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Bank failure management – the role of deposit insurance

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Executive summary

Deposit insurance schemes (DIS) play an important role in the framework for managing bank failures. The core use of DIS resources is the payout of insured deposits in the context of a bank closure and insolvency proceeding. This limits the risk of depositor runs and ensures that protected depositors retain access to their funds.

DIS may also fulfil their mandate by funding measures that, at a minimum, preserve access to insured deposits as an alternative to payout ("alternative measures"). The use of DIS resources for purposes other than payout is reflected in international standards adopted following the Great Financial Crisis of 2007–09. The IADI Core Principles for Effective Deposit Insurance Systems provide that, subject to safeguards, DIS resources may be used for the resolution of member institutions as an alternative to payout. Similarly, the FSB Key Attributes of Effective Resolution Regimes for Financial Institutions consider DIS as a possible source of funding for resolution.

The paper reviews the various ways in which DIS resources may be used in bank insolvency and resolution. On the basis of responses to a survey of 32 IADI members, the paper takes stock of the types of alternative measures that DIS may fund. These include purchase and assumption transactions; the transfer of deposits – and, possibly, other business – to a bridge bank; and provision of capital and liquidity support, either to prevent the failure of a stressed bank or in the context of a resolution or insolvency procedure. The survey reveals a wide range of approaches, based on variables that include the tools available under the applicable framework for bank failure management; the mandate of the DIS; the safeguards to protect DIS resources such as the operation of any financial cap on the amount that can be used for alternative measures for a single bank; and the availability of backup funding arrangements for the DIS. These differences in part reflect policy priorities and national institutional arrangements with the safety net.

The ability to use DIS resources for alternative measures can complement bank insolvency and resolution frameworks and expand the options for bank failure management. This may be particularly helpful when the loss absorbency in a failed bank is limited – for example, because deposits form a significant proportion of its liabilities. This may be the case with medium-sized banks. Even if these banks are not systemic, their failure could raise public interest considerations that would be better met by measures that preserve their deposit books and at least some of their services rather than by liquidation and payout.

However, a number of policy considerations frame choices about the use of DIS resources. Although these options can be helpful, they may require capacity on the part of the deposit insurance authority to assess and implement more sophisticated funding arrangements; the availability of appropriate backup funding arrangements if there is a risk that measures other than payout may involve material amounts that could exhaust the available resources of the DIS; and arrangements to deal with any moral hazard incentives for banks. Safeguards in the form of financial caps, including a "least cost"

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principle, and, where relevant, collateral requirements can help to counterbalance these issues at the cost of lower flexibility.

Section 1 – Introduction

1. **Bank failures can undermine depositor confidence and hinder the provision of services that are essential to the functioning of the economy.** In order to minimise such impact, the failure management framework should enable insured depositors to be protected, value to be preserved and an abrupt withdrawal of services to be avoided. These considerations apply to a greater or lesser extent in any bank failure.

2. **Effective bank insolvency procedures that address these issues may require additional sources of funding.** A regime that confers more options and greater flexibility to undertake a variety of transactions may be better suited to manage the insolvency of banks that are important to local or regional economies, but not necessarily systemic, than a regime based on a more limited set of liquidation powers. Such options include protection of deposits and continuity of other banking services through transfers. However, the available assets and loss-absorbing capacity within banks that are insolvent or close to insolvency are unlikely to be sufficient to fully support such transactions.[2] That is particularly the case where the majority of liabilities are deposits, which have only limited loss-absorbing capacity. Orderly management of bank failure is therefore likely to require some external funds.

3. **Deposit insurance schemes (DIS)[3] may constitute a source of funding.** For the purposes of this paper, a DIS includes any scheme, whether pre- or post-funded, that may be used to pay out insured depositors in the event of the insolvency of a member bank, irrespective of whether its resources may also be used for other purposes such as funding resolution measures. While a resolution fund is designed exclusively for financing resolution and is not available to pay out depositors, the primary function and core public policy objective of deposit insurance (DI) is to preserve confidence by protecting depositors against the loss of their insured deposits in the event that a bank is unable to meet its obligations to depositors.[4] However, where permitted by the legal framework, DIS may also achieve that objective by contributing financial resources to support measures that, at a minimum, preserve access to insured deposits as an alternative to payout (hereafter referred to as "alternative measures").[5] Such measures, while requiring funding, are likely to reduce the overall cost of bank failures.

4. **International standards cover the use of DIS resources in insolvency and resolution.** International standards for DIS were strengthened in the wake of the Great Financial Crisis (GFC) of 2007–09. The International Association of Deposit Insurers (IADI) and the Basel Committee on Banking Supervision (BCBS) issued the IADI Core Principles for Effective Deposit Insurance Systems (Core Principles)

[2] Loss-absorbing capacity should be available at the point of failure for those banks that are subject to specific requirements such as the requirement for total loss-absorbing capacity (TLAC) that applies to global systemically important banks (G-SIBs) or the minimum requirement for own funds and eligible liabilities (MREL) that applies under the EU bank resolution framework.

[3] In this paper, the abbreviation "DIS" refers to the singular or the plural, as the context requires.

[4] The first DIS were set up in the first half of the 20th century, typically following the experience of banking panics. Deposit insurance was expected to contribute to financial stability by reducing the likelihood of bank runs by guaranteeing deposits, at least up to a threshold, for certain types of, generally unsophisticated, depositors such as individuals and, possibly, small businesses.

[5] For a general overview of these issues, see McGuire (2012).

in 2009, and a revised version in 2014 (IADI (2014)).[6] Core Principle 9 (essential criterion 8) provides that DIS may use their funds for the resolution or liquidation of member institutions as an alternative to payout, provided that various conditions are in place aimed at governance, accountability and protection of DIS resources against excessive depletion. These include the requirement that contributions are limited to the cost the DIS would otherwise have incurred in a payout in the liquidation of the failed bank, net of expected recoveries, or requirements that the "least cost" option is chosen. The FSB Key Attributes of Effective Resolution Regimes for Financial Institutions, first issued in 2011 and revised in 2014 (FSB (2014)), also recognise DIS as a possible source of funding for resolution (Key Attribute (KA) 6).

5. **Alternative measures to payout may be adopted under either resolution or insolvency regimes, depending on the national framework.** In some jurisdictions, such as the United States, there is a single legal framework for dealing with bank failure, which contains "resolution" and liquidation tools.[7] In such regimes, the DIS may be the administrative authority responsible for conducting the insolvency proceeding, and use of DIS resources for alternative measures that protect deposits may be integrated into the framework. By contrast, in others, resolution and insolvency are conceptually distinct and subject to different legal frameworks.[8] This is the case, for example, in the European Union (EU), where resolution is reserved for systemic cases that meet a public interest threshold and aims to preserve critical functions, while insolvency is the default option and focuses on winding-up and liquidation. Under the EU framework, DIS are required, in specified circumstances, to contribute to resolution actions that preserve deposits, and may also be used to help fund measures, in insolvency, as an alternative to payout.[9]

6. **This paper takes stock of the range of alternative measures that may be funded by DIS and the accompanying safeguards.** It is based on responses to a survey of IADI members conducted in early 2019 by the Financial Stability Institute (FSI) of the Bank for International Settlements and IADI. The survey gathered information on alternative measures to payout for which DIS resources could be used; the safeguards in place to prevent excessive depletion of available funds; and the parallel existence of resolution funds. Section 2 summarises the findings from the survey. Based on these findings, Section 3 discusses various considerations that may inform choices about how DIS resources might be used to support resolution or insolvency. Section 4 contains brief concluding remarks.

6 The Core Principles provide guidance for the establishment of effective DIS and are flexible enough to accommodate different types of institutional arrangements, with varying mandates and objectives.

7 In the United States, all insured depository institutions are excluded from the scope of the US Bankruptcy Code. In failure, they are subject to Federal Deposit Insurance Corporation (FDIC) receivership under the Federal Deposit Insurance Act (FDI Act) and the DI fund is available to fund purchase and assumption (P&A) measures in the receivership or pay out insured deposits, depending on which is the least cost option. Conversely, US bank holding companies may file for bankruptcy, or be placed into bankruptcy, under the US Bankruptcy Code. Proceedings under the Bankruptcy Code could result in either a reorganisation or a liquidation of a bank holding company and do not involve the FDIC as conservator or receiver. However, if it is determined that such proceedings under the Bankruptcy Code would have serious adverse effects on US financial stability, a bank holding company may be resolved by the FDIC under Title 2 of the Dodd-Frank Act. DIS resources are not involved in the bankruptcy or resolution of bank holding companies. For more information, see FDIC (2017).

8 For a discussion of these concepts, see Baudino et al (2018).

9 See Annex 3 for an overview of the treatment of DI funds under the EU regime.

Section 2 – Use of DIS resources – findings from the survey

Overview

7. **This section presents the findings of a survey of IADI membership conducted by the FSI and IADI in early 2019.**[10] The survey contained questions about the range of purposes for which DIS resources may be used, with particular focus on funding transfers to purchasers or a bridge bank and provision of capital and/or liquidity support inside and outside of resolution or insolvency. In addition, it covered any financial caps on the amount of DIS resources that may be used for alternative measures; responsibility for decision-making that implies use of DIS resources; and the existence of any separate resolution fund and of depositor preference under the national legal framework. Responses were received from 53 deposit insurers. Additional information about the availability of backup funding to ensure that the DIS can continue to meet its objective if its paid-in resources are depleted was taken from the most recent IADI Annual Survey (IADI (2018)).

8. **Around 60% of the DIS that replied to the survey can use their resources for alternative measures.**[11] Of the 53 DIS that responded to the survey, 21 indicated that they could use their resources for payout only.[12] Given the focus of the paper on alternative measures, those DIS are not included in the findings and the paper focuses on the remaining 32 that can use resources for alternative measures.

9. **The summary findings below illustrate the range of practices within those 32 DIS.** These findings are elaborated in the rest of this section, which focuses on different tools and safeguards in turn. Tables A.1 and A.2 in Annex 1 set out detailed information about the features summarised below.

- A large majority (more than 80%) may fund transfers of insured deposits, and possibly other liabilities, of the failed bank to another bank. A smaller percentage (just over 60%) may also fund transfers to a bridge bank.
- Two thirds (68%) are able to provide some form of financial assistance – either capital or liquidity support, or both – to banks in resolution or to stressed banks to prevent failure.
- Half (50%) are able to both fund transfers and provide some form of financial assistance. In over half (60%) of those cases, the deposit insurance authority (DIA) is also the resolution authority.
- Out of the entire sample of 32 DIS, 14 DIAs have a dual mandate as deposit insurer and resolution authority and the vast majority of those (11, nearly 80%) are able to use DIS resources for both transfers and some form of financial assistance.
- In the vast majority of cases (almost 85%), the amount of DIS resources that can be used in an individual case for measures other than payout is capped by reference to the losses the DIS would

[10] Data from this survey are labelled as obtained from the 2019 ad hoc survey. The other main source of data is the IADI Annual Survey published in 2018. All information reported in the tables and the text is as provided by the relevant DIS in their responses to those surveys, or subsequently verified.

[11] This proportion is in line with figures covering the whole IADI membership, which show that around one third of those DIS are paybox-only (IADI (2018)).

[12] This includes a number of EU or European Economic Area (EEA) DIS (Belgium, Bulgaria, the Czech Republic, Germany (Entschädigungseinrichtung deutscher Banken (EdB), Liechtenstein, Romania and Sweden) that are required under the EU resolution framework to contribute funds where a resolution measure preserves access to insured deposits, but otherwise have no discretion to use DIS resources for purposes other than payout. Germany has several DIS or institutional protection schemes (IPS) – the aforementioned EdB, which is excluded from the sample, being the largest. The sample includes two other German schemes: the DPFB, a voluntary scheme aimed at protecting deposits of banks' customers beyond the protection level provided under the statutory deposit protection scheme; and the BVR, an IPS.

have incurred if it had paid out covered deposits in liquidation. In more than half (around 65%) of the frameworks that impose a financial cap or least cost principle, the cap is binding in all circumstances. Accordingly, around 35% of those frameworks allow that limit to be overridden when specified conditions are met.[13] However, of the 14 DIAs that are resolution authorites, five are subject to a hard cap that cannot be overridden.

- There is some form of depositor preference in aroudn 65% of the jurisdictions represented in the survey, with little correlation between this feature of the legal framework and the mandate of the deposit insurer or the range of purposes for which DI funds may be used.
- A bank resolution fund, separate from the DIS, is only available in over 40% of the jurisdictions represented in the survey. Over half of those (eight out of 14) are EU or EEA member states that are required to maintain both DIS and resolution funds under EU law. The survey results show no clear link between the availabity of a resolution fund and the extent to which DIS funds are also available to support alternative measures.

Uses of DIS resources

Purchase and assumption (P&A) transactions

10. **A substantial majority of the DIS can provide funds to support the transfer of activities to a solvent bank through P&A transactions.** In P&A transactions, some or all of the deposits, and possibly other liabilities, are transferred from the failing bank to an acquiring bank. The transfer is backed with an equivalent value of assets of the failing bank, provided sufficient assets are available. Where there is a shortfall between assets and liabilities for transfer, funding from another source is required. Twenty-six DIS can support some form of P&A transaction involving, at a minimum, the transfer of deposits (Table 1). The use of DIS resources to support these transactions can fulfil the depositor protection objective of DIS where it is permitted by the legal framework and the DIS mandate. However, the extent to which this option is available in practice will depend on additional factors such as the structure of the banking sector,[14] the cost of alternative liquidation options, and the mandate and associated powers of the DIA. Six DIS cannot fund any form of transfer.[15]

11. **Of the 26 DIS that are able to fund some form of P&A, all may provide funds to facilitate transfer of insured deposits.** By contrast, only 10 of those DIS are able to fund transfers of all deposits and only seven can cover transfers of all liabilities. However, even if the DIS is able to fund the transfer of liabilities other than covered deposits, the amount that can be provided may be limited by a financial cap and by the size of available DIS resources.[16] The latter constraint may be alleviated by some form of backup funding. Table 1 sets out the type of backup funding available for each DIS that can fund transfers. It also indicates the jurisdictions where depositor preference applies. Depositor preference may facilitate the protection of deposits by P&A transactions by permitting differential treatment of deposits compared with more junior liabilities that are not transferred.

[13] Frameworks that do not include a financial cap and those where exemptions or overrides are available constitute just under half of the sample, while frameworks that apply a hard cap represent just over half (51%).

[14] Resolution or insolvency options based on transferring the failing bank's deposits while closing the bank are likely to be more feasible in markets where the pool of possible acquirers is large and the target banks are sufficiently homogeneous.

[15] These are the DIC-BS (Bahamas), FGC (Brazil), COSEDE (Ecuador), BVR (Germany), FGD (Spain) and SLDIS (Sri Lanka).

[16] These potential constraints are discussed in more detail in a subsequent subsection.

Purchase and assumption transactions

Table 1

	Type of liability transferred			Depositor preference?	Supplementary sources of funding	
Country (DIS)	Insured deposits	Uninsured deposits	Other liabilities	Yes/No	Public backup funding?	Private borrowing
Australia (FCS)	✓	×	×	✓	✓	
Barbados (BDIC)	✓	×	×	×	✓	✓
Canada (CDIC)	✓	✓	✓	×	✓	✓
Colombia (Fogafín)	✓	✓	✓	✓	✓	✓
Finland (DGF)	✓	×	×	✓	×	✓
Germany (DPFB)	✓	×	×	✓	×	✓
Honduras (FOSEDE)	✓	×	×	✓	✓	×
Indonesia (IDIC)	✓	✓	×	✓	✓	✓
Italy (FITD)	✓	✓	✓	✓	×	✓
Jamaica (JDIC)	✓	✓	✓	×	✓	✓
Japan (DICJ)	✓	×	×	×	✓	✓
Korea (KDIC)	✓	×	×	×	✓	✓
Mexico (IPAB)	✓	✓	✓	✓	✓	✓
Moldova (FGDSB)	✓	×	×	×	✓	×
Mongolia (DICoM)	✓	✓	✓	×	✓	✓
Morocco (SGFG)	✓	✓	×	×	✓	✓
Nigeria (NDIC)	✓	✓	×	✓	✓	✓
Norway (NBGF)	✓	×	×	✓	✓	✓
Poland (BFG)	✓	×	×	✓	✓	✓
Russia (ASV)	✓	×	×	✓	✓	✓
Serbia (AOD)	✓	×	×	✓	✓	✓
Singapore (SDIC)	✓	×	×	×	×	×
Turkey (SDIF)	✓	×	×	✓	✓	✓
UK (FSCS)	✓	×	×	✓	✓	✓
Uruguay (COPAB)	✓	×	×	✓	✓	✓
US (FDIC)	✓	✓	✓	✓	✓	✓

The following DIS cannot fund transfers: DIC-BS (Bahamas), FGC (Brazil), COSEDE (Ecuador), BVR (Germany), FGD (Spain), SLDIS (Sri Lanka).

The Spanish FGD is able to fund transfers as measures to prevent the failure of a member bank, but cannot fund transfers in the context of an insolvency procedure.

Source: 2019 ad hoc survey and IADI (2018).

12. **DIS funding for P&A transactions can take various forms.** Some DIS are only able to provide cash to the assuming bank (eg AOD (Serbia), IDIC (Indonesia)), while others have a wider range of options, including asset purchase from the failed bank (eg DICJ (Japan), KDIC (Korea)), loss-sharing agreements[17] (eg CDIC (Canada), FDIC (United States), IPAB (Mexico), SDIC (Singapore)) and provision of guarantees (eg CDIC, Fogafín (Colombia)). Some DIS provide loans against security (eg JDIC (Jamaica), SLDIS (Sri Lanka)). Most DIS that can fund transfers have some flexibility as to the form in which that support is provided. For example, the CDIC has broad powers to provide funding, including guarantees with or without security and entering into necessary arrangements, including loss-sharing; FITD (Italy) may provide cash or guarantees to the purchaser; JDIC may provide loans on the basis of security or guarantees; and SDIC may support a transfer with cash, guarantees or loss-sharing arrangements. Annex 2 describes practices of the FDIC and the FGD (Spain) in relation to financial support for P&A transactions.

Bridge bank transactions

13. **In some cases, DIS resources may also be used to finance a bridge bank (BB) transaction.** This depends on whether the applicable resolution or insolvency framework provides for the use of bridge banks. Where there is no immediate buyer for a P&A transaction, deposits and selected liabilities, backed by assets, may be transferred to a temporary entity, ie the bridge bank. Because this preserves access to deposits until a purchaser can be found, the DIS may fulfil its depositor protection objectives by providing funds to meet a shortfall between assets and liabilities for transfer.

14. **Fewer DIS are able to finance a BB transaction than can fund P&As.** In the sample, 21 DIS are able to fund BB transactions, five fewer than can fund P&As,[18] reflecting the fact that BB transactions are not available as a resolution tool in all the national legal frameworks represented in the survey (Table 2). Of the 21 DIS that can contribute funds to BB transactions, 20 can cover the transfer of insured deposits, 10 can fund the transfer of all deposits, and only eight can support a transfer of all liabilities.[19] The support can take various forms, such as monetary grants to the bridge bank, asset purchases from the bridge bank and capital increases in the bridge bank. As in a P&A transaction, the feasibility of a BB transaction is affected by constraints, such as the cost of alternative liquidation options and the mandate of the DIS.

[17] A loss-sharing P&A may be used, if permitted by the DIS mandate, where there are few willing buyers – for example, because assets are difficult to value in prevailing market conditions. The DI agrees to share a specified portion of any future losses arising over a specified period from assets that are included in the P&A. This option, which requires the DIS to be able to establish contingent liabilities, may limit the amount of DI funds that need to be provided upfront to support a P&A, but also potentially increases eventual costs to the DI fund in the event that the assets turn out to be of worse quality than expected. The FDIC entered into loss-sharing agreements during the GFC. For more details, see FDIC (2017) and Annex 2.

[18] BDIC (Barbados), FGDSB (Moldova), NDIC (Nigeria), ASV (Russia), SDIF (Turkey) and COPAB (Uruguay) can only fund P&As.

[19] In one case (DICoM (Mongolia)), DIS resources may be used to capitalise a bridge bank.

Bridge bank transfer

Table 2

	Type of liability transferred			Capital support	Supplementary sources of funding	
Country (DIS)	Insured deposits	Uninsured deposits	Other liabilities	Yes/No	Public backup funding	Private borrowing
Australia (FCS)	✓	×	×	✓	✓	×
Canada (CDIC)	✓	✓	✓	✓	✓	✓
Colombia (Fogafín)	✓	✓	✓	✓	✓	✓
Finland (DGF)	✓	×	×	×	×	✓
Germany (DPFB)	✓	✓	✓	✓	×	✓
Honduras (FOSEDE)	✓	×	×	✓	✓	×
Indonesia (IDIC)	✓	✓	×	×	✓	✓
Italy (FITD)	✓	✓	✓	×	×	✓
Jamaica (JDIC)	✓	✓	✓	×	✓	✓
Japan (DICJ)	✓	×	×	✓	✓	✓
Korea (KDIC)	✓	×	×	✓	✓	✓
Nigeria (NDIC)	✓	✓	✓	×	✓	×
Mexico (IPAB)	✓	✓	✓	✓	✓	✓
Mongolia (DICoM)	×	×	×	✓	✓	×
Morocco (SGFG)	✓	✓	×	✓	✓	✓
Norway (NBGF)	✓	×	×	×	✓	✓
Poland (BFG)	✓	×	×	✓	✓	✓
Serbia (AOD)	✓	×	×	×	✓	✓
Singapore (SDIC)	✓	×	×	×	×	×
UK (FSCS)	✓	×	×	×	✓	✓
US (FDIC)*	✓	✓	✓	×	✓	✓

* Uninsured deposits and other liabilities may be assumed by the bridge depository institution where consistent with the least cost test or a systemic risk exception.

The following DIS cannot fund BB transfers: DIC-BS (Bahamas), BDIC (Barbados), FGC (Brazil), COSEDE (Ecuador), BVR (Germany), FGDSB (Moldova), ASV (Russia), FGD (Spain), SLDIS (Sri Lanka), SDIF (Turkey), COPAB (Uruguay).

Source: 2019 ad hoc survey and IADI (2018).

Capital support

15. **Just over half of the DIS may provide capital to scheme members, either as a measure to prevent insolvency or within resolution, or both.** As shown in Table 3, of the 17 DIS that can contribute capital, five[20] may provide capital support to member banks both prior to insolvency and in resolution, and each of those can also provide liquidity in at least some circumstances. Six DIS[21] may only provide capital to banks that are not yet insolvent. Six[22] may only provide capital to banks in resolution.

[20] CDIC (Canada), DPFB (Germany), KDIC (Korea), FCGB (Morocco) and NBGF (Norway).

[21] DIC-BS (Bahamas), FGC (Brazil), BVR (Germany), FITD (Italy), NDIC (Nigeria) and FGD (Spain).

[22] Fogafín (Colombia), IDIC (Indonesia), DICJ (Japan), IPAB (Mexico), SDIF (Turkey) and COPAB (Uruguay).

Capital support

Table 3

Country (DIS)	Capital support		Safeguards*		Supplementary sources of funds**	
	Outside of resolution	To bank in resolution	Financial cap	Capacity to override financial cap	Public backup funding?	Private borrowing
Bahamas (DIC-BS)	✓	×	×	-	✓	✓
Brazil (FGC)	✓	×	✓	✓	×	✓
Canada (CDIC)***	✓	✓	✓	✓	✓	✓
Colombia (Fogafín)	×	✓	✓	✓	✓	✓
Germany (BVR)	✓	×	✓	×	×	✓
Germany (DPFB)	✓	✓	×	-	×	✓
Indonesia (IDIC)	×	✓	✓	✓	✓	✓
Italy (FITD)	✓	×	✓	×	×	✓
Japan (DICJ)	×	✓	✓	✓	✓	✓
Korea (KDIC)	✓	✓	✓	✓	✓	✓
Mexico (IPAB)	×	✓	✓	✓	✓	✓
Morocco (FCGB)	✓	✓	✓	×	✓	✓
Nigeria (NDIC)	✓	×	✓	✓	✓	×
Norway (NBGF)	✓	✓	✓	×	×	✓
Spain (FGD)	✓	×	✓	×	×	✓
Turkey (SDIF)	×	✓	✓	✓	✓	✓
Uruguay (COPAB)	×	✓	✓	×	✓	✓

* See following subsection for discussion of financial caps and associated overrides.

** Public backup funding refers to sources such as emergency government funding (including loans) or loans from the central bank. Private borrowing includes access to private markets (including bond issuance), loans from commercial banks, and the ability to levy extraordinary premiums from members. In five cases, (DIC-BS (Bahamas), FGC (Brazil), BVR (Germany), FITD (Italy) and FCGB (Morocco)), private borrowing is limited to the ability to levy extraordinary premiums from members. See Table 7 for details. The BVR acts as a private IPS to prevent the resolution of institutions.

*** The CDIC is subject to a statutory loss minimisation objective. There is no legislative cap on the amount of capital support that the CDIC may provide. While the available resources are finite and there is a legislated limit to the CDIC's capacity for borrowing, that can be increased by parliament.

The following DIS do not provide capital to member banks, either as a measure to prevent insolvency or within insolvency, or both: FCS (Australia), BDIC (Barbados), COSEDE (Ecuador), DGF (Finland), FOSEDE (Honduras), JDIC (Jamaica), FGDSB (Moldova), DICoM (Mongolia), BFG (Poland), ASV (Russia), AOD (Serbia), SDIC (Singapore), SLDIS (Sri Lanka), FSCS (United Kingdom), and FDIC (United States).

Source: 2019 ad hoc survey and IADI (2018).

16. **Some DIS are able to provide capital support prior to insolvency, as a preventative measure.** In some cases,[23] this is part of a broad set of powers that also include resolution tools. For example, the CDIC (Canada) has an explicit statutory mandate, in addition to depositor protection, to "promote and otherwise contribute to the stability of the financial system", and may pursue that mandate

23 For example, CDIC (Canada) and KDIC (Korea).

through preventative action where that is consistent with its loss minimisation objective. Accordingly, where a bank is in financial stress so that its future viability is in serious doubt, but it has not yet reached the conditions for resolution or insolvency, the CDIC may support a restructuring action through measures such as acquiring assets.[24] In other cases, the DIS can only provide capital support as a preventative measure prior to insolvency and, once a bank has failed, may only pay out. Within the sample of DIS surveyed, this is a feature more characteristic of private schemes.[25] As discussed in Annex 3, the option to use DIS resources for preventative measures is permitted for any DIS under the EU framework, and this option has been adopted by four of the 10 EU deposit insurers in the sample.[26]

Liquidity support

17. **Around two thirds of DIS can provide liquidity assistance, either as a measure to prevent insolvency or within resolution, or both.** As shown in Table 4, of the 20 DIS that can provide liquidity to member banks, five[27] can do so both prior to insolvency and in resolution, and each of those can also provide capital support in at least some circumstances. Five DIS[28] can only provide liquidity to pre-insolvent banks, and all but one, SLDIS (Sri Lanka), can also provide capital assistance in the same circumstances. The others can only provide liquidity to banks in resolution. Four of those[29] can also provide capital support in resolution, while the others can provide liquidity. However, not all DIS that are able to provide liquidity support have actually done so, or do so regularly.[30]

18. **Practices vary as to whether DIS require collateral.** This may depend, among other things, on how liquidity provision by the DIS interacts with central bank facilities. For example, IPAB (Mexico) may provide liquidity to systemic banks in administration that have been receiving emergency liquidity assistance (ELA) from the central bank but have failed to comply with the terms. In that situation, IPAB may lend funds, sufficient to cover the central bank's loan, and once the central bank is repaid, it will receive the security originally pledged to the central bank. Some DIS accept lower-quality collateral than would be required for central bank liquidity. For example, Fogafín (Colombia) may accept loans of lower quality than those eligible for ELA, subject to haircuts calibrated to reflect the risk, and may also buy assets, including real estate, from a bank in order to provide it with cash. Others do not require collateral.[31] In other cases, protection of the DIS is achieved through its control of the bank that receives the assistance. For example, SDIF (Turkey) only provides liquidity (or capital support) to a bank in resolution if it owns all or the majority of the shares in that bank.

19. **Some DIS are able to provide liquidity support prior to insolvency, as a preventative measure.**[32] For example, the Brazilian DIS, the FGC, may engage in financial support and liquidity operations with member institutions that are still solvent under its Liquidity Assistance Programme. While

24 Other measures by which the CDIC may support a restructuring action of a bank in financial stress that has not yet reached the conditions for resolution or insolvency include providing or guaranteeing loans and/or making deposits.

25 For example, FGD (Brazil) and BVR (Germany).

26 These are DPFB and BVR (Germany), FITD (Italy) and FGD (Spain). As already noted, the BVR is an IPS for cooperative banks, and the DPFB is a voluntary scheme aimed at protecting deposits of banks' customers beyond the protection level provided under the statutory deposit protection scheme.

27 CDIC (Canada), Fogafín (Colombia), DPFB (Germany), KDIC (Korea) and NDIC (Nigeria).

28 FGC (Brazil), BVR (Germany), FITD (Italy), FGD (Spain) and SLDIS (Sri Lanka).

29 IDIC (Indonesia), IPAB (Mexico), SDIC (Singapore) and SDIF (Turkey).

30 For example, FITD (Italy) has no experience of using its power to provide liquidity as a "preventative" measure. Fogafín (Colombia) used liquidity support during the Colombian financial crisis in 1998, but has not used it since.

31 For example, DICJ (Japan) may lend funds to a bank in insolvency to enable payment of insured deposits without disadvantaging other creditors, since there is no depositor preference in Japan. Such loans are not secured.

32 This includes several EU DIS that have implemented an option under the EU framework: DPFB and BVR (Germany), FITD (Italy) and FGD (Spain).

FGC resources may only be used for payout once a bank is in resolution or insolvency, a member bank that is not insolvent may apply to the FGC for liquidity assistance if there is a risk of default in payment arising from lack of liquidity. In assessing the request, the FGC considers whether the bank would be viable following the repayment of the liquidity assistance and consults the central bank as to whether default by the bank would have a systemic impact. There are no fixed limits for liquidity assistance and the amount is decided on a case by case basis. The mechanism by which liquidity is provided involves the purchase by the FGC of certificates of deposit (CDs) issued by the bank, with eligible portfolios as collateral (generally with a coverage of 110–140%). The tenor of the CDs matches the maturity of the collateral.

Liquidity assistance

Table 4

	Provision of liquidity		Safeguards*		Supplementary sources of funds**	
Country (DIS)	Outside of resolution	To bank in resolution	Financial cap	Capacity to override financial cap	Public backup funding?	Private borrowing
Barbados (BDIC)	✗	✓	✗	-	✓	✓
Brazil (FGC)	✓	✗	✓	✓	✗	✓
Canada (CDIC)***	✓	✓	✓	✓	✓	✓
Colombia (Fogafín)	✓	✓	✓	✓	✓	✓
Ecuador (COSEDE)	✗	✓	✓	✗	✗	✓
Germany (BVR)	✓	✗	✓	✗	✗	✓
Germany (DPFB)	✓	✓	✗	-	✗	✓
Indonesia (IDIC)	✗	✓	✓	✓	✓	✓
Italy (FITD)	✓	✗	✓	✗	✗	✓
Jamaica (JDIC)	✗	✓	✓	✗	✓	✓
Japan (DICJ)	✗	✓	✓	✓	✓	✓
Korea (KDIC)	✓	✓	✓	✓	✓	✓
Mexico (IPAB)	✗	✓	✓	✓	✓	✓
Mongolia (DICoM)	✗	✓	✓	✗	✓	✓
Morocco (FCGB)	✗	✓	✓	✗	✓	✓
Nigeria (NDIC)	✓	✓	✓	✓	✓	✗
Norway (NBGF)	✗	✓	✓	✗	✗	✓
Spain (FGD)	✓	✗	✓	✗	✗	✓
Sri Lanka (SLDIS)	✓	✗	✓	✗	✗	✗
Turkey (SDIF)	✗	✓	✓	✓	✓	✓

* See following subsection for a discussion of financial caps and associated overrides.

** Public backup funding refers to sources such as backup government funding (including loans) or loans from the central bank. Private borrowing includes access to private markets (including bond issuance), loans from commercial banks, and the ability to levy extraordinary premiums from members. For five DIS (BDIC (Barbados), FGC (Brazil), DPFB (Germany), FITD (Italy), FCGB (Morocco)), private borrowing is limited to the ability to levy extraordinary premiums. See Table 7 for details.

*** The CDIC is subject to a statutory loss minimisation objective. There is no legislative cap on the amount of liquidity assistance that the CDIC may provide. While the available resources are finite and there is a legislated limit to the CDIC's capacity for borrowing, that can be increased by parliament.

The following DIS do not provide liquidity to member banks, either as a measure to prevent insolvency or within insolvency, or both: FCS (Australia), DIC-BS (Bahamas), DGF (Finland), FOSEDE (Honduras), FGDSB (Moldova), BFG (Poland), ASV (Russia), AOD (Serbia), SDIC (Singapore), FSCS (United Kingdom), COPAB (Uruguay) and FDIC (United States).

Source: 2019 ad hoc survey and IADI (2018).

Safeguards

Financial caps

20. **In order to protect DIS resources against excessive depletion, most jurisdictions impose some form of cap on the amount of funds that can be used for purposes other than payout (Table 5).** This is consistent with IADI Core Principle 9, which specifies that where the legal framework enables the DIS to authorise the use of its funds for purposes other than liquidation, the cost of such measures to the DIS is not higher than the cost of a payout of insured depositors in liquidation, net of expected recoveries. The nature of this safeguard varies. In some jurisdictions, it takes the form of a least cost test,[33] which requires the DIA to select the lowest cost option from a range of possible measures that includes liquidation and payout. A least cost test tends to be more constraining than the form of the safeguard that caps the amounts that the DIS may provide to fund alternative measures at the costs it would have incurred through payout, net of expected recoveries. However, the stringency of either form of the safeguard will depend on the factors that can be taken into account when assessing the costs of the available options, including payout. For example, approaches vary as to whether that assessment takes into account broader financial stability implications.

21. **A financial cap applies for the majority of DIS.** Only five DIS are not subject to any form of financial cap.[34] The DIS that are subject to a cap fall into two broad categories: those in which the cap can be overridden (10 DIS) and those in which it cannot (17 DIS) (Table 5).

22. **The way in which the financial cap applies varies across jurisdictions.** For instance, the least cost test in the US framework requires the FDIC to compare the cost of bids received from potential acquirers with the costs it would incur through liquidating the failing bank in its capacity as receiver and paying off insured depositors up to the current insured amount, net of its expected recoveries as subrogee to the claims of those depositors. The FDIC must pursue the lowest cost option. By contrast, under the EU framework for deposit insurance, the safeguard takes the form of a financial cap, so that, provided the cost to the DIS of funding alternative measures does not exceed the cost of payout of the covered deposits in liquidation, the contribution is not capped at the least costly option. This in principle gives some flexibility to take into account broader factors, such as the impact of different options on the availability of banking services in a region or disruption to customers. A similar concept applies to the Singapore DIS (SDIC), which uses the concept of "equivalent cost".[35] This caps the amount that the DI fund may contribute to resolution measures at the amount, net of recoveries, that would have been paid out if the DIS member had been liquidated instead of resolved. A pertinent difference between these jurisdictions is that while the FDIC has a dual mandate and chooses the method of resolution or insolvency in its capacity as receiver, the functions of deposit insurance and resolution or insolvency are institutionally separate in the others.[36] Box 1 provides some additional details on national practices.

[33] The IADI Glossary defines the least cost test as "a procedure that requires the resolution authority to implement the resolution option, including liquidation of the failed bank that is least costly to the resolution authority, the financial system or the deposit insurance system".

[34] FCS (Australia), DIC-BS (Bahamas), BDIS (Barbados), DPFB (Germany) and FGDSB (Moldova). In addition, in Canada, the CDIC is subject to a statutory loss minimisation objective. See Box 1.

[35] See Monetary Authority of Singapore (2017).

[36] The EU framework does not prescribe which institution should be designated as national resolution authority. However, only five of the 28 EU member states have conferred resolution functions on the deposit insurer. In three of those (Croatia, Denmark and Estonia) the functions are divided between the deposit insurer and the supervisor and/or central bank, while in Sweden the National Debt Office (Riksgälden) is responsible for both deposit insurance and resolution, in addition to other functions. In Poland, the DIS (BGF) is the designated national resolution authority. This information is taken from the European Banking Authority's list of resolution authorities: https://eba.europa.eu/about-us/organisation/resolution-committee/resolution-authorities.

Safeguards and constraints Table 5

Country (DIS)	Capacity to override financial cap	Is there a separate resolution fund?
Brazil (FGC)	✓	✗
Canada (CDIC)**	✓	✗
Colombia (Fogafín)	✓	✗*
Ecuador (COSEDE)	✗	✗*
Finland (DGF)	✓	✓
Germany (BVR)	✗	✓
Honduras (FOSEDE)	✗	✗
Indonesia (IDIC)	✓	✓
Italy (FITD)	✗	✓
Jamaica (JDIC)	✗	✗
Japan (DICJ)	✓	✗
Korea (KDIC)	✓	✗
Mexico (IPAB)	✓	✗
Mongolia (DICoM)	✗	✓
Morocco (FCGB)	✗	✗
Nigeria (NDIC)	✓	✗
Norway (NBGF)	✗	✓
Poland (BFG)	✗	✓
Russia (ASV)	✗	✓
Serbia (AOD)	✗	✗
Singapore (SDIC)	✗	✓
Spain (FGD)	✗	✓
Sri Lanka (SLDIS)	✗	✗
Turkey (SDIF)	✓	✗
UK (FSCS)	✗	✓
Uruguay (COPAB)	✗	✗
US (FDIC)	✗	✗

* The DIS resources are calibrated to a level intended to encompass resolution. For example, the fund managed by the CDIC, which contains over CAD 5 billion, is not segregated into resources for "deposit insurance" and "resolution", but is available for any purpose within the CDIC's statutory mandate and functions.

** The CDIC is subject to a statutory loss minimisation objective. See Box 1.

Five DIS in the sample do not impose any form of financial cap and are therefore not included in the table. These are: FCS (Australia), DIC-BS (Bahamas), BDIS (Barbados), DPFB (Germany) and FGDBS (Moldova).

Source: 2019 ad hoc survey.

23. **In practice, it is hard to quantify the expected costs of liquidation and the estimate will depend on several factors.** First, accurate valuation requires a sufficiently long time series of comparable bank liquidations, which may not be available in all countries. The cost assessment needs to reflect the value of assets realised in a liquidation and the likely recoveries of the DIS in that process. However, this is complex because of the high uncertainty about the value of assets in insolvency, and because assessment entails both a gone-concern (liquidation) valuation and a going-concern valuation based on the transfer of assets to a healthy bank. Those calculations are likely to be affected by the following

considerations: the value or base date,[37] the assumed length of the liquidation process, and the structure of the financial system.[38] The calculation will also need to take into account the administrative cost of each type of transaction to the DIS if it conducts the procedure.

24. **Unless other sources of funding are available, a hard cap could preclude insolvency or resolution options that involve the use of more DIS resources than payout.** Waiving the cap in specified circumstances could allow the use of DIS resources to support measures that help to reduce impacts of the failure on financial stability. However, as Table 5 indicates, an override is available in just over a third of the cases in the sample where some form of financial cap or least cost test applies. In all other cases, the cap is binding in all circumstances.

25. **Where available, a resolution fund provides a specific source of funding for resolution measures, and may reduce or obviate the need to use DIS resources for this purpose.** This is particularly relevant for systemic banks, which are more likely to be resolved using a resolution fund than liquidated. This might imply that if a resolution fund is available, the ability to override any cap on use of DIS resources is less likely to be relevant, since DIS resources are less likely to be used to manage failures of systemic banks. However, resolution funds currently exist in less than half of the jurisdictions represented in the sample. Nonetheless, there seems to be some evidence of this pattern (Table 5). Among the 10 DIS for which the financial cap can be overridden, eight are in jurisdictions where there is no resolution fund. On the other hand, when the cap cannot be overridden (17 DIS), there seems to be no difference whether a resolution fund exists (nine DIS) or not (eight cases).

26. **Where a financial cap applies, depositor preference may also affect the amount of DIS resources that may be available for alternative measures.**[39] There are variants of depositor preference, including: general preference for all deposits (insured deposits rank pari passu with other deposits but higher than other senior unsecured creditors); tiered preference, with covered deposits ranking higher than other deposits; and preference for insured or covered deposits only. As a general principle, where the DIS is subrogated to the claims of covered depositors in insolvency, depositor preference is likely to result in higher recoveries and lower net costs for the DIS. If the financial cap or least cost test is calculated net of the expected recoveries of the DIS in liquidation, depositor preference can therefore significantly reduce the amount of DI funds that are available to support transactions in insolvency or resolution. The survey results show that, in the 21 cases where there is some form of depositor preference, more than half (12) of those also have a hard cap with no possibility of override. By contrast, six have a cap that may be overridden, and in three cases the amount of funds available for alternative measures is uncapped. However, the extent to which funds available for alternative measures are reduced in practice will depend on the type of depositor preference: a super-priority for covered depositors may have a stronger impact than general depositor preference, where the covered deposits may share losses with other depositors.

[37] The calculation of least cost depends on the estimated value of assets. Assets can be valued in several ways – book value, liquidation value, or the discounted cash flow value – all of which may go through considerable fluctuations during a crisis.

[38] The least cost calculation may be more robust in countries that have a large number of relatively homogeneous small and medium-sized banks, so there is a sufficient sample of previous failures to inform that assessment.

[39] According to IADI (2018), 67% of DIS operate under legal frameworks with some form of depositor preference.

Box 1

Examples of financial caps when DIS resources are used for purposes other than payout

Canada Deposit Insurance Corporation (CDIC)

The statutory objectives of the CDIC specify that it should pursue its objectives of depositor protection and promoting or contributing to financial stability in Canada in a way that minimises its exposure to loss. The CDIC generally uses its expected losses in a liquidation scenario as a baseline against which the costs and losses of other options are assessed. The loss minimisation objective is not construed as a least cost obligation, but is considered in light of its objectives as a whole. The loss minimisation objective can be waived for reasons of financial stability.

Indonesia Deposit Insurance Corporation (IDIC)

IDIC is subject to a least cost test and applies it using a model consisting of five parts: input about the financial condition of a failing bank; asset valuation; asset recovery calculation; cost and revenue projection; and least cost test result. Using this model, IDIC assesses the available options, which may include some or all of liquidation, P&A, use of a bridge bank, and open bank assistance. In the case of a non-systemic bank, if open bank assistance is the least costly, additional requirements apply, so that it may only be adopted if the estimated cost is no more than 75% of the liquidation alternative and the support is expected to restore the bank to viability. For systemic banks, liquidation is not an option, but the least cost test applies to the choice of other measures.①

Korea Deposit Insurance Corporation (KDIC)

The KDIC is subject to a least cost principle that stipulates it should apply its funds in a manner that minimises any loss to the DI fund. However, if the KDIC Committee considers that the liquidation or bankruptcy of an insolvent financial institution might seriously undermine the stability of the financial system, the KDIC can provide financial assistance without regard to the least cost principle.

Instituto para la Protección al Ahorro Bancario (IPAB) (Mexico)

In the liquidation of a bank, IPAB may use DI funds to support alternative measures to payout, including transfer of assets and liabilities or use of a bridge bank, subject to a least cost rule that stipulates that the estimated cost of such measures is less than the estimated total cost of payment of guaranteed obligations. For non-systemic banks, this principle cannot be overridden. However, open bank assistance provided to systemic banks in resolution is not subject to the same constraint.

European Union and European Economic Area

Under the Deposit Guarantee Scheme Directive (DGSD), member countries may allow the use of deposit guarantee schemes (DGS) funds for measures other than payout prior to insolvency to prevent the failure of a bank (Article 11.3) and/or in the context of insolvency proceedings to finance measures that preserve access of depositors to covered deposits (Article 11.6) (Annex 2). A form of financial cap applies to both types of measure. The cost to the DGS of preventative measures must not exceed the costs of fulfilling its statutory or contractual mandate, and the cost of measures to preserve access to covered deposits in insolvency must not exceed the cost of compensating covered depositors, net of recoveries in liquidation. Member States have implemented this differently, with a least one adopting a wide interpretation that takes into account costs to the system. The framework does not provide for any exemptions or override of the financial cap.

Singapore Deposit Insurance Corporation (SDIC)

The use of SDIC funds is capped at the amount that would have been paid out to compensate depositors, net of asset recoveries, if the bank had been liquidated. This is a fixed amount that will be determined by an external assessor and is independent of the resolution strategy. However, the DI fund is one of multiple sources of financing for the resolution of DIS members, including a Resolution Fund. The resolution strategy and tools are chosen by the Monetary Authority of Singapore, guided primarily by the statutory resolution objectives, which include maintaining market confidence, financial stability and the continuity of critical functions: cost efficiency is one consideration among others.

Federal Deposit Insurance Corporation (FDIC) (United States)

The least cost principle requires the FDIC to choose the resolution method in which the total expenditures and liabilities incurred by the FDIC (including any immediate or long-term obligation and any direct or contingent liability) has the lowest cost to the DIS, regardless of other factors.② The FDIC determines the least costly resolution transaction by evaluating all possible resolution alternatives and computing costs on a present value basis, using a realistic discount rate.

① Additional options such as liquidity support by IDIC through loans or guarantees of liabilities are available if a systemic bank is subject to a Bank Restructuring Programme, which may be activated by Presidential Decision if there is a risk to the national economy. In that event, a resolution fund, also administered by IDIC, is available.
② This requirement may be waived when a determination is made by the Secretary of the Treasury, upon the recommendation of the Board of Directors of the FDIC and the Board of Governors of the Federal Reserve System, that adherence thereto "would have serious adverse effects on economic conditions or financial stability".

27. **A financial cap may reduce the scope for DIS funding of certain measures.** For example, to be effective, financial assistance (including capital and/or liquidity support) may require amounts that are not directly linked to the amount of covered deposits that will be protected. In 19 of the 22 cases in which DIS resources can be used for financial assistance, some form of financial cap applies. The amount of capital support that may be provided from DI funds is capped in almost all cases. The two exceptions are DIC-BS (Bahamas), where the DIS can only provide financial support in the form of capital outside of resolution; and DPFB (Germany), which is a private fund without backup public funding. Use of DI funds for liquidity support is capped or subject to a least cost test for 18 of the 20 DIS. While this protects the fund, it also means that the amount of liquidity support available from the DIS is necessarily limited. In eight of the 18 cases where use of DIS funds is capped, an override may be available in specified circumstances related to financial stability,[40] and in all but one of those cases (FGC (Brazil)) the DIS has access to public sources of backup funding (see Tables 3 and 4 for details).

Control in decision-making

28. **DIA involvement in decision-making about measures that imply use of DIS resources may provide a further institutional safeguard.** This is acknowledged in the IADI Core Principles,[41] but the extent of DIA control varies and the DIAs surveyed fall into three main groups (Table 6). In the 19 cases where the DIA is in control, it has discretion, within the parameters set by the legal framework, as to how the funds may be used to fulfil its mandate. The five cases where the decision is taken by another authority include arrangements in which the DIA is consulted before a final decision on the use of DI funds is taken, possibly exercising a veto power (one out of five). For example, it is typically the case that when another authority decides about the use of the DI funds, there is a financial cap that cannot be waived, or the DIA

40 FGC (Brazil), CDIC (Canada), Fogafín (Colombia), IDIC (Indonesia), DICJ (Japan), KDIC (Korea), IPAB (Mexico), NDIC (Nigeria) and SDIF (Turkey).

41 CP 9, essential criterion 8(a), specifies, as a condition for use of DIS funds to support resolution that is executed by another authority, that the DIA should be informed and involved in the resolution decision-making process.

is consulted about the decision and has a veto power (five out of seven). Within the sample, however, two cases – Australia[42] and Serbia – do not include at least one of these safeguards for the DIA.

DIS control over decision making about use of and veto powers | Table 6

	Country (DIS)	Decision-maker: DIA and/or AA*	Joint decision: DIA veto?	AA: consultation of DIA?	AA: DIA veto?	Is DIA also a resolution authority?
1	Australia (FCS)	AA	-	✓	×	×
	Honduras (FOSEDE)	AA	-	✓	✓	×
	Serbia (AOD)	AA	-	✓	×	×
	Singapore (SDIC)	AA	-	✓	×	×
	UK (FSCS)	AA	-	✓	×	×
2	Barbados (BDIC)	DIA & AA	✓	-	-	✓
	Italy (FITD)	DIA & AA	✓	-	-	×
	Jamaica (JDIC)	DIA & AA	✓	-	-	✓
	Mongolia (DICoM)	DIA & AA	✓	-	-	×
	Russia (ASV)	DIA & AA	✓	-	-	✓
	Morocco (FCGB)	DIA & AA	×	-	-	×
	Norway (NBGF)	DIA & AA	×	-	-	×
3	Bahamas (DIC-BS)	DIA	-	-	-	×
	Brazil (FGC)	DIA	-	-	-	×
	Canada (CDIC)	DIA	-	-	-	✓
	Colombia (Fogafín)	DIA	-	-	-	✓
	Ecuador (COSEDE)	DIA	-	-	-	×
	Finland (DGF)	DIA	-	-	-	✓
	Germany (BVR)	DIA	-	-	-	×
	Germany (DPFB)	DIA	-	-	-	×
	Indonesia (IDIC)	DIA	-	-	-	✓
	Japan (DICJ)	DIA	-	-	-	✓
	Korea (KDIC)	DIA	-	-	-	✓
	Mexico (IPAB)	DIA	-	-	-	✓
	Nigeria (NDIC)	DIA	-	-	-	✓
	Poland (BFG)	DIA	-	-	-	✓
	Spain (FGD)	DIA	-	-	-	×
	Sri Lanka (SLDIS)	DIA	-	-	-	×
	Turkey (SDIF)	DIA	-	-	-	✓
	Uruguay (COPAB)	DIA	-	-	-	✓
	US (FDIC)	DIA	-	-	-	✓

* Another authority.

FGDSB (Moldova) is not included in the table, as no data were available from that survey.

Source: 2019 ad hoc survey and IADI (2018).

[42] The Australian DIS (FCS) is administered by the Australian Prudential Regulation Authority (APRA), which is also the bank resolution authority. The Australian framework caps the level of financial support that FCS can provide unless approval by the legislator is granted. In this case, the government may provide, by standing appropriation, up to AUD 20 billion to fund the transfer of protected deposit liabilities to a receiving body and up to AUD 100 million to cover administration costs, for an individual bank. Further funding would require parliamentary approval.

29. **By way of example, a common feature for nearly all DIS that can provide capital or liquidity support is control in decision-making over the use of DIS resources.** Of the 22 relevant DIS, 11 are also the national resolution authority (Table 6) and in that capacity responsible for deciding about measures that may have implications for DIS resources, while five are responsible under their governing statutory framework for decisions about the application of DI funds.[43] Four others make decisions jointly with the relevant authority (supervisor or resolution authority) or are consulted by the decision-maker, but have a veto in relation to use of DIS resources (Table 6).[44] Only one DIS (NBGF (Norway)) does not have the right of ultimate decision in relation to use of their resources for financial support measures. The NBGF makes the decision jointly with other relevant authorities.

Backup funding

30. **Backup funding arrangements enhance the capacity of DIS.** When the demand on DIS resources exceeds the available capacity – for example, in the event of the failure of a very large bank – backup funding may be required to enable the DIA to fulfil its mandate. IADI Core Principle 9 specifies that arrangements for emergency funding, which may include funding agreements with the government, the central bank or market borrowing, should be set up in advance.[45] Almost all DIS in the sample have backup funding arrangements in place (Table 7). However, the likelihood that backup funding will be needed will vary depending on the size of the DIS resources relative to total covered deposits and the size and nature of member institutions. Not all have an explicit target level, and the desired size will also depend on whether the DI fund is also intended to be used for resolution. An IADI report indicates that only 69% of respondents to its survey had a fund target size (IADI (2019)). According to IADI (2018), the level of resources of a DIS is generally expected to be sufficient to cover its potential losses under normal conditions. In practice, the fund target is affected by a number of factors, so that the methods for setting target size vary considerably across jurisdictions.

31. **Backup funding arrangements vary, but a majority of DIS in the sample rely on both private and public sources.** According to IADI (2018), all but three IADI members have backup funding arrangements, and in the majority of cases this includes both private and public sources.[46] Where the DIS is a private arrangement, backup funding also tends to be restricted to private sector sources.[47] Public backup funding is more frequently provided by governments than by the central bank alone, possibly reflecting the risk of interactions with monetary policy operations.

[43] FGC (Brazil), COSEDE (Ecuador), BVR and DPFB (Germany) and SLDIS (Sri Lanka).

[44] FOSEDE (Honduras), FITD (Italy), JDIC (Jamaica) and DICoM (Mongolia).

[45] The Core Principles also specify that market borrowing should not be the sole source of backup funding. IADI Guidance recommends that DIS prepare contingency plans for system-wide crises, since backup funding should be considered only in exceptional circumstances and the need for recourse to taxpayers' money should be minimised (IADI (2019)).

[46] COSEDE (Ecuador) is the only DIS in the sample that relies exclusively on funding from development banks and international organisations. SLDIS (Sri Lanka) is not able to borrow from private sources or levy exceptional premiums and has no access to public sources of backup funding, according to IADI (2018). DGF (Finland) cannot rely on backup or emergency funding in a scenario where the DIS is used to finance the transfer of deposits to another institution and the fund is depleted and the costs exceed the estimated payout costs.

[47] For instance, this is the case of the two funds in Germany (BVR and DPFB) and the one in Italy (FITD).

Sources of backup funding

Table 7

		Public sources			Private sources	
	Country (DIS)	Government funding (incl loans)	Loans from the central bank	Access to private markets*	Loans from private banks	Extraordinary premiums
1	Bahamas (DIC-BS)	✓	×	×	×	✓
	Barbados (BDIC)	✓	✓	×	×	✓
	Canada (CDIC)	✓	×	✓	×	✓
	Colombia (Fogafín)	✓	×	✓	×	✓
	Indonesia (IDIC)	✓	×	✓	×	×
	Jamaica (JDIC)	✓	✓	✓	×	✓
	Japan (DICJ)	×	✓	✓	✓	✓
	Korea (KDIC)	✓	✓	✓	✓	×
	Mexico (IPAB)	✓	✓	✓	✓	✓
	Mongolia (DICoM)	✓	✓	✓	✓	✓
	Morocco (FCGB)	×	✓	×	×	✓
	Nigeria (NDIC)	✓	✓	✓	×	✓
	Norway (NBGF)	✓	×	×	×	✓
	Poland (BFG)	✓	✓	✓	×	✓
	Russia (ASV)	✓	✓	✓	×	✓
	Serbia (AOD)	✓	×	×	✓	✓
	Singapore (SDIC)	×	✓	✓	✓	✓
	Turkey (SDIF)	✓	✓	✓	×	✓
	UK (FSCS)	✓	×	×	✓	✓
	Uruguay (COPAB)	✓	×	✓	✓	✓
	US (FDIC)	✓	×	×	×	✓
2	Australia (FCS)	✓	✓	×	×	×
	Honduras (FOSEDE)	×	✓	×	×	×
	Moldova (FGDSB)	✓	×	×	×	×
3	Brazil (FGC)	×	×	×	✓	✓
	Germany (BVR)	×	×	×	×	✓
	Germany (DPFB)	×	×	✓	✓	✓
	Italy (FITD)	×	×	×	×	✓
	Spain (FGD)	×	×	✓	×	✓

COSEDE (Ecuador), DGF (Finland) and SLDIS (Sri Lanka) are not included in the table, as explained in the footnotes to this section.

* This includes issuing bonds and funds from private sources.

Source: 2019 ad hoc survey; IADI (2018).

32. **Nearly all the DIS that can provide either capital or liquidity support have the ability to raise additional funds when necessary.** The majority (15 out of 22) have access to public sources of backup funding,[48] and all but two to private sources (Table 7).[49] In six cases, the ability to raise additional funds from private sources is limited to a power to levy extraordinary premiums from scheme members.[50] While four of those (DIC-BS (Bahamas), BDIC (Barbados), NBGF (Norway) and FCGB (Morocco)) can also access funding from public sources, the others rely exclusively on members for additional funding.

Section 3 – Policy reflections

33. **The ability to use deposit insurance funds for purposes other than payout can complement bank insolvency and resolution frameworks.** Effective bank failure management is dependent on the reliable availability of loss absorbency and temporary sources of funding. Work at the global level to put in place resolution frameworks for systemically important banks has aimed to ensure that the primary sources of loss absorbency, recapitalisation and temporary funding should be maintained within banks, in the form of capital or other instruments that can be written down or converted in resolution, and bank assets to facilitate private liquidity funding. Nevertheless, alternative sources of funding are still likely to be required. Where they are in place, resolution funds provide one such source. DIS can also be relevant, either in conjunction with a resolution fund or as the principal industry-funded prepaid resource, within a jurisdiction's crisis management framework.

34. **In particular, DIS can support resolution or insolvency measures for non-systemic banks.** Such banks may not be subject to requirements, additional to regulatory capital, to hold minimum quantities of instruments for the purposes of resolution-funding. Even where such requirements apply, banks that are financed mainly by capital and deposits and have little experience of accessing capital markets may have difficulty meeting those requirements with eligible instruments. Nevertheless, even if they are not systemic, the insolvency of such banks may entail public policy concerns that are better met by maintaining certain services through the resolution or insolvency procedure, as an alternative to liquidation and payout of covered deposits.[51] Transactions such as P&A can protect depositors, minimise disruption to customers, support consumer and market confidence, and better preserve value, but are likely to require funding in addition to the loss absorption resources and assets available in the failed bank. DIS can help cover that requirement.

35. **As the survey findings demonstrate, there is currently a wide variation in the way DIS are integrated into bank failure management.** This diversity is a function of the range of different approaches to the design of the legal framework for financial crisis management – for example, whether there is a special resolution regime that is separate from the applicable bank insolvency framework, and the institutional role of the DIS within that. The DIA may either be integrated functionally with a role in insolvency or resolution or may be a discrete element of the safety net. The funds of two thirds of the DIS surveyed can be used for purposes other than payout, but those purposes vary significantly, as do the governance arrangements and safeguards that frame the use of DIS resources. Variables such as the mandate of the DIS and its role within the framework; the nature and concentration of the domestic

[48] DIC-BS (Bahamas), BDIC (Barbados), CDIC (Canada), Fogafín (Colombia), IDIC (Indonesia), JDIC (Jamaica), DICJ (Japan), KDIC (Korea), IPAB (Mexico), DICoM (Mongolia), FCGB (Morocco), NDIC (Nigeria), NBGF (Norway), SDIF (Turkey) and COPAB (Uruguay).

[49] COSEDE (Ecuador) and SLDIS (Sri Lanka).

[50] DIC-BS (Bahamas), BDIC (Barbados), BVR (Germany), FITD (Italy), FCGB (Morocco) and NBGF (Norway).

[51] As noted in Baudino et al (2018), a bank insolvency regime that confers options to undertake a range of transactions may be better suited to manage the failure of larger banks that nevertheless do not meet the threshold for resolution than a more limited set of liquidation powers.

banking market; the tools available under legal framework; the size and calibration of the DIS fund; and the existence of a separate resolution fund are all relevant to policy choices about how DIS resources can be most effectively deployed. However, some considerations emerge, as set out in this section.

Use of DIS resources to support transfers

36. **Transfers of deposits from a failing to a solvent bank protect depositors with minimal disruption.** From the perspective of the DIS, funding the transfer of insured deposits is at least economically equivalent to payout. However, if the DIS is only able to fund the transfer of insured deposits, and no other liabilities, this narrows the options that will be available, and wider P&A transactions involving the entire deposit book (including uncovered deposits) and other business may not be possible without other sources of funding. The transfer of non-deposit liabilities may maintain continuity for customers and preserve value for other creditors of the failed bank. The ability to fund such transfers may be consistent with the wider objectives of deposit insurers but, as the IADI Core Principles specify, should be accompanied by safeguards such as financial caps that minimise the risks of depletion of DIS resources.

37. **Broader discretion as to the form in which financial support for transfers is provided can increase the transfer options available.** Such flexibility may be particularly valuable in stressed market conditions where asset valuations may be unstable and the pool of potential acquirers may be limited. For example, the ability to combine financial support with loss-sharing agreements may make it possible to transfer distressed assets for which there may otherwise be no acquirer. Funding arrangements of this kind may also reduce immediate liquidity demands on the DIS by minimising the amount of funds paid upfront and, if asset values improve of the term of the agreement, may ultimately result in lower costs for the DIS.

38. **However, the DIA needs to be have the capacity to assess and implement more sophisticated funding arrangements.** For example, funding arrangements that incorporate profit and loss-sharing require ongoing monitoring by the deposit insurer, which in turn has implications for staffing and skills. These competences may be more consistent with a broader mandate for the deposit insurer, primary responsibility for decision-making about use of its funds in individual cases, and a role in executing resolution.

Use of DIS resources for capital and liquidity support

39. **The ability to use DIS resources to provide capital or temporary liquidity potentially facilitates a broader range of crisis management options, but may also entail material risks for the DIS.** Provision of capital exposes the DIS to significant risks of loss if the bank ultimately fails, at which point the DIS will be obliged to pay out the deposits. This risk of a "double liability" is particularly pertinent where solvency support can be provided as a pre-insolvency "preventative" measure aimed at restoring the long-term viability of stressed banks. Financial caps do not adequately control this risk. For this reason, the use of funds for this purpose may be more appropriate for private institutional protection schemes that are not the primary deposit insurer. The survey findings suggest that the use of DIS resources for capital and liquidity are generally options where the deposit insurer has control over decision-making, and cannot be required by another authority to adopt such measures. This is consistent with the fact that such measures entail greater potential risk to DIS resources through credit risk or equity exposures to a weak or failing bank.

40. **Capital support for all but the smallest banks may also require significant amounts.** The assessment of whether this option would be useful in practice as part of a crisis prevention and management framework will therefore need to take account of the impact of any applicable financial cap on the use of DIS resources.

41. **Provision of capital also implies certain capacity demands for the DIS.** If the DIA does not have supervisory functions, it will need to rely on the supervisor's assessment of a bank's solvency

condition. Nevertheless, when deciding whether to commit funds for this purpose, the DIA will need to have the capacity to assess the likelihood that the support contemplated will restore viability. It will also need to be able to exercise any control rights acquired as a result of its support. This may be achieved where the DIA has an active role in resolution.

42. **More broadly, the availability of DIS resources for capital support outside of resolution may give rise to moral hazard risks.** Those risks are less acute where recapitalisation is carried out within the context of resolution where mechanisms exist to ensure appropriate loss allocation. However, such mechanisms are unlikely to be available where assistance is provided to troubled but still solvent banks. The nature of the DIS may be relevant in this regard: the moral hazard implications may be reduced where the DIS is privately controlled and decisions about application of resources are made by representatives of the firms that finance it. However, in those circumstances the injection of funds may not be possible without shareholder consent if the DIA does not have the necessary legal powers to override shareholder rights.

43. **Use of DIS resources to provide liquidity also potentially entails significant risks.** Liquidity assistance, particularly if on the basis of low quality collateral or uncollateralised, may pose a high level of risk of depletion and may not ultimately achieve the core objective of protecting insured depositors. If assistance is provided as a "preventative" measure to a bank that is not in fact fundamentally solvent, it may not prevent failure so that further DIS resources will be needed to protect covered deposits. These concerns are relevant, even though liquidity assistance is intended to be temporary and expected to be repaid. However, if a bank continues to be unable to access market liquidity, long-term liquidity support by the DIS risks becoming solvency support, which may stretch its mandate and give rise to moral hazard.

44. **The quantities of liquidity that are likely to be required may limit the usefulness of this option.** In practice, liquidity support from DIS may only be feasible for smaller banks with more traditional business models. The increased demands for collateral and prefunding (for example, in payment and settlement systems) that larger banks, or banks with extensive financial market activity, encounter as they enter stress would require substantial amounts of liquidity support to meet those demands. Any financial cap, while protecting the fund, also limits the range of banks for which the option is feasible.

45. **Risks to DIS resources may be reduced by requiring collateral.** Adequate collateral may also alleviate the impact of any financial cap. However, this in turn requires the DIS to have the capacity to assess the risk that the collateral is designed to protect, and to value and manage the collateral. This capacity requires DIS to maintain a technical expertise that could be challenging for smaller entities.

46. **Moreover, this raises the question of the relationship of DIS financial assistance with central bank liquidity facilities, including ELA, outside of standard monetary policy operations, for banks facing temporary liquidity problems.** ELA is subject to rigorous safeguards relating to solvency of the receiving bank, secured against eligible collateral that is acceptable to the central bank and is generally priced in a way that reflects the risks to the central bank. Moreover, central banks have well developed capacities to assess risks, impose appropriate conditions and manage the collateral. Where central bank facilities are available, the "added value" of liquidity provision by the DIS is likely to be that it is made on less onerous terms, or against collateral that would not be eligible under the central bank's framework. This entails a level of risk for the DIS that the central bank might have found unacceptable.

Safeguards

47. **Safeguards, such as financial caps or a least cost principle, minimise the risks of fund depletion and help ensure appropriate use of DIS resources.** This is a policy choice that has implications for the amount of funds available for alternative measures. The design and calibration of the cap and the extent to which it is binding entail a number of considerations, including the availability of other sources of funding, such as a resolution fund. Where a cap applies, the DIS also needs information, access to data and valuation capacity necessary to assess the cost of proposed intervention compared with payout.

48. **If the DIS is the main source of funding for specific measures in resolution or insolvency, a hard cap may restrict the range of measures that can be funded.** This may limit the options available at times of financial stress. However, the stringency of that restriction will depend on how that cap is applied and how the costs to the DIS in the payout counterfactual are calculated. For example, the costs may be broadly construed to include not only the direct costs of payout (net of estimated recoveries) and liquidation costs to the DIS (if it is also the liquidator) but also indirect costs related to broader systemic impact or the possible market impact of liquidating a bank. By contrast, the cap can be made more restrictive if, in calculating the costs of alternative measures, it does not take into account anticipated recoveries from resolution (while taking recoveries into account in the liquidation counterfactual).

49. **A binding cap in conjunction with depositor preference may restrict the amount of funds available.** The type of depositor preference can have an impact on the amount of DIS resources that can be used for purposes other than payout. A high priority increases the potential recoveries of the DIS in liquidation, so that where the FC is calculated net of estimated recoveries, this could limit the sums that can be provided by the DIS. When depositor preference is restricted to insured depositors only, the deposit insurer's recovery is likely to be high, since it will not share losses with uninsured depositors and other general creditors. On the other hand, general depositor preference, by which all depositors rank equally ahead of other unsecured creditors, may result in lower recoveries for the deposit insurer's subrogated claim, because, if assets are insufficient, it will have to share losses pari passu with other depositors. This will particularly be the case where deposits constitute most of the liabilities of the failed bank.

50. **Flexibility may be introduced through exemptions that allow the cap to be overridden in specific circumstances.** The most typical is a determination that the bank is systemic or that its failure could have broader systemic impact. However, the possibility of an override may need to be complemented by measures to protect against excessive depletion of the DIS resources, such as backup funding arrangements. This consideration is particularly relevant where the decisions relating to the override are made by an authority other than the DIA, and the DIA cannot veto the use of its funds.

Backup funding

51. **Backup funding is needed to ensure that the DIS can meet current and future obligations and may be especially relevant where there is no financial cap or the cap can be overridden.** The availability of back-up funding is important for public confidence, particularly in a period of systemic stress. Arrangements to recoup funds used from industry at an appropriate time can ensure that costs are ultimately borne by the private sector. A public backup facility without credible mechanisms to recover all or most of the funds from industry risks public bail-out "through the back door", by channelling it through the deposit insurer.

Interaction of deposit insurance with resolution funds

52. **Where the DIS can fund measures in resolution or insolvency as an alternative to liquidation and payout, it may be partially performing the function of a resolution fund.** This might raise the question of whether a DIS alone is enough, provided there is sufficient flexibility in how its funds may be used. The answer to that question is not clear-cut and will depend on a range of factors, including the nature of the banking market it covers, the size of banks, the crisis management framework and resolution tools available. For less developed markets with simpler, mainly deposit-funded banks, a DIS may be sufficient on its own, depending on its objectives, as reflected in target size, and the extent to which contributions are calibrated to reflect the costs of maintaining the critical functions of banks, beyond their deposits. Where resolution funds have been established, DIS resources are still needed for the

insolvency of smaller banks. In those circumstances, the ability to use those funds for purposes other than payout can expand the range of options available for dealing with failure outside of resolution.[52]

Section 4 – Concluding remarks

53. **Additional resources may be needed in a bank failure to facilitate measures that limit its impact.** Orderly management of a bank failure generally aims to protect insured deposits and to preserve depositors' access to their funds, in order to minimise disruption to the economy and the risk of runs by depositors. While resources within the failed bank may be insufficient to achieve these goals, reliance on public funds for this purpose should be avoided.

54. **Where permitted by their mandate, DIS represent a source of industry-funded resources that may be used for this purpose.** The findings from a survey of 32 DIS show that they can contribute to funding a range of different types of measures in bank failure management, including P&A, bridge bank transactions and/or financial assistance in the form or capital or temporary liquidity. The funding options for individual DIS will depend on the measures available under the legal framework for bank failure management and the role of the DIS in that framework.

55. **The availability of DIS resources to fund alternative measures is subject to conditions and safeguards.** The amount the DIS may contribute to specific measures is generally also subject to constraints aimed at safeguarding its resources although, in appropriate circumstances, backup funding arrangements may increase the capacity for DIS resources.

56. **Within these constraints, the availability of DIS resources to fund alternative measures can increase options for authorities in managing bank failures.** This may be especially relevant when dealing with medium-sized or non-systemic banks, in which deposits may be the main form of loss absorbency.

[52] For further discussion, see Croitoru et al (2018).

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Annex 1 – Overview of DIS replies to the ad hoc survey

Overview: DIS resources for alternative measures

Table A.1

Country (DIS)	Funding transfers		Financial support IN resolution or insolvency		Financial support OUTSIDE OF resolution or insolvency		Financial cap	Exemptions to financial cap
	(P&A)	(BB)	Capital	Liquidity	Capital	Liquidity		
Australia (FCS)*	✓	✓	×	×	×	×	×	-
Bahamas (DIC-BS)	×	×	×	×	✓	×	×	-
Barbados (BDIC)	✓	×	×	✓	×	×	×	-
Brazil (FGC)	×	×	×	×	✓	✓	✓	✓
Canada (CDIC)	✓	✓	✓	✓	✓	✓	✓**	✓
Colombia (Fogafín)	✓	✓	✓	✓	×	✓	✓	✓
Ecuador (COSEDE)	×	×	×	✓	×	×	✓	×
Finland (DGF)*	✓	✓	×	×	×	×	✓	✓
Germany (BVR)	×	×	×	×	✓	✓	✓	×
Germany (DPFB)	✓	✓	✓	✓	✓	✓	×	-
Honduras (FOSEDE)	✓	✓	×	×	×	×	✓	×
Indonesia (IDIC)	✓	✓	✓	✓	×	×	✓	✓
Italy (FITD)	✓	✓	×	×	✓	✓	✓	×
Jamaica (JDIC)	✓	✓	×	✓	×	×	✓	×
Japan (DICJ)	✓	✓	✓	✓	×	×	✓	✓
Korea (KDIC)	✓	✓	✓	✓	✓	✓	✓	✓
Mexico (IPAB)	✓	✓	✓	✓	×	×	✓	✓
Moldova (FGDSB)	✓	✓	×	×	×	×	×	-
Mongolia (DICoM)	✓	×	×	✓	×	×	✓	×
Morocco (FCGB)	✓	✓	✓	✓	✓	×	✓	×
Nigeria (NDIC)	✓	✓	×	✓	✓	✓	✓	✓
Norway (NBGF)	✓	✓	✓	✓	✓	×	✓	×
Poland (BFG)	✓	✓	×	×	×	×	✓	×
Russia (ASV)	✓	×	×	×	×	×	✓	×
Serbia (AOD)	✓	✓	×	×	×	×	✓	×
Singapore (SDIC)	✓	✓	×	×	×	×	✓	×
Spain (FGD)	×	×	×	×	✓	✓	✓	×
Sri Lanka (SLDIS)	×	×	×	×	×	✓	✓	×
Turkey (SDIF)	✓	×	✓	✓	×	×	✓	✓
UK (FSCS)	✓	✓	×	×	×	×	✓	×
Uruguay (COPAB)	✓	×	✓	×	×	×	✓	×
US (FDIC)	✓	✓	×	×	×	×	✓	×
32	26	21	11	15	11	10	27	10

* The DIS is housed in and managed by the supervisory authority, which is also the resolution authority.

** The CDIC is subject to a statutory loss minimisation objective, which is not construed as a least cost obligation and can be waived.

Overview: DIS resources for other purposes than payout							Table A.2
Country (DIS)	Decision-making*	If joint decision, DIS veto?	If other authority, is DIS consulted?	If other authority, DIS veto?	Is DIS also resolution authority?	Is there a separate resolution fund?	Is there depositor preference?
Australia (FCS)	AA	-	✓	×	×	✓	✓
Bahamas (DIC-BS)	DIA	-	-	-	×	×	✓
Barbados (BDIC)	DIA&AA	✓	-	-	✓	×	×
Brazil (FGC)	DIA	-	-	-	×	×	×
Canada (CDIC)	DIA	-	-	-	✓	×**	×
Colombia (Fogafin)	DIA	-	-	-	✓	×**	✓
Ecuador (COSEDE)	DIA	-	-	-	×	×	✓
Finland (DGF)	DIA	-	-	-	×	✓	✓
Germany (BVR)	DIA	-	-	-	×	✓	✓
Germany (DPFB)	DIA	-	-	-	×	✓	✓
Honduras (FOSEDE)	AA	-	✓	✓	×	×	✓
Indonesia (IDIC)	DIA	-	-	-	✓	✓	✓
Italy (FITD)	DIA&AA	✓	-	-	×	✓	✓
Jamaica (JDIC)	DIA&AA	✓	-	-	✓	×	×
Japan (DICJ)	DIA	-	-	-	✓	×	×
Korea (KDIC)	DIA	-	-	-	✓	×	×
Mexico (IPAB)	DIA	-	-	-	✓	×	✓
Moldova (FGDSB)	-	-	-	-	×	✓	×
Mongolia (DICoM)	DIA&AA	✓	-	-	×	✓	×
Morocco (FCGB)	DIA&AA	×	-	-	×	×	×
Nigeria (NDIC)	DIA	-	-	-	✓	×	✓
Norway (NBGF)	DIA&AA	×	-	-	×	✓	✓
Poland (BFG)	DIA	-	-	-	✓	✓	✓
Russia (ASV)	DIA&AA	✓	-	-	✓	✓	✓
Serbia (AOD)	AA	-	✓	×	×	×	✓
Singapore (SDIC)	AA	-	✓	×	×	✓	×
Spain (FGD)	DIA	-	-	-	×	✓	✓
Sri Lanka (SLDIS)	DIA	-	-	-	×	×	×
Turkey (SDIF)	DIA	-	-	-	✓	×	✓
UK (FSCS)	AA	-	✓	×	×	✓	✓
Uruguay (COPAB)	DIA	-	-	-	✓	×	✓
US (FDIC)	DIA	-	-	-	✓	×	✓
32	32	5	5	1	14	14	21

* Authority or authorities responsible for decisions that entail use of DIS funds: DIA = deposit insurer authority; AA = another authority.

** The DIS resources are calibrated to a level intended to encompass resolution.

Annex 2 – Examples of DIS funding of P&A transactions

Approaches used by the FDIC (United States)

The FDIC has used P&A as its main tool to deal with failing banks in recent years. There are essentially four types of P&A transactions that the FDIC has conducted, and they can also be combined.[53]

Basic P&A

The acquiring institution assumes deposits (either all deposits or only insured deposits) and generally only the most liquid assets, such as cash, cash equivalents and marketable securities. This approach preserves at least some franchise value, and there is less disruption to depositors than in a liquidation. The FDIC, however, needs to continue managing the assets that are not transferred in the P&A until a buyer is found.

Whole-bank P&A

The acquiring institution assumes all of the deposits (and certain other liabilities) and purchases all – or almost all – assets on a discounted basis, and without guarantees. This transaction minimises market disruption and is seamless from the perspective of the bank's customers. Because the FDIC retains (almost) no assets, it requires the least amount of staff, and because assets and liabilities are transferred together, it also reduces working capital needs, thereby conserving cash for the FDIC. However, since buyers can only be banks, the number of bidders may be limited. Moreover, the highest-paying bidder for troubled assets may not always be the same as the highest one for the performing assets, so this option may not always lead to the highest return for creditors.

Loss-share P&A

The acquiring institution assumes all of the deposits and purchases (virtually) all of the assets (similar to a whole-bank P&A transaction). The FDIC, as receiver, agrees to share losses on certain types of assets (up to an established limit) with the acquiring institution. Given the similarity to a whole-bank P&A, the loss-share P&A shares some of the advantages (minimal disruption to the bank's customers and conservation of cash for the FDIC) as well as the disadvantages (the acquirer must be a bank,[54] and it must purchase (almost) all assets, even if its preferences may be otherwise). In comparison with a whole-bank P&A, it implies more staff resources, given the need to monitor the loss-sharing agreement, but still substantially less than in a basic P&A or payout.

This arrangement is generally used at a time of general market distress, when the impact of the loss-share agreement on the pricing of the P&A transaction is highest, as asset values are most uncertain. It can also help address lack of comprehensive information on asset prices at resolution.

P&A with loan pools

The acquiring institution assumes deposits and purchases the failed institution's cash, cash equivalents, marketable securities, and pools of loans or other assets. Bids are submitted and evaluated separately for each loan pool. This allows the FDIC to attract bidders that are interested in some, but not all, of the assets, and it may also generate higher bids by acquirers that would be interested in buying the whole bank, except for some assets. It also allows the FDIC to pool assets and deposits from multiple banks, which may

[53] See FDIC (2017) for more details. The FDIC also uses the P&A transaction in a fifth way: to transfer assets and liabilities from a failed bank receivership to a bridge bank.

[54] During the GFC, the FDIC issued guidance permitting hedge funds and private equity firms to bid.

improve bidder interest and increase prices. A drawback is the operational complexity and associated risks of this option.

The FDIC experience

The way in which P&As have been used has evolved over time, with the FDIC taking into account the economic environment during which a P&A is attempted, so long as the selected option satisfies the least cost criterion.

For instance, soon after the start of the GFC, as the FDIC was faced with a lack of buyers interested in standard whole-bank purchases, it sought to adapt its offerings to include sales contract features in order to attract buyers. This included allowing prospective purchasers to include bids subject to loss-sharing, and by the middle of 2009 whole-bank P&A with loss-share became the most common resolution transaction. As market conditions improved, the FDIC added features that allowed it to claw back some of the upside in asset prices and it removed additional loss protection coverage that would have been activated in the event of very high loss rates, eventually excluding loss-share coverage for certain asset classes. Loss-share agreements were discontinued in 2013.

Sale prices may also need to be adjusted in order to conclude a sale. In general, if the value of the assets transferred in the P&A is lower than that of the liabilities, the acquirer will want compensation, in the form of cash, from the FDIC. Vice versa, if the value of the assets is higher, the acquirer will pay the FDIC. However, the final price that the acquirer may be willing to pay or receive for the gap between assets and liabilities is recognised to be case-specific, as in some cases the acquirer may accept a somewhat different value depending on their own assessment of their ability to manage the bank more efficiently, or will try to extract a higher profit margin from the P&A. The FDIC has the flexibility to adjust the pricing accordingly, within the least cost criterion.

On some occasions, the FDIC has found it appropriate to finance the acquirer's acquisition transaction. The FDIC has opted for such transactions if they generated a higher bid price or increased the number of potential bidders. The FDIC used this strategy in three cases during the GFC, where the amount of assets purchased was substantially greater than the liabilities being assumed and where the FDIC had concerns that the acquirers lacked the necessary liquidity for a successful acquisition absent the financing.

Use of loss-sharing agreements in asset protection schemes by the FGD (Spain)

The Spanish DIS, the FGD, has the objective of guaranteeing bank depositors either by payout or by safeguarding the viability of credit institutions. During the recent financial crisis in Spain, and prior to the implementation of the Bank Recovery and Resolution Directive (BRRD), it played an active role in bank resolution and used asset protection schemes (APS),[55] among other instruments, to facilitate restructuring of the Spanish banking sector. The APS were part of wider restructuring plans for troubled banks, the core objective of which was to sell the business to a third-party acquirer in an open tender.

The APS were a loss-share mechanism whereby the FGD[56] fully or partly guaranteed the value of a (mainly impaired) portfolio of assets, beyond the provisions set aside to cover these assets by the failing bank. Under this arrangement, the FGD covered the net losses from the guaranteed assets. The term of the APS ranged from five to 10 years, and the covered portfolios were mainly composed of real estate

[55] In 2009, the UK Treasury also used APS, among other measures, for some UK banks: See National Audit Office (2010).

[56] In addition to the FGD, the Spanish resolution fund (Fondo de Resolución Ordenada Bancaria (FROB)) provided APS for saving banks. For further information about the Spanish financial crisis, see Bank of Spain (2017).

loans. The guarantee was initially made to the bank subject to restructuring, but remained in place for the acquirer of the covered assets.

Two types of APS were used by the FGD: (i) APS with an explicit maximum guaranteed amount; and (ii) APS in which the FGD agreed to share the net losses on certain types of assets up to a given percentage.[57] The FGD settled the net aggregate losses ("incurred" losses less recoveries) from the covered portfolio on an annual basis.

The percentage of loss-sharing varied throughout the crisis. Higher percentages were used in the earlier years of the crisis, when there was higher uncertainty over the value of the assets, to facilitate transactions. On the other hand, lower percentages would give an incentive to the acquirer for effective management of the covered portfolio and were used to that effect.

The terms of the APS also stipulated a number of operational safeguards designed to promote sound management of the covered assets. These included requirements that the covered portfolio be managed on a non-discriminatory basis along with assets not covered by the guarantee, with the aim that the recoveries from the protected portfolio should not be jeopardised; specified operations in relation to the assets were authorised by the FGD; and losses had to be verified annually by an independent auditor.

Under these arrangements, the FGD retained much of the risk from the covered portfolio. This protected the sale prices when the value of the transferred assets was highly uncertain. However, it required the FGD to maintain specialised staff in order to oversee and monitor the assets.

57 Assuming a portfolio with a gross value of 100 and net value of 80 (first loss 20) and an APS of 70% on the second loss, the guarantor is obliged to cover losses exceeding 20. If final losses amounted to 100, the guarantor would bear losses of 56 (70% of 80) and the acquirer would bear the other 24 (30% of 80).

Annex 3 – Use of DIS resources under the EU framework

The EU framework contains two sets of provisions governing the use of funds of EU deposit guarantee schemes (DGS) for purposes other than payout.[58] First, DGS resources are used in resolution under the Bank Recovery and Resolution Directive (BRRD),[59] which harmonises resolution regimes in all EU member States (MS). Those provisions are mandatory and require the national DGS to contribute funds to finance specific resolution actions. Second, DGS resources may be used outside of resolution under the 2014 Deposit Guarantee Schemes Directive (DGSD).[60] The provisions of the DGSD regulating payout must be implemented for all national DGS. However, it also contains options to allow DGS funds to be used for purposes other than payout, and implementation of those is discretionary.

BRRD: use of DGS funds in resolution

To the extent that the resolution of a member bank preserves access to deposits, the BRRD requires national DGS to contribute funds in certain circumstances. The contribution must be paid in cash, and how the amount is calibrated depends on the resolution tools used. Where the resolution authority uses bail-in powers, the DGS must provide the amount by which covered deposits would have been written down to absorb the bank's losses, if those deposits had been included in the scope of bail-in and written down in accordance with the national creditor hierarchy. In the event that other resolution tools, such as transfers, are used, the DGS must contribute an amount equal to the losses that covered depositors would have suffered if they had been exposed to losses in proportion to those suffered in the resolution by equally ranking creditors.

In all cases, the required DGS contribution is capped at the lower of: (i) the loss the DGS would have suffered if it had paid out the covered deposits in a liquidation of the bank, net of recoveries it would have made from its subrogated claims in the insolvency; and (ii) 50% of the its target level under the DGSD (ie 0.8% if its total covered deposits).[61] In practice, the obligation of the DGS is likely to be even lower as a result of the depositor preference under the EU framework. This gives a "super-priority" to covered deposits, and the subrogated rights of the DGS (see below for more details). Such priority will reduce the likelihood that covered deposits would have been exposed to losses because the use of resolution tools is required to respect the creditor hierarchy.

However, DGS funding is not intended to be a primary source of funds for resolution in the European Union. The BRRD requires all MS to establish a resolution fund and, for the Banking Union, the Single Resolution Mechanism includes a Single Resolution Fund (SRF), managed by the Single Resolution Board. Those funds have a target size of 1% of the covered deposits of the institutions they cover and

[58] The EU framework uses the term "deposit guarantee scheme" for a DIS. This Annex uses the EU terminology.

[59] Directive 2014/59/EU, Article 109, with a cross-reference in Article 11(2) of Directive 2014/49/EU on Deposit Guarantee Schemes.

[60] Directive 2014/49/EU, Article 11(3) and (6). This Directive recasts an earlier framework first established in 1994, and increases the harmonisation of the national deposit guarantee schemes across the European Union.

[61] MS have the option of setting a higher percentage than 50%, if appropriate given the specific nature of their national banking sector. A higher percentage would potentially allow a greater DGS contribution in resolution, subject to the cap based on the net losses of the DGS in a liquidation counterfactual.

which contribute to them,[62] and must be used to support the effective application of resolution tools. However, they cannot be used directly to absorb losses or recapitalisation.

DGSD: options for use of DGS funds for purposes other than payout

The DGSD enables, but does not require, EU MS to allow DGS funds to be used for purposes other than payout, subject to specified conditions. Those conditions must be imposed if MS choose to implement these options in their national frameworks. The purposes for which DGS funds may be used are: (i) to prevent the failure of a bank ("preventative measures"); and (ii) to finance "alternative measures" that preserve depositors' access to covered deposits in the context of insolvency proceedings.[63] Preventative measures may only be used where a bank is not in, and does not meet the conditions for, resolution, while measures to preserve access to deposits would be used where a failed bank was subject to insolvency proceedings, rather than resolution.

The DGSD does not include any detail about the ways in which DGS funds may be used to prevent the failure of a bank if the national framework provides for this option. However, the Directive specifies a number of conditions that must be met where a bank receives DGS funds.

Those conditions aim at minimising the risks to the funds of the DGS and its depositor protection objectives. To that end, the cost to the DGS of any such measures is capped at the costs to the DGS of fulfilling its statutory or contractual mandate.[64] The DGS must have appropriate systems and procedures for selecting and implementing the measures and monitoring the associated risks, and the supported bank must be subject to conditions, involving at least more stringent risk monitoring. As a safeguard against excessive depletion of DGS funds, affiliated banks must be able to reimburse the DGS in the event that it needs to pay out to depositors and the available financial resources of the DGS amount to less than two thirds of the target level, or those resources fall below 25% of the target level (irrespective of whether there is an immediate need to pay out). Finally, the bank receiving the support must commit to ensure continued access to covered deposits for depositors.

Alternative measures to preserve access to covered deposits explicitly include transfers of assets and liabilities (including deposit books). DGS funds may be used to support the transfer of deposits and other liabilities from a bank in insolvency to another bank, including potentially a bridge bank, where there is a shortfall in assets to fully back that transfer. The only condition on the use of such measures imposed by the DGSD is a financial cap. The cost to the DGS must not exceed the costs that it would have incurred in paying out those covered deposits, net of recoveries from subrogation to the depositors' claims in insolvency. However, the connection of these measures with insolvency proceedings may itself constitute an effective limitation on their use since this will depend on the availability of suitable transfer tools in national insolvency regimes. The extent to which purchase and assumption or bridge transactions can be carried out in insolvency (as opposed to resolution) varies across the European Union.

[62] The SRF is composed of contributions from, and covers, banks and investment firms that are subject to consolidated supervision by the ECB; national resolution funds cover, and are contributed to by, banks and investment firms that are within the scope of the BRRD but do not contribute to the SRF. The SRF is also authorised to borrow, and backstop funding arrangements are being put in place. However, that is beyond the scope of this paper.

[63] Preventative measures are permitted by Article 11(3), and measures to preserve access to deposits by Article 11(6), of Directive 2014/49/EU.

[64] It is not clear whether this cap refers simply to the total amount of covered deposits or the expected net costs of payout in the event the bank failed and was liquidated. Unlike the parallel cap for measures to preserve access to covered deposits under Article 11(6), Article 11(3) does not state explicitly that those costs are net of recoveries. This uncertainty may lead to differences in how the cap is applied in practice.

Implementation of these options varies widely across the Union. All of the EU DGS in the sample used for this paper are included because the MS concerned have implemented one or both of the options. However, more than one third of MS have not implemented either option. Of those that have, DGS funds can be used for measures to preserve access to deposits in insolvency in nine MS and for measures aimed at preventing failure in 10 (mainly different) MS.[65]

Feasibility of using DGS funds for purposes other than payout under the EU framework

Although the DGSD provides options for DGS funds to be used for purposes other than payout, there are material constraints on the extent to which such measures are feasible in practice. Those constraints arise from the interplay with other elements of the EU framework: depositor preference and its impact on the financial cap on use of DGS funds; and the State aid rules.

Depositor preference and the financial cap

Depositor preference interacts with the financial cap to reduce the amount of DGS funds that are available for purposes other than payout. The DGSD stipulates that where DGS funds are used for alternative measures, the costs cannot exceed the amount, net of recoveries, that the DGS would pay out to covered depositors of the bank in question.[66] Depositor preference under the EU framework has a material impact on that net amount. The BRRD (Article 108) introduced a minimal harmonisation of national creditor hierarchies with a tiered system of depositor preference. This gives a super-priority to covered deposits (and the subrogated rights of the DGS), which rank highest among unsecured liabilities, followed by deposits from natural persons and micro, small and medium-sized enterprises that exceed the amount of covered deposits.[67] This facilitates the use of bail-in by removing the preferred deposits from the class of liabilities that will be written down or converted. Super-priority also protects a DGS from loss by increasing its recoveries in liquidation through its subrogation to the claims of covered depositors, at the expense of more subordinated creditors. However, where use of DGS funds is capped at the losses that the DGS would have sustained through payout of covered depositors, net of the prospective recoveries in liquidation, depositor preference can significantly lower the cap and reduce the amounts that may be used to protect depositors through alternative measures.

State aid

State aid rules apply to the use of DGS funds for purposes other than payout. The EU State aid regime prevents EU MS from providing assistance or support on a selective basis to undertakings in any form that confers a competitive advantage and is therefore likely to undermine the functioning of the single market. Specific exemptions to the general prohibition are available if the aid is provided for justified policy objectives and if conditions that minimise the impact on competition and cross-border trade are met. Use of DGS funds for preventative or alternative measures may constitute state aid if the funds, even though

65 DGS funds may be used for preventative measures (Article 11(3)) in Germany (BVR and DPFB), Italy (FITD), Poland (BFG) (eg through provision of financial support to an acquirer) and Spain (FGD) (of the DGS in the sample), and in Austria, Croatia, France, Ireland and Malta (outside the sample). DGS funds may be used for measures to preserve access to deposits (Article 11(6)) in Finland (DGF), Italy (FITD), Poland (BFG) and the United Kingdom (FSCS) (within the sample), and in Denmark, Greece, Ireland, Luxembourg, Lithuania and Malta (outside the sample). Information about DGS outside the sample is sourced from IMF (2018) and/or provided by European Commission (2013).

66 Funds for preventative measures are capped at the costs to the DGS of fulfilling its statutory or contractual mandate (Article 11(3)(c)). It is not stated explicitly that this means the costs to the DGS of payout, net of recoveries in liquidation.

67 In some MS (eg Italy), this has been supplemented by a further level of preference for all other deposits to create a general, but tiered, depositor preference.

derived from private sector contributions, are within the control of the State and their use is "imputable to the State".[68]

Where the use of DGS funds constitutes State aid, the conditions include requirements for burden-sharing by shareholders and subordinated creditors, set on a case by case basis. Burden-sharing typically takes the form of loss absorption by available capital, including conversion of junior debt. Where financial support is given to a purchaser in a P&A transaction, the State aid rules require that asset sales be carried out through a competitive process.

The scope of application of state aid rules to the use of DGS funds was the subject of a recent judgment of the General Court of the European Union (GC) (2019). The judgment relates to the use of funds of the Italian DGS, FITD, to support a member bank (Tercas), which was at the time subject to special administration, through a combination of measures including a non-repayable equity contribution and guarantees. The Commission decided that this constituted State aid. The GC annulled that decision on the grounds that the Commission did not sufficiently prove that the measures granted to Tercas entailed use of State resources and were imputable to the State.[69] This finding was based on the status of the FITD as a consortium of banks governed by private law which had adopted the measures in question pursuant to its own constitution, rather than to its statutory public mandate. The measures were not imputable to the state because, on the specific facts, the FITD had acted independently of the State and it was not established that Italian public authorities were involved in the adoption of the measures or controlled the funds in question. The EU framework is not prescriptive about how national DGS are constituted and operate, provided the mandatory elements of the framework – relating, for example, to coverage, payout and financing – are in place.

68 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 ('2013 Banking Communication') (2013/C216/01), paragraph 63. The Communication also states that compensation of covered depositors by pay-out does not constitute State aid.

69 This decision by the GC is currently subject to appeal by the European Commission.