BANCA D'ITALIA
EUROSISTEMA

Notes on Financial Stability and Supervision

No. 15
August 2019

ISSN 2284-4198 (online)

Towards a framework for orderly liquidation of banks in the EU

A. De Aldisio – G. Aloia – A. Bentivegna
A. Gagliano – E. Giorgiantonio
C. Lanfranchi – M. Maltese * **

1. Summary and conclusions

Based on the current EU legal framework, for a bank crisis to be managed via the resolution regime the bank must pass the 'public interest test'. This implies that resolution is only available to a small subset of banks and banking groups: in the Eurozone, there are likely fewer than 100 out of a total of about 3,000 as of end-2018. The crisis of the remaining banks must be handled through national insolvency proceedings.

National insolvency regimes normally result in a piecemeal liquidation. This option gives no guarantee that the proceedings will take place in an orderly fashion. Specifically, if interested acquirers cannot be rapidly identified, liquidation will lead to the immediate disruption of the bank's core activities, to the disposal of assets and sale of collateral at fire sale prices, and to non-insured liability holders having to face long waiting times to obtain partial reimbursement. The confidence in other banks may be shaken, with eventual knock-on effects on the real economy in general. In sum, a disorderly piecemeal liquidation process is clearly not efficient and may entail serious public policy concerns given the social and economic significance of banks' activities.

The same inefficient outcome would occur with a common DGS set up in the Banking Union – a goal that should continue to be pursued in the steady state. Indeed, while the establishment

* Bank of Italy – Regulation and Macroprudential Analysis Directorate; Resolution and Crisis Management Unit. The paper reflects the views of the authors and does not involve the responsibility of the Bank of Italy.

** We would like to thank Paolo Angelini, Enzo Serata, Bruna Szego, Roberto Cercone, Gianmaria Marano and Lorenzo Tagnani for their useful comments and suggestions on a previous draft of this paper. We also thank Zoe Milak for her valuable contribution to the English text. All remaining errors are ours.

of a common DGS would increase the overall level of confidence in the banking system, it would not *per se* avoid piecemeal liquidation. A solution has thus to be found to avoid disorderly piecemeal liquidations for banks, as has been recognized by many authorities and commentators.[1]

This note argues that trusting in good luck and hoping for an orderly liquidation for the vast majority of EU banks is indeed not good policy. Drawing from the US experience, we lay out a proposal for a European framework for an orderly liquidation of banks failing the public interest test. Its two main building blocks are: (i) measures to rebalance the framework towards interventions by deposit guarantee schemes (DGSs) – as alternatives to paying out deposits – to support orderly liquidation; and (ii) the creation of a new national framework for transferring assets and liabilities in liquidation.

We argue that alternative interventions by far minimize the overall cost of a crisis.[2] Also, we argue that the risk that the DGS would systematically be worse off under the proposed orderly liquidation framework is low, and that this risk would be further reduced under certain conditions.

These proposals are broadly in line with the crisis management framework and practice of the US,[3] as well as with the FSB Key Attributes.[4] Also, they would follow the recent advice of the IMF that, in the recently published Euro Area FSAP, argues that a transfer of assets and liabilities in lieu of a piecemeal liquidation would reduce destruction of value and ensure a level playing field for creditors.[5]

As the proposed framework only requires new procedural rules for transferring assets and liabilities in liquidation and not full harmonization of national insolvency regimes, it could be rapidly implemented in Europe. Member States would not be required to renounce their national laws, but merely to incorporate in their legal systems the new procedural rules for transferring assets and liabilities in liquidation.[6]

1 See the following public speeches: F. Restoy, 'Bail-in in the new bank resolution framework: is there an issue with the middle class?', Naples, 23 March 2018 (available at www.bis.org); E. König, 'Why we need an EU liquidation regime for banks', 5 September 2018 (available at www.srb.europa.eu); A. Enria, 'Banking Union – challenges ahead', Brussels, 18 February 2019 (available at www.bankingsupervision.europa.eu); B. Szego, 'Resolving banks in Europe', Rome, October 2018 (available at www.bancaditalia.it); E. Ferreira, 'Banking Union: Crossing an Unstable Bridge', Lisbon, 4 July 2019 (available at www.bis.org).

2 In the paper we use the expression 'alternative interventions' for interventions that are alternative to a payout, i.e. those under Article 11.6 of the DSG Directive.

3 A recent briefing of the European Parliament explores what an 'EU FDIC', based on the US experience, would mean in the context of the Banking Union. See J. Deslandes, C. Dias and M. Magnus, 'Liquidation of Banks: Towards an 'FDIC' for the Banking Union?', In-depth Analysis, February 2019. See also F. Restoy, 'How to improve crisis management in the banking union: a European FDIC?', Lisbon, 4 July 2019 (available at www.bis.org).

4 The Key Attributes, available at https://www.fsb.org, require that resolution authorities have at their disposal a broad range of resolution powers, including the powers to effect the closure and orderly wind-down (liquidation) of whole or part of a failing firm. See also Preamble, par. 3 (i) requiring 'liquidation options that provide for the orderly closure and wind-down of all or parts of the firm's business in a manner that protects insured depositors, insurance policy holders and other retail customers'.

5 See the IMF, Euro area policies financial sector assessment program, Technical note – Bank resolution and crisis management, July 2018, highlighting that completing the Banking Union requires a more unified bank liquidation regime. However, as harmonization of national insolvency law could be complex and time-consuming, also noting the EU's subsidiarity principle, the IMF suggests carving out specific provisions applicable to the banking sector from national insolvency regimes and making them more consistent.

6 For a discussion of costs and benefits of full harmonization of bank insolvency legislation within the EU, see J. Binder, M. Krimminger, M.J. Nieto, and D. Singh, 'The Choice between Judicial and Administrative Sanctioned Procedures to Manage Liquidation of Banks: A Transatlantic Perspective', Common Market Law Review, March 2019.

To conclude, while our proposals would not rule out the possibility of a failing bank undergoing a disorderly piecemeal liquidation, they would provide an incentive to reach a more efficient outcome in a majority of cases. This holds true both in the short-term, when DGSs are still national and the orderly liquidation would be undertaken at domestic level, and in the longer term: when setting up a common DGS in the Banking Union, an orderly liquidation regime managed by a centralized authority would be an essential tool. Overall, we see our proposals as a further step towards completing the Banking Union, increasing the overall efficiency of the European economy and promoting the integrity of the Common Market.

2. The issue

Under the current EU legal framework, banks that do not meet the public interest requirement and, as such, cannot undergo resolution, have to be liquidated through the applicable national insolvency procedure. Experience thus far in the Banking Union suggests that this category includes the vast majority of EU banks: all the less significant institutions (LSIs) and most likely several significant institutions (SIs), i.e. likely over 2,900 banks and banking groups out of a total of about 3,000 as of end-2018.

In addition, successful resolution is conditional on a bank's ability to build up adequate levels of loss-absorbing liabilities (MREL). However, most medium-sized banks (not to say smaller ones) are not equipped to tap capital markets to issue MREL-eligible instruments. Around 70% of significant banks under the direct supervision of the SSM are not listed, 60% have never issued convertible instruments, and 25% have not even issued subordinated debt.[7] This seems to confirm that 'resolution is for the few, not the many'.[8]

As a consequence, for the vast majority of EU banks national liquidation is the baseline in the case of a crisis.[9] But in the absence of certain conditions, first and foremost the presence of an interested acquirer of the business, this entails a disorderly piecemeal liquidation. This means the immediate exit from the market of the failed bank: its license is withdrawn, payments of all its liabilities are suspended and its assets are wound down. While covered depositors are reimbursed, other creditors must line up and file their claims in the insolvency proceedings to receive their share of the

7 F. Restoy, 'Bail-in in the new bank resolution framework: is there an issue with the middle class?', speech at the IADI-ERC International Conference, Naples, 23 March 2018, available at www.bis.org

8 E. König, 'Why we need an EU liquidation regime for banks', 5 September 2018.

9 The feasibility of national insolvency as an option for managing bank crises has received renewed attention at international level. A recent review of country practices shows that different approaches are envisaged by national insolvency regimes applicable to banks, reflecting policy choices on the legal and jurisdictional protection of property rights and on the balance between creditor and debtor protection. Even within the EU, insolvency regimes vary a great deal. Some countries (e.g. France, Spain, Germany) do not provide for a bank-specific insolvency regime and apply general corporate insolvency laws to banks. Where a bank-specific insolvency regime exists (e.g. Italy, Ireland, Luxembourg) a variety of approaches are followed (administrative vs. jurisdictional proceedings; degree of involvement of public authorities; grounds for initiating the proceedings, objectives pursued, instruments available, etc.). See P. Baudino, A. Gagliano, E. Rulli, R. Walters, 'How to manage failures of non-systemic banks? A review of country practices', Financial Stability Institute, FSI Insights on policy implementation N. 10, October 2018. See also J. Binder, M. Krimminger, M.J. Nieto, and D. Singh, 'The Choice between Judicial and Administrative Sanctioned Procedures to Manage Liquidation of Banks: A Transatlantic Perspective', Common Market Law Review, March 2019.

proceeds resulting from the liquidation of the assets according to the priority set by the insolvency law.

This entails several negative consequences:

1. the going concern's business value is destroyed;[10] this translates into large losses for all the bank's creditors (senior ones included) other than insured depositors;

2. due to the immediate interruption of lending, borrowers are exposed to liquidity constraints which, especially for SMEs that cannot easily find alternative source of financing, can rapidly evolve into solvency problems.[11] All relationships are lost and depositors abruptly lose access to their funds. While insured depositors only suffer a freeze until the DGS payout, other depositors and liabilities holders are subject to considerable uncertainty as to the timing and magnitude of the recovery of their funds;

3. managing the liquidation procedure entails high administrative costs at the expense of what creditors, including the DGS, can recover. In addition, this activity implies trade-offs and complex decisions regarding the asset sale process. If the liquidator sells assets quickly it may obtain low prices even for high-quality assets, especially in a downturn. On the other hand, quick sales avoid operational complexity and costs associated with the management of the assets.

4. the DGS immediately faces potentially large payouts to reimburse covered depositors and risks recovering only part of the amount paid due to low recovery rates in the liquidation procedure and the time lag between the payout and the distribution of the proceeds;

5. risks for financial stability can be material, for at least two reasons. First, disorderly liquidation may have a negative impact on the confidence of other banks' depositors. Depositor protection arrangements might not suffice to avoid a crisis of confidence on the part of non-insured liability holders. The likelihood of such an event may also depend on the business cycle (contagion effects would be more likely in a negative phase, when the number of weaker banks is larger) and on other factors related to market structure. Second, in the case of a crisis of a relatively large bank, payouts may exceed the financial capacity of both the DGS (in light of the existing limits on banks' contributions) and the participating banks. Given that banks could be required to account for ex-post contributions to replenish the DGS in the P&L statement as an immediate cost, the impact on profitability and capital ratios could be unsustainable for some banks. This could potentially trigger a domino effect;

[10] See e.g. Federal Reserve Bank of New York, Liberty Street Economics, 'How Much Value Was Destroyed by the Lehman Bankruptcy?', E. Denison, M. Fleming, A. Sarkar, January 2019. The authors estimate value destruction in the Lehman bankruptcy to be in the $46-63 billion range, or between 15 and 21 percent of Lehman's pre-bankruptcy consolidated assets.

[11] Larger firms will typically have access to a wider range of potential lenders and to debt capital markets. Small and medium enterprises, by contrast, will typically only have a single house bank. Financial information about such firms may also be limited, further restricting the ability of other banks to quickly substitute for the failed bank. See in this regard 'FSB Recovery and Resolution Planning for Systemically Important Financial Institutions: Guidance on Identification of Critical Functions and Critical Shared Services', July 2013.

In sum, a disorderly piecemeal liquidation is a painful process that may have disruptive effects for depositors, banks' creditors and other stakeholders, and in general for the real economy: for these reasons it is *de facto* largely untested, at least for banks of a non-negligible size.

Disorderly liquidation contradicts the main goal of any crisis management procedure, i.e. to minimize the unnecessary destruction of the going concern's value. In Europe this objective is being actively pursued even in the field of insolvency proceedings applicable to non-financial firms, for which harmonization efforts are ongoing;[12] it should be pursued *a fortiori* in the banking field, where it is important not only to avoid the destruction of value, but also to preserve public confidence in the banking system.

The absence of an efficient, value-preserving bank liquidation procedure could prompt undue segmentation of the market into two blocs: very large banks subject to resolution on the one side, and all other banks subject to national liquidation on the other. This would create a level playing field problem as creditors of the latter banks may receive worse treatment and, as a consequence, may require higher yields for their investments, or leave the market altogether.[13] From a medium-term perspective, the mechanism could contribute to distorting the size distribution of the EU banking system.

While in the long run the establishment of a common DGS in the Banking Union would increase the overall level of confidence in the banking system, any common DGS would still be exposed to the risk of losses as a consequence of low recovery rates and lengthy procedures in piecemeal liquidation: therefore, a solution has to be found to avoid disorderly piecemeal liquidations for banks that now fall within the remit of national regimes and in the future could be subject to a common DGS.

Whether or not specific insolvency regimes are in place for banks, EU legislation imposes considerable constraints: notably, the super-priority for DGSs in the creditor hierarchy introduced by the Bank Recovery and Resolution Directive (BRRD) limits a DGS's ability to go beyond a pure pay-box function and finance preventive or alternative measures to avoid failure or ensure an orderly liquidation process. This is because under the super-priority rule it is likely (although not certain)[14] that the DGS will bear zero or very low costs in case of liquidation, hence the least cost principle strongly reduces the case that can be made for alternative intervention.[15]

These fundamental weaknesses in the EU framework have not gone unnoticed. In the recently published Euro Area FSAP, the IMF called for a common legal framework for liquidation featuring 'purchase and assumption' (P&A) transactions (a transfer of

12 See the Proposal for a directive of the European Parliament and of the Council on preventive restructuring frameworks, second chance and measures to increase the efficiency of restructuring, insolvency and discharge procedures and amending Directive 2012/30/EU, COM(2016) 723 final 2016/0359 (COD).

13 The need to avoid a possible asymmetry in the treatment of creditors in the internal market seems to have justified the wide scope of application of the SRM regulation which includes all euro area banks, from the largest to the smallest. See Recital 22 in the SRM regulation. However, the benefits of centralization of the decision-making and resolution funding mainly concern large banks operating at cross-border level.

14 See point d) in paragraph 3.1 below.

15 The least cost principle requires that the costs sustained by the DGS for alternative interventions in liquidation be lower than those associated with a payout of the insured depositors.

business – assets and liabilities, business branches and legal relationships) supported by a common DGS. The IMF argues that a transfer of assets and liabilities in lieu of a piecemeal liquidation would reduce destruction of value and ensure a level playing field for creditors.[16]

While we are not aware of studies reporting systematic evidence on the issue, anecdotal evidence suggests that disorderly piecemeal bank liquidations are carefully avoided in many countries. In the United States, the Federal Deposit Insurance Corporation (FDIC) is authorized to finance the crisis management operations, such as the P&A transactions, that are the most frequently used in practice (95% of the banking crises that occurred between 2008 and 2013 were managed by the FDIC through a P&A transaction).[17] Before the BRRD's implementation, bank liquidation in Italy almost always took the form of a P&A operation involving a viable institution.[18] [19]

In order to illustrate the potential advantage of an orderly liquidation framework, in Table 1 we examine the case of an alternative intervention, which was actually carried out by the Italian DGS in managing the crisis of a small bank (total assets close to €1 billion; details are in the Annex) before the introduction of the DGS super-priority by the BRRD. Similar patterns emerge in many other crises handled by the DGS using the same method. Thus, while the figures are not general, they are not merely illustrative either.

The table highlights that – by avoiding the destruction of the going concern value and the administrative costs associated with a piecemeal liquidation – the alternative intervention was by far the more effective in minimizing the overall cost of the crisis. In fact, the alternative intervention cost €33 million, corresponding to the sum actually disbursed by the DGS to a viable purchaser to enable the transfer of assets and liabilities; by contrast, the losses that the DGS and other liability holders would be expected to suffer in a piecemeal liquidation scenario would amount to €319 million. In particular, in the piecemeal liquidation scenario, the DGS would have paid only €14 million (the cost of interest on liquidity needs for the upfront payment of covered deposits) thanks to the super-senior status of its claim. However, in the same scenario other liability holders (such as senior bondholders, uninsured depositors, other unsecured/non-

16 IMF, Euro area policies financial sector assessment program, Technical note — Bank resolution and crisis management, July 2018. See also O. M. Croitoru, M. Dobler, J. Molin, 'Resolution Funding: Who Pays When Financial Institutions Fail?', IMF Technical Notes and Manuals No. 2018/01, August 2018, available at www.imf.org. The SRB chair has called for 'an EU [bank] liquidation regime alongside an EU resolution regime' (see footnote 3). See also N. Veron, 'Taking stock of the Single Resolution Board' In-Depth Analysis requested by the ECON committee, March 2019, where the author claims that the unviable bank regime could be subject to more comprehensive reform 'on the basis that the outcomes of unviable bank cases since 2015 do not necessarily correspond to the original intent of the BRRD legislators'.

17 FDIC, Crisis and responses, an FDIC history, 2008-2013, November 2017.

18 Since its establishment (in 1987), the Italian DGS (FITD) has managed 12 interventions (the number does not consider an intervention qualified by the European Commission as not compatible with European competition regulation and currently the subject of a case before the European Court of Justice). The Fund's interventions were provided in 7 cases in the context of assets and liabilities disposal of banks in liquidation, in 3 cases as support for on-going banks and in 2 cases as reimbursement of depositors. Also the Italian DGS for cooperative banks (the FGDCC) has done 71 interventions since its establishment (in 1997), only one of which was a depositor payout. In all cases, the cost-effectiveness of the alternative interventions – compared to the depositor payout – has been assessed.

19 E. Ferreira claims that "efforts must be made to establish an enabling framework for the orderly management of failing banks of locally systemic importance, combining elements of the resolution and liquidation frameworks – akin to the FDIC approach in the USA – while minimising losses and protecting depositors and non-financial borrowers. In that regard, the existing liquidation regime of small banks in Italy – compatible with the internal market and to which the European Commission did not raise objections – could be a useful first step for our discussions". See E. Ferreira, *op. cit.*

preferred creditors) would have entirely borne the losses caused by the destruction of the going concern value and the administrative costs of the piecemeal liquidation procedure, amounting overall to €305 million. This figure is clearly disproportionate with respect to the cost emerging from the alternative intervention scenario; furthermore, it overlooks possible further 'indirect' costs arising from contagion, crisis of confidence or deposit runs.

Table 1 – Costs of alternative DGS intervention strategies in the crisis of a small Italian bank
(€million)

	Cost to DGS	Cost to other liability holders	Overall cost
Alternative intervention, adopted in practice (before implementation of the DGS super-priority)	33	0	33
Depositor reimbursement with disorderly liquidation (default option after the introduction of the DGS super-priority)	14	305	319

Note that in this case, under either approach – depositor reimbursement vs. alternative intervention – the cost to the taxpayer is zero: the burden is entirely borne by the DGS, i.e. by the banking system. In this regard, the recent EU general court ruling on the bank Tercas, a small lender in whose crisis the Italian DGS had played a role, marks an important step towards reintroducing some room for manoeuver for alternative interventions by DGSs.[20]

3. Some practical proposals to address the issue

Building on the insights of the previous paragraph, in what follows we lay out some proposals for a European framework for the orderly liquidation of banks that fail the public interest test. Its two main building blocks are: (i) measures to increase the ability of the DGS to adopt alternative interventions to depositor reimbursement;[21] and (ii) the creation of a national procedural framework for transferring assets and liabilities in liquidation.

The proposal aims to explore new strategies for addressing the crisis of small and medium-sized banks and at the same time paves the way for a credible and efficiently managed common DGS in the Banking Union.

[20] Based on the Banking Communication of August 2013, the use of DGSs' funds to assist in the restructuring of credit institutions may constitute State aid to the extent that they come within the control of the State and the decision as to the funds' application is imputable to the State. The EU Commission considered the alternative intervention made by the Italian DGS to rescue the Italian bank Tercas to be in breach of the EU rules on State aid. The Italian Government filed an appeal against the Commission's decision, claiming that the DGS's alternative interventions cannot be regarded as State aid since, at least where the DGS is a private law consortium and acts independently – as in Italy – the DGS's resources cannot be considered to be State resources, nor can decisions on specific interventions be referred to a public authority. On 19 March 2019 the General Court annulled the Commission's decision, deeming its conclusions incorrect. The Commission appealed the General Court's decision.

[21] 'Alternative interventions' may take various forms. In essence, they entail a monetary contribution to the buyer of the failing bank to cover the gap between the value of the transferred assets and liabilities and the restructuring costs associated with the acquisition. The transaction may range from the sale of the entire bank to the partial sale (i.e. with the exception of bad loans, subordinated debts) or the sale of key parts, such as deposits and performing loans.

3.1 The role of the DGS

Under the current framework, a DGS facing a bank liquidation has two alternative options: depositor reimbursement or alternative interventions, such as financing a P&A transaction.[22] The DGS must choose the option that minimizes its own costs, respecting the so-called least cost principle; as a consequence, alternative interventions are allowed only if they are less expensive for the DGS than the net cost of insured depositor reimbursement (i.e., the cost that the DGS would incur to reimburse these deposits minus any amount recovered in the liquidation procedure). In practice, under the existing EU framework this rule tilts the choice towards depositor reimbursement (see point (a) below). But, as we discussed above, in the case there is no buyer willing to acquire the failing bank at a non-negative price, this option is liable to entail large value destruction and to create risks for financial stability.

The least cost principle is used worldwide and we see no grounds for changing it. However, we argue that it is possible to change the way it is implemented technically in the EU in order to rebalance the framework towards alternative interventions that support orderly liquidations. To this end, we suggest: (a) reviewing the super-priority granted to the DGS by the BRRD; (b) increasing the threshold for insured depositors; and (c) modifying some technical aspects of the DGS least cost criterion.

(a) The DGS's super-priority. – The depositor preference rule set forth in the BRRD requires that insured depositors are preferred to any of the bank's other unsecured creditors in the creditor insolvency hierarchy (super-priority rule). As a consequence, if insured depositors are reimbursed by the DGS, the DGS subrogates to the rights of the insured depositors against the liquidation estate with their same super-senior status. While this rule aims to reduce the likelihood that the DGS is called on to absorb losses to reimburse insured depositors, it also hampers the DGS's ability to undertake alternative interventions, since under the least cost criterion these tend to be more expensive than a depositor payout.

To broaden the number of cases in which the DGS may carry out alternative interventions, the super-priority rule could be eliminated for subrogated DGSs (it could still be applied to insured depositors). In this respect, the amendment would align the EU framework with that adopted in the US.[23] Note that under the US general depositor preference regime, all insured and uninsured deposits ranks equally. Hence, the DGS ranks *pari passu* with the other depositors.

[22] The DGS Directive sets forth a national option, under which Member States may allow DGS funds to be used for purposes other than payout in liquidation, including to finance a P&A transaction (Article 11.6). 'Member States may decide that the available financial means may also be used to finance measures to preserve the access of depositors to covered deposits, including transfer of assets and liabilities and deposit book transfer, in the context of national insolvency proceedings, provided that the costs borne by the DGS do not exceed the net amount of compensating covered depositors at the credit institution concerned'.

[23] See P. Baudino, A. Gagliano, E. Rulli, R. Walters, 'How to manage failures of non-systemic banks? A review of country practices', Financial Stability Institute, FSI Insights on policy implementation N. 10, October 2018.

(b) The deposit insurance threshold. – An increase in the threshold for deposit insurance, from the current value of €100,000 to €200,000, say, would help to rebalance the least cost criterion calculation in favour of alternative interventions. This is because the larger the share of insured deposits, the greater the probability that the DGS will not be fully repaid through liquidation. A higher insurance threshold would contribute to stabilizing banks' funding, which in the new environment tends to be more volatile. It would also meet a demand by the market, as shown by the fact that covered deposits are steadily increasing in the EU. According to data collected by the EBA, between 2015 and 2017 covered deposits in the EU-27 Member States increased from €6,101 billion to €6,628 billion; this trend is observable in many EU countries. This change would require raising the amount of the DGS's available financial resources; at the same time, it would also reduce the probability of needing to use these funds in full. An impact study should help determine the appropriate amount by which to increase the threshold and the appropriate timeframe to reach the proposed new target level for the DGS.

This proposal draws on the US experience, where the target size of the Deposit Insurance Fund managed by the FDIC is 2% of covered deposits and the threshold was recently increased from $100,000 to $250,000. This increase provided a new incentive for the FDIC to perform P&A transactions after the introduction of the least cost principle.[24]

(c) Amending the computation of the least cost criterion. – The cost of bankruptcy proceedings for banks can be very high, even ignoring spill-overs effects. However, in certain situations – e.g. in a negative phase of the business cycle, when the number of weak banks is typically relatively large – a disorderly liquidation of even tiny institutions can trigger a crisis of confidence, entailing massive shifts of deposits across institutions, or deposit runs.[25] Should the crisis spread to other banks perceived as weak, the cost to the DGS of further payout events could be much higher than foreseen. Not taking "indirect costs" into account, as under the EU Commission's current approach, can have a negative effect on the outcome of the least cost analysis. Even if it is more difficult to quantify these costs than it is to quantify direct costs, experience shows that they can indeed be material, as the history of crises is full of contagion episodes. It would not be overly difficult to identify a methodology to estimate these additional costs.

(d) Summing up. – While our proposals would apparently tilt the scale in a way that would be to the detriment of the DGS, the DGS would not always be worse off. While the final cost of an alternative intervention is certain, the cost of reimbursement in a

[24] See FDIC, Resolutions Handbook, as revised in January 2019, available at www.fdic.gov. As illustrated by the handbook, '[Before the introduction of the depositor preference by the FDIC Improvement Act (FDIA) in 1991], the FDIC had structured most of its transactions to transfer both insured and uninsured deposits along with certain failed bank assets. Under FDICIA, however, when transferring the uninsured deposits was not the least costly solution, the FDIC began entering into P&A transactions that included only the insured deposits. Since the Emergency Economic Stabilization Act of 2008 and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 increased deposit insurance from $100,000 to $250,000, reducing the amount of uninsured deposits in banks has resulted in mostly all-deposit P&A transactions'.

[25] Informational contagion can be triggered by a failure event in the absence of direct connections (mechanical contagion) when depositors start doubting on the value of the assets of other banks. See M. Dewatripont 'Bank resolution and bail-in', presentation at the joint conference on 'Managing financial crises: where do we stand?' by ECB, Solvay Brussels School of Economics and Management, Toulouse School of Economics and National Bank of Belgium, Brussels, 5-6 November 2018.

piecemeal liquidation is highly uncertain. In fact, (i) it can only be ascertained after the conclusion of the liquidation procedure. Usually, these procedures take a long time to complete due to the jurisdiction-based protection of stakeholders' rights recognized by national laws.[26] This reduces the realizable asset value and makes it relatively uncertain; (ii) it depends on the effectiveness of the procedures to liquidate the assets (which, in turn, depends on many factors), which are operationally complex and costly;[27] and (iii) it depends on the failing bank's level of asset encumbrance, which is hard to ascertain quickly and typically tends to increase both in the period preceding a crisis and during liquidation (due to the super-senior status of the claims arising during the procedure, such as administrative expenses and liquidators' fees).

The overall cost of an alternative intervention would be further reduced by selecting the acquirer through a competitive process so as to maximize the sale price, and by applying burden sharing measures to shareholders and subordinated creditors.

Imposing burden-sharing measures on shareholders and subordinated creditors – along with replacing and/or sanctioning managers - would also fully address the moral hazard issue.[28] The argument that it is important that other liability holders (uninsured depositors or senior bondholders) participate in a bail-in in order to fend off moral hazard seems feeble. The creditors of banks are often small firms and households who just want to tend to their own business and gain no comparative advantage by monitoring their banks. Indeed, forcing them to do so would entail huge inefficiencies and risks reintroducing runs on banks.

In addition, the DGS's support for alternative interventions would reduce the probability that uninsured depositors and senior creditors take any loss, but would not entirely eliminate this risk. In fact, from an ex-ante perspective it is not certain that a transfer of assets and liabilities can be completed since it may not be possible to find a willing purchaser or the transfer may not meet the least cost criterion, which, in turn, depends on a variety of uncertain factors. In these cases, a disorderly piecemeal liquidation could still take place. Additional thought should be given to identifying appropriate ways to limit the disruptive effects of a piecemeal liquidation when this remains the only option available.

3.2. A framework for orderly liquidation

The proposed orderly liquidation strategy would require procedural rules for transferring assets and liabilities in liquidation.

[26] Indeed 'it often takes a great deal of time to establish both the size of the pool of assets available for general unsecured creditors and the legitimate amounts of the claims held by such creditors. Litigation is typically needed to establish both of these numbers', D.C. Hardy, 'Bank Resolution Costs, Depositor Preference, and Asset Encumbrance', IMF Working Paper, 2013.

[27] The experience of the FDIC in liquidating mostly smaller banks suggests that direct administrative costs typically amount to about 7 per cent of pre-resolution assets. See D.C. Hardy (2013).

[28] Another typical feature of DGSs that reduces the risk of moral hazard is that they receive risk-based contributions, which has already been adopted in the EU.

The proposed procedure should allow national resolution authorities to start liquidation when a bank is failing or likely to fail (FOLTF) and the public interest test is not met,[29] and to appoint a liquidator to take charge of executing the transfer through a competitive sale process aimed at finding an acquirer and maximizing the sale price. The sale should take place via an open and unconditional competitive tender to be conducted as quickly as possible in order to avoid the interruption of business and the destruction of value to the detriment of the creditors, including the DGS. [30]

The DGS should be able to conduct preparations in coordination with national resolution authorities in order to arrange the sale process even before the bank is declared FOLTF. Any assets and liabilities not transferred would remain in a residual entity managed by the liquidator under the supervision of the national authorities and regulated by national insolvency laws.

In addition, it is possible to envisage that national resolution authorities could seek recourse to a bridge bank even in cases of liquidation and not just resolution, subject to the least cost requirement. Following the US example, a bridge bank would only be used where preservation of the franchise value exceeds the incremental cost of running the bridge bank in order to comply with the least cost requirements.[31] While the US experience has shown that the use of this tool should be approached with some caution (it has been used only in 3 cases of crisis out of 489 recorded between 2008 and 2013), a bridge bank could provide a backstop option and allow liquidators time to identify prospective purchasers for the assets and liabilities. Some form of liquidity support could be required to allow the bridge bank to perform its task.

The proposed framework, while not deviating from the ultimate goal of a fully harmonized insolvency regime, could be easily achievable at this stage because it would not require Member States to renounce their national private laws but merely to incorporate the new procedural rules to carry out transfers of assets and liabilities in liquidation into their legal systems. Once implemented, additional steps could be taken towards the establishment of a common DGS in the Banking Union, where, ultimately, the financial support for a transfer of the bank's assets and liabilities could be granted by the common DGS within an orderly liquidation regime managed by a centralized authority. In this way, the proposed framework would pave the way towards the completion of the Banking Union, increase the overall efficiency of the European economy and promote the integrity of the Common Market.

[29] This step is already envisaged by the recently agreed revised BRRD (recently approved as Directive 2019/879) which states that a bank that is failing or likely to fail but does not meet the public interest test should be wound up in accordance with applicable national law.

[30] To facilitate the transfer of assets and liabilities, it may be useful to look into the current supervisory practices and expectations governing banks' acquisitions to be sure that the right balance is struck between the need to ensure that banks resulting from acquisitions are sound and the need to not discourage potential buyers ex ante.

[31] FDIC, Crisis and responses, an FDIC history, 2008-2013, *op. cit*.

Annex - A practical example

A concrete example is provided showing the cost-effectiveness of the alternative measure carried out by the DGS to support a transfer of assets and liabilities, in comparison to the reimbursement of covered depositors in a piecemeal liquidation. In particular, the example compares the results of the least cost analysis based on the rules in place before the BRRD's implementation (i.e. without the DGS super-priority) with the outcomes of the same analysis based on the framework in force after the introduction of depositor preference.

The main conclusions are twofold:

a) under the current DGS super-priority rule, given the least cost constraint, the DGS would not be able to undertake value-preserving alternative intervention to support a transfer of assets and liabilities; as a consequence, a disorderly and inefficient piecemeal liquidation would be the only option available to wind-up the bank;

b) in a piecemeal liquidation scenario, under the current DGS super-priority rule:

i. the DGS would entirely recover the amount paid to fully reimburse covered depositors (without considering the cost for interest on liquidity);

ii. however, the destruction of the going concern value and the administrative costs for carrying out the procedure would entail significant costs for other liability holders (such as uninsured depositors, senior bondholders, other unsecured/non preferred creditors);

iii. in addition, further 'indirect' costs could arise from adverse spillover effects on the banking system, such as contagion effects, loss of confidence or deposit runs, which may pose significant risks for financial stability.

The case concerns a real bank (fictitiously renamed Alpha Bank, 'AB') which was put under compulsory liquidation (CAL) according to Article 80 of the Italian Consolidated Law on Banking (D.lgs. 385/1993). Table 1 below includes AB's main data as of 31 May 2015.

Table 1
(thousands EUR)

Total assets	891.754
Net profit (loss) *	(111.306)
CET 1 ratio**	-4,2%
Total capital ratio**	-2,2%
Insured deposits	428.532
Uninsured deposits	126.447

* From 1 January 2013 to 31 May 2015;

** As of 31 March 2015.

The liquidation plan provided for the winding up of AB with the sale of its assets and liabilities – with the exception of bad loans, tax credits for DTA and subordinated debts – to an acquiring bank (selected through a tender process), with the support of the Italian DGS. The DGS eased the transaction by paying €33 million to the purchaser to cover the difference between the value of AB's assets and its senior liabilities, which were transferred to the purchaser.

As shown in better detail below, the least cost analysis – performed before the introduction of the DGS super-priority rule by the BRRD - showed that the alternative intervention (which entailed a cost for the DGS of € 33 million) was less expensive for the DGS than reimbursing the bank's covered depositors in a piecemeal liquidation. Such reimbursement would have cost the DGS about €129 million, as its claims would have ranked *pari passu* with all uninsured deposits and all other retail unsecured creditors. This meant that an alternative intervention, carried out at a cost of €33 million, was allowed. The intervention made it possible to protect not only insured depositors but also uninsured depositors and other senior creditors.

A different least cost analysis based on the new BRRD rules shows that, in the reimbursement scenario, the DGS would entirely recover the amount paid to covered depositors and would bear only the cost arising from the non-use of liquidity (see above) of €13.7 million. This amount would have been insufficient to support the transfer of assets and liabilities; thus, due to the DGS super-priority rule introduced by the BRRD, the DGS would not have been able to support this transaction and AB would have been forced into a piecemeal liquidation, with the reimbursement of the insured depositors.

In addition, the introduction of the DGS super-priority rule by the BRRD would also have led to a different distribution of the losses between the DGS and other unsecured creditors than in the pre-BRRD scenario:

(i) while in the pre-BRRD scenario the cost for the DGS amounts to €115 million (plus the cost for interest on liquidity) and the costs charged to the bank's other unsecured creditors amounts to €126 million;

(ii) in the post-BRRD scenario the cost for the DGS would have been equal to 0 (plus the cost for interest on liquidity) and the costs to other unsecured creditors would have amounted to around €305 million.

In light of the above, it is clear that in this specific case, under the DGS super-priority rule, the DGS obtains the greatest benefits in a piecemeal liquidation scenario, but other stakeholders (namely the bank's other unsecured creditors) are disproportionately worse-off than they would be in a piecemeal liquidation without DGS super-priority. Moreover, additional 'indirect' costs to the banking system would likely arise in terms of loss of confidence, deposit runs and the contagion effect, which may undermine overall financial stability. As explained in the paper, since the DGS super-priority limits the options of the DGS in making alternative,

value-saving interventions in liquidation, such rule appears to be economically inefficient in dealing with the banking crises.

* * *

The table below shows the breakdown of the cost of the DGS's intervention in a piecemeal liquidation[32], considering both the scenario before the depositors preference rule and the one following its introduction.

The following assumptions were considered:

- 'preferential claims' are defined as statutory priority claims (e.g. employees, tax and social security authorities, professional providers of services);
- 'liabilities with legal constraints' include claims secured by mortgages and pledges (e.g. credit provided by the ECB against collateral, repurchase transactions, covered bonds);
- 'other unsecured claims' include claims not preferred or secured different from deposits (e.g. senior bonds);
- 'total assets to be distributed' indicate the asset value of the bank in a gone-concern basis; it was calculated by applying the appropriate correction percentage to the book value of the bank assets to reflect the loss of the going concern value;
- the 'estimated liquidation costs' include the estimated costs for staff expenses and other costs to be covered from a medium-term perspective;
- the 'cost for interest on liquidity' is the cost related to the non-use of liquidity (by the DGS/the banks contributing to it) in the period between the disbursement to insured depositors and the receipt of the proceeds from the liquidation; it is based on the yield of the Treasury bond (BTP).

More specifically, in a piecemeal liquidation scenario, as Table 2 below shows: i) total assets to be distributed are equal to €615 million; ii) liquidation cost amounts to €6 million; iii) preferred and secured claims are equal to €170 million; iv) unsecured claims amount to €744 million. Consequently, once the liquidation cost and preferred/secured claims are paid, the assets to be distributed to unsecured claims are equal to €439 million.

[32] The analysis did not consider the social and public costs arising from the termination of all employment contracts (which would have occurred under a disorderly piecemeal liquidation) or the 'related or systemic costs' (see above). Had these data been considered, the burden of a piecemeal scenario would have grown significantly, including in terms of losses associated with the potential increase in preferential claims (namely those of fired employees for compensation due), which are typically given preference vis-à-vis the DGS's claim.

Table 2		
Total assets to be distributed	**615,246,019**	**A**
Liquidation cost	**6,078,778**	**B**
Preferred and secured claims	**169,688,000**	**C**
Preferential claims	6,783,000	
Liabilities with a constraint on securities	161,093,000	
Repurchase transactions	1,812,000	
Unsecured claims	**744,067,000**	**D = F + G + H**
Uninsured deposits (over 100,000)	101,580,000	F
Insured deposits (up to 100,000)	428,532,000	G
Other unsecured claims	213,955,000	H
Assets for unsecured claims	**439,479,241**	**I = A - B - C**

As specified in Table 3 below, in the scenario before the introduction of the DGS super-priority, total deposits (insured and uninsured) represent 71.25% of unsecured claims; therefore, an amount corresponding to this percentage (€313 million) of the assets for unsecured claims (€439 million) is allocated to satisfy depositors' claims. In particular, since covered depositors would be fully reimbursed by the DGS, this amount is entirely paid to the DGS to refund it for the pay-out of covered depositors;[33] nevertheless, since the amount disbursed by the DGS for the pay-out is greater than the amount recovered in the liquidation, the DGS bears a net cost of €115 million.[34] By summing this amount with the cost for interests on liquidity for the DGS, the latter's overall losses are equal to €129 million. Symmetrically, the assets to be distributed to other unsecured claims are equal to €126 million (28.75% of unsecured claims); consequently, the total losses for other unsecured claims and uninsured deposits amount to €189 million.

Table 3			
Least cost analysis before DGS super-priority			
Assets for unsecured claims		439,479,241	I = A - B - C
Percentage of assets for deposits	F + G	530,112,000	71.25%
	F + G + H	744,067,000	
DGS subrogation for payout (71,25%)	I * 71,25%	313,107,851	L
Net cost for DGS in a piecemeal liquidation		115,424,148	M = G - L
Percentage of assets for other unsecured claims	H	213,955,000	28.75%
	F + G + H	744,067,000	
Assets for other unsecured claims (28,75%)	I * 28,75%	126,371,390	N
Net cost for uninsured deposits and other unsecured claims		189,163,609	O = F + H - N
Cost for interests on liquidity for DGS		13,715,563	P
Cost of the DGS's intervention		129,139,711	Q = M + P

[33] Under the framework applicable before the DGS super-priority: i) the DGS's claims ranked *pari passu* with all uninsured deposits and all other senior unsecured creditors; ii) the DGS was subrogated to the rights of the covered depositors (towards the liquidation) within the limit of the sums disbursed and was preferred to the repaid depositors (within the same limit). As a proxy of the recovery of the DGS, it is supposed that the percentage of assets to repay all depositors would be fully distributed to the DGS, as the structure of the deposits is supposed to be substantially flat (i.e. it is assumed that the amount of each deposit is close to the threshold of €100,000).

[34] The loss is calculated as the difference between the amount of the pay-out (€428 million) and the sum recovered by the DGS (€313 million).

As Table 4 below shows, under the scenario after the introduction of the DGS super-priority, the amount of the assets for unsecured creditors (€439 million) allows for the full repayment of the cost for the pay-out borne by the DGS (€428 million); then, as mentioned above, the only cost for DGS would derive from the non-use of liquidity of €13.7 million. The remaining assets for unsecured claims would amount to €11 million and the total losses for uninsured deposits and other unsecured credit would be equal to €305 million.

Table 4

Least cost analysis after DGS super-priority

Assets for unsecured claims	439,479,241	I = A - B - C
DGS subrogation for payout (100%)	428,532,000	G
Net cost for DGS in a piecemeal liquidation	0	R
Assets for other unsecured claims	10,947,241	S = I - G
Net cost for uninsured deposits and other unsecured claims	304,587,758	T = F + H - S
Cost for interests on liquidity for DGS	13,715,563	P
Cost of the DGS's intervention	13,715,563	U = R + P