71%	0%
Depositors (via DGS)	2%	0%

Note: under the bail-in scenario, in determining the level of losses, we assume a 1:1 rate of conversion between equity and junior/senior debt.

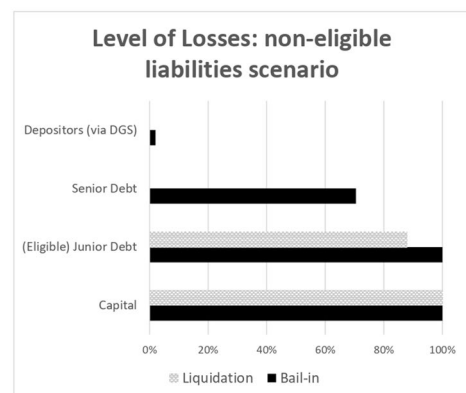


Fig. 9 Level of losses under the bail-in and liquidation regime in the non-eligible liabilities scenario

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