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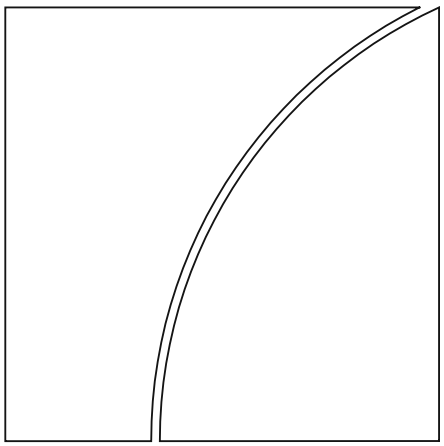

Counting the cost of payout: constraints for deposit insurers in funding bank failure management

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Executive summary

Orderly bank failure management often requires funding beyond a bank's own loss-absorbing capacity and resources. For example, if liabilities exceed assets in a transfer of a failing bank's business to an acquirer, funds will be needed to facilitate that transaction. This is particularly relevant for banks that are predominantly funded by deposits, which do not reliably absorb losses in resolution. Industry-sourced deposit insurance funds (DIFs) are a potential source of such external funding. This requires the deposit insurer to be able to use its resources to protect insured deposits by funding measures other than payout.

Financial stability may benefit from broader use of deposit insurance funds in the management of a failing bank. Payout of the covered deposits of a failed bank protects insured deposits and helps maintain depositor confidence in the banking sector. DIF support for non-payout measures such as transfer transactions, bridge banks or capital and liquidity support under bank insolvency and resolution frameworks can achieve the same objective by minimising interruptions to depositors' access to their funds and, in addition, potentially offer wider benefits for financial stability. Those benefits stem from a broader range of failure management options for authorities which avoid the uncertainties and frictions of lengthy liquidation proceedings and achieve closure at a much earlier stage.

Nevertheless, there is a potential for tension between the use of DIF resources to fund bank failure management measures and a deposit insurer's ability to reimburse depositors. DIF resources should only be used in accordance with that DIF's mandate. If the deposit insurer's primary and perhaps only obligation is to protect insured depositors, DIF funding may only be provided to support measures that, at a minimum, protect insured deposits by ensuring continuity of access to deposits. Without appropriate safeguards, making DIF resources available to fund measures other than the payout of insured deposits risks a negative impact on the firepower of the DIF, and as a consequence on public trust in the DIF's ability to pay out depositors.

To manage that tension, jurisdictions impose constraints on the use of DIF resources. The way these constraints are framed and their effect on the amount of funding that may be available for measures other than payout varies. In some jurisdictions, the constraint is framed as a "least cost" requirement, meaning that DIF resources may only be used for the action that is assessed to be the least costly of all available options. Other jurisdictions cap the amount of DIF resources that may be used in an individual case, typically with reference to the cost the DIF would incur in payout, but within that cap do not require the least costly option to be adopted. The methodologies used to determine the least costly action or to calculate the quantitative cap also differ.

The elements that are taken into account when calculating the cost of payout vary significantly. In addition to the amount that would be required to pay out insured deposits, wider costs to the deposit insurer or DIF may be included. These include, variously, the operational costs of conducting a

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payout and liquidation; the "consequential" costs to the deposit insurer, such as borrowing or opportunity costs; and costs not directly arising from the case in question, such as the putative costs to the DIF of managing future bank failures that could be expected as a consequence of the systemic impact of a liquidation. Such costs may entail uncertainty, and the assessment requires judgment. That judgment may be guided by a framework that specifies, for example, expected asset values or time horizons for the purposes of estimating costs, but some degree of discretion to take account of case-specific circumstances is generally retained. As a result, cost calculations are inevitably complex.

Differences in how costs to the DIF are calculated help explain variations in outcome. The range of elements included in the calculation is one factor that influences the more likely outcome of the determination – DIF funding of payout or other measures. For example, the calculated cost of liquidation and payout may be comparatively high if the methodology recognises the costs to the deposit insurer of administering a liquidation and payout or future DIF liabilities in relation to subsequent bank failures that would be expected owing to the contagion effect of a liquidation. The inclusion of such broader costs in the calculation generally increases the scope for DIF funding for non-payout measures.[2] Conversely, a methodology based on a narrower range of costs increases the likelihood that payout will be determined as less costly for the deposit insurer. This is reinforced by certain forms depositor preference: the higher insured deposits rank in the creditor hierarchy, the more the deposit insurer can expect to recover reimbursed amounts by way of subrogation in liquidation. This lowers the net cost of payout to the deposit insurer and makes liquidation and payout a more likely outcome of cost-based decision-making.

Some frameworks incorporate flexibility by allowing constraints on the use of DIF funds to be overridden in specific, generally limited, circumstances. For example, some jurisdictions allow authorities to invoke an exception where necessary to contain a systemic impact that the lower cost options are considered likely to entail. Where the costs of payout are calculated narrowly and there is no exemption from the applicable constraint, the use of DIF resources to fund measures as an alternative to payout may in practice be limited, even if that ability is contemplated by the legal framework.

The ability to use DIF resources for non-payout measures, coupled with systemic exceptions, requires adequate funding. This is likely to entail backstop arrangements for public emergency funding to support the credibility of the DIF, even if private sources of funding are also available. In particular, systemic exceptions and public backstops appear to be linked. In the absence of systemic exceptions and public backstops, the ability to deal with systemic cases depends on the availability of special resolution regimes with their associated funding arrangements, including public backstops.

[2] The impact will vary depending on the nature of the constraint on the uses of DIF resources and how the costs of non-payout measures are calculated.

Section 1 – Introduction

1. **Managing a bank failure requires funding beyond the failing bank's own loss-absorbing capacity.** Reforms since the Great Financial Crisis of 2007–09 have established frameworks that provide authorities with a range of tools to deal with failing banks. One such tool is the transfer of assets and liabilities, including deposits, from a failing bank to a sound purchaser. However, to successfully implement such a measure, authorities often need to resort to sources of funding beyond the failing bank's own loss-absorbing capacity ("external funding").

2. **The lower the failing bank's loss-absorbing capacity, the greater the amount of external funding that is likely to be needed.** External funding is therefore particularly relevant for banks that are largely funded by deposits, which cannot reliably absorb losses. Banks that are predominantly deposit-funded may be small compared with global systemically important banks (G-SIBs), but still sufficiently large that their failure and a precipitous withdrawal of their services could cause significant disruption to depositors and clients. Provided external funding is available, such disruption can often be mitigated or avoided through transfer transactions. Ensuring appropriate and sufficient sources of funding therefore remains a key issue.[3]

3. **Deposit insurance funds (DIFs) are a potential source of external funding.** The default use of DIF resources is to reimburse insured depositors if a failing bank is liquidated. However, the FSB Key Attributes (KAs) and the IADI Core Principles for Effective Deposit Insurance Systems (the "IADI Core Principles" or CPs) recognise the use of DIF resources to fund measures that preserve depositors' access to their funds as an alternative to payout ("non-payout measures").[4] Typical of such measures is the transfer of a failing bank's business, including but not limited to insured deposits, to another bank. In the United States, for example, the Federal Deposit Insurance Corporation (FDIC) has long been able to use its fund to support "purchase and assumption" (P&A) transactions where that is the least costly option for the DIF.

4. **The use DIF resources for non-payout measures appears to be advancing globally.** In many jurisdictions, the deposit insurer's mandate and the legal framework allow the use of DIF resources to protect deposits through non-payout measures.[5] In 2011, 40% of IADI members reported that their resources may only be used for payout ("paybox" mandate). By 2021, that percentage fell to around 20%, and around 80% have either "paybox plus", "risk minimiser" or "loss minimiser"[6] mandates that allow broader uses of the deposit insurance fund.[7] Similarly, in 2021 around 40% of deposit insurers were also the domestic bank resolution authority (up from around 25% in 2014).[8] However, the legal power to use

[3] For a discussion of the "middle-class problem", see Restoy (2018) and Restoy et al (2020).

[4] KA 6.3 specifies that "jurisdictions should have in place privately-financed deposit insurance or resolution funds, or a funding mechanism with ex post recovery from the industry of the costs of providing temporary financing to facilitate the resolution of the firm". IADI Core Principles, CP 9, Essential Criterion 8 states that where the deposit insurer is not the resolution authority, it should have the option, within its legal framework and subject to conditions, to authorise the use of its funds for resolution by methods other than liquidation.

[5] Depending on the national framework, non-payout measures such as transers may be carried out in either an insolvency procedure or resolution. This mirrors a wider discussion as to the expansion of the deposit insurer's mandate to resolution. Defina (2021) finds empirical proof for such an expansion of resolution powers for deposit insurers. The scope of the deposit insurer's mandate may also have an impact on the institutional setup of deposit insurance and resolution funds (see below).

[6] IADI defines "paybox plus" as "a Mandate in which the Deposit Insurer has additional responsibilities, such as certain resolution functions (eg financial support)", "risk minimiser" as "a Mandate in which a Deposit Insurer has comprehensive risk minimisation functions, including risk assessment or management, a full suite of early intervention and resolution powers, and in some cases, prudential oversight responsibilities", and "loss minimiser" as "a Mandate in which the Deposit Insurer actively engages in a selection from a range of least-cost Resolution strategies". See the glossary on the IADI website: www.iadi.org/en/core-principles-and-guidance/glossary/.

[7] IADI (2021).

[8] Van Roosebeke and Defina (2022), p 7.

DIF resources to support measures other than payout does not necessarily lead to a general practice in this regard. Factors that contribute to differences in practice include the conditions under the legal framework that govern how DIF resources are used and variables such as the size of banks that have failed, the structure of the banking sector and the availability of suitable purchasers for those failed banks, the range of legal tools available and authorities' experience in using those tools.

5. **Broader use of DIF resources entails potential risks, and safeguards are needed to contain them.** The primary risk is an excessive depletion of the DIF, which may undermine the DIF's credibility in the eyes of depositors and impose stress on its members if required to replenish it during a period of systemic weakness. As a result, use of DIF resources for non-payout measures requires adequate governance and appropriate involvement of DIF representatives in the decision-making process. IADI Core Principle 9 Essential Criterion 8 therefore sets out conditions and safeguards on the use of DIF resources for cases where the deposit insurer is not the resolution authority. These include, among others, that if DIF resources are used to support a resolution, the deposit insurer is informed and involved in the resolution decision-making process; that the resolution results in a viable, solvent and restructured bank, which limits the exposure of the deposit insurer to contribute additional funding in respect of the same obligation; and that the amount of DIF resources used is limited to the costs the deposit insurer would otherwise have incurred in a payout of insured depositors in a liquidation net of expected recoveries. This "payout counterfactual" constitutes a quantitative constraint on the use of DIF resources for non-payout measures.

6. **The payout counterfactual is the most common quantitative constraint on the use of DIF resources.** However, its design differs across jurisdictions. A feature common to most, but not all, jurisdictions is that the counterfactual is calculated net of the recoveries that the DIF would have made from the liquidation proceeds through its subrogation to the claims of paid-out depositors. Beyond this, the divergences in jurisdictions' methodologies for calculating the costs of payout approach are greater. In particular, given the high-level formulation of the payout counterfactual in the IADI Core Principles, there is significant variation in the costs that are treated as relevant for this purpose. Finally, some jurisdictions have adopted other quantitative constraints. These may include the condition that a DIF must not, or is not liable to, provide amounts in excess of a specified percentage of its actual or target level. Such alternative constraints may apply in conjunction with, or instead of, a restriction based on the payout counterfactual.

7. **A quantitative constraint may be subject to a "safety valve" that is available in extraordinary situations.** Such a safety valve may take the form of a systemic exception that allows a quantitative constraint to be overridden in specified circumstances, thereby allowing greater amounts of DIF resources to be used than would have been possible where the constraint applied. To a similar intent, constraints may apply differently depending on whether the failing bank is considered systemic.

8. **This paper examines how quantitative constraints are implemented in selected jurisdictions.** It is based on information gathered from a survey of deposit insurers from 13 jurisdictions that have at least a "paybox plus" mandate.[9] Its main focus is on the payout counterfactual, given that this is the most widely applied quantitative constraint, but with significant differences in its design. The scope of the analysis is limited to non-payout measures in respect of a failed bank. The statutory framework that enables such measures may be either a special resolution regime for banks or an insolvency framework. The paper focuses on the type of measure and the extent to which DIF resources may support it, rather than classifying the framework that underpins that measure as resolution or insolvency. However, where it is relevant to the analysis – for example, where bank resolution and insolvency frameworks exist in parallel in a jurisdiction and different funding sources or conditions apply – the nature of the framework is specified. Conversely, the use of DIF resources for "preventative" measures that aim to avoid the failure of a stressed bank is outside of the scope of this paper since they differ significantly in their nature from non-payout measures in insolvency and resolution.

[9] Brazil, Canada, Colombia, Denmark, Indonesia, Italy, Japan, Malaysia, Mexico, Spain, Turkey, Uruguay and the United States.

9. **The remainder of this paper is organised as follows:** Section 2 analyses how quantitative constraints are integrated into the broader frameworks that govern the use of DIF resources, the use of non-payout measures and authorities' mandates. Section 3 discusses how such constraints are applied in practice to determine the amounts available to support non-payout measures, with a particular focus on how the cost of payout, as the relevant counterfactual, is calculated. Section 4 analyses the conditions under which constraints can be overridden and the emergency funding arrangements for deposit insurers in the surveyed jurisdiction. Section 5 concludes.

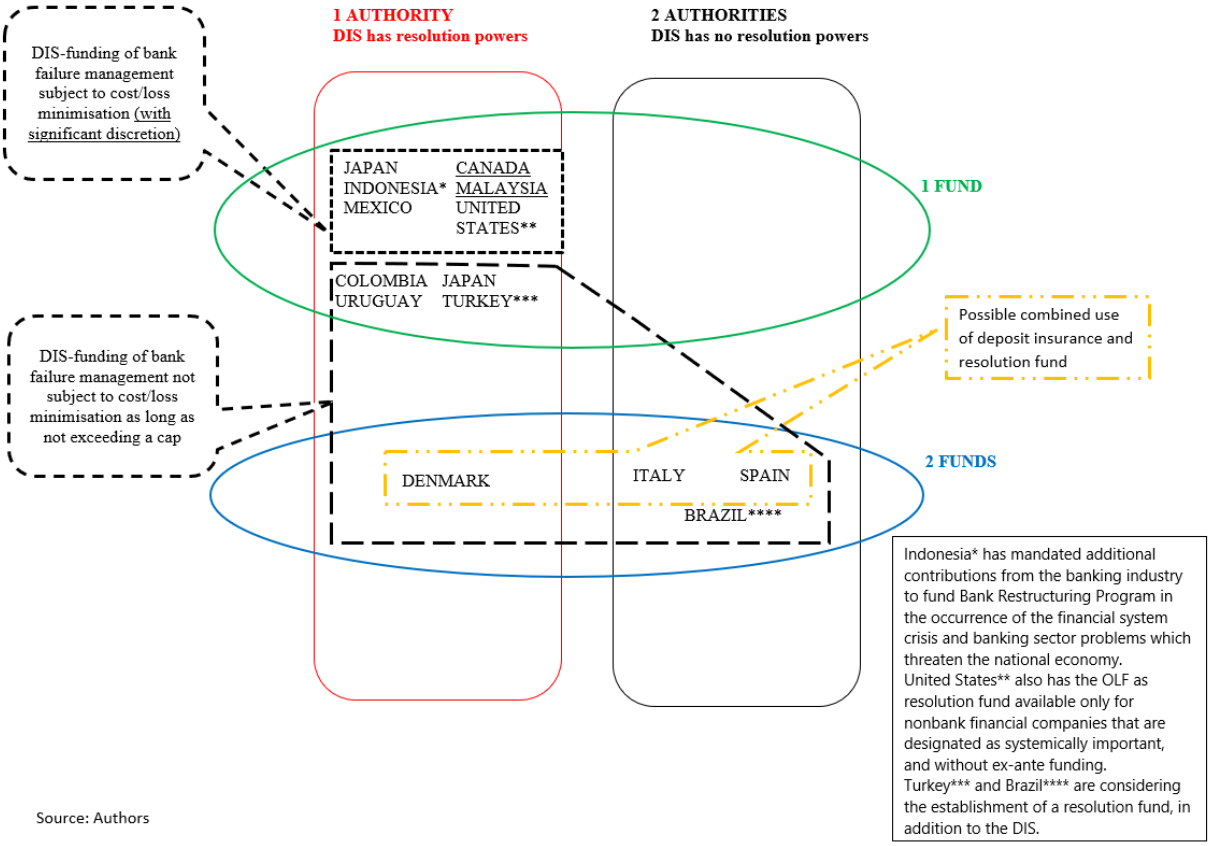
Section 2 – Frameworks

Authorities' mandates and their impact on quantitative constraints

10. **Institutional arrangements vary across surveyed jurisdictions.** An important difference between jurisdictions is whether deposit insurance and resolution functions are housed in the same entity. As indicated above, IADI data show that in 2021, around 40% of deposit insurers were also the domestic bank resolution authority, and that co-location of deposit insurance and resolution functions is a growing trend. Nevertheless, they are separated in many jurisdictions, with resolution functions located, for example, in the central bank or a free-standing resolution authority. Separation has implications for governance arrangements for decision-making about the use of deposit insurance funds for non-payout measures, in order to respect the institutional independence of the deposit insurer. Another difference pertains to whether there is an industry-sourced resolution fund in addition to a DIF. Where the legal framework includes separate regimes for bank resolution and insolvency or liquidation, the resolution regime is more likely to be accompanied by a separate resolution fund. Where there is a single framework for managing failing banks, separate bank resolution funds do not normally exist. In such cases, the framework may provide for greater use of the DIF to fund non-payout measures. This type of framework is also more closely associated with a more extensive role for the deposit insurer in bank failure management, in conjunction with a mandate as a risk minimiser or loss minimiser.

11. **These differences in institutional arrangements can be observed among surveyed jurisdictions.** As Graph 1 reflects (solid coloured lines), in 10 of the 13 surveyed jurisdictions the deposit insurer is also the resolution authority or has some resolution functions, and is therefore responsible for or involved in decisions about the measures to manage the bank failure and how the DIF funds are used. In the remaining three jurisdictions, the deposit insurer is separate from the resolution authority and has no competence for resolution beyond that implied by its deposit insurance mandate.

Graph 1



Source: Authors

12. **Institutional arrangements affect how surveyed jurisdictions frame quantitative constraints on the use of DIF resources.** While all surveyed jurisdictions have adopted constraints in order to balance flexibility in funding for bank failure management with protection of DIF resources, the structure of those constraints varies. Graph 1 (black dotted lines) superimposes different types of constraint on different institutional arrangements. Those constraints are classified into three types:

- *A least cost requirement,* under which the deposit insurer, as resolution authority, must pursue the option that entails the least cost to the DIF in reacting to an individual bank failure.
- *A cost minimisation requirement*, which requires the deposit insurer to carry out its functions in a way that minimises its own exposure to broader losses or the costs to the financial system.
- *A cap on DIF support,* which prevents the DIF from providing amounts of funding for any meausure in excess of a cap, which may be based on payout counterfactual,[10] the level of the DIF[11] and/or other metrics.[12]

In six of the surveyed jurisdictions (Canada, Indonesia, Japan, Malaysia, Mexico and the United States), where the deposit insurers have broad mandates and resolution functions, constraints derive from the deposit insurer's institutional mandate, which includes a least cost or cost minimisation requirement. In the

[10] Where the cap is based on a payout count, the amount the DIF may provide to support non-payout measures cannot exceed its costs in a payout counterfactual (however calculated).

[11] Where the cap is based on level of DIF, the amount the DIF may provide to support resolution measures cannot exceed a specified percentage of the DIF reserve or the deposit insurer's tangible net worth.

[12] Other metrics include the amount of losses that covered deposits would have suffered in specific circumstances related to individual resolution tools (EU – see Box 1) or the amount of covered deposits and contribution funds (Turkey).

remaining seven jurisdictions, constraints are structured as a quantitative cap on the amount of funding that may or must be provided by the DIF, although the way in which the cap is calibrated varies. (Hereafter referred to as "capped support jurisdictions".) Table 1 reflects that categorisation.

Constraints on DIF support for bank failure management measures — Table 1

Jurisdiction	Resolution authority	DIF	DIF mandate*	Type of constraint
Canada (CDIC)	CDIC		Loss minimiser	Cost minimisation requirement
Malaysia (PIDM)	PIDM		Risk minimiser	Cost minimisation requirement
Indonesia (IDIC)	IDIC		Loss minimiser	Least cost requirement
Japan (DICJ)	DICJ		Loss minimiser	Least cost requirement**
Mexico (IPAB)	IPAB		Loss minimiser	Least cost requirement
United States (FDIC)	FDIC		Risk minimiser	Least cost requirement
Colombia (Fogafín)	Fogafín		Loss minimiser	Cap – payout counterfactual
Turkey (SDIF)	SDIF		Loss minimiser	Cap – payout counterfactual
Uruguay (COPAB)	COPAB		Loss minimiser	Cap – payout counterfactual
Brazil (FGC)	CB	FGC	Paybox plus	Cap – payout counterfactual and level of DIF
Denmark (FS)	FS		Paybox plus	Cap – payout counterfactual and other metrics
Italy (FITD)	SRB/BdI	FITD	Loss minimiser	Cap – payout counterfactual and other metrics
Spain (FGD)	SRB/FROB***	FGD	Paybox plus	Cap – payout counterfactual and other metrics

* Based on the IADI taxonomy and responses to the IADI Annual Survey.

** In Japan, under the basis approach to bank resolution, the least costly resolution method should be chosen within the limit of the cost of payout.

*** In Spain, national resolution functions are split between FROB, as the executive resolution authority and the Bank of Spain, which is the "preventative" resolution authority with responsibility for resolution planning.

Source: FSI survey.

13. **The resolution authority's discretion is greater where cost minimisation is one of several objectives that must be weighed against each other.** This is the case for the Canada Deposit Insurance Corporation (CDIC) and the Malaysian deposit insurer (PIDM), which have some flexibility to pursue an option that is not the least costly in a given case if that option better serves their overall mandate. Both have mandates that specify several objectives, which are not ranked. The CDIC has four objectives under its governing statute: to provide insurance against the loss of part or all of deposits; to promote and otherwise contribute to the stability of the financial system in Canada; to pursue those objectives for the benefit of member bank depositors and in such manner as will minimise the exposure of the CDIC to loss; and to act as the resolution authority for its members. These objectives and the way they are framed provide flexibility for the CDIC when selecting a resolution method, and do not require it to pursue the least costly option where another is considered preferable. Cost nevertheless is a material factor given the loss minimisation mandate, and when considering this the CDIC would use the cost of payout as benchmark, along with additional elements such as the impact of failure on other members. Similarly, the PIDM's objectives under its statutory mandate are to: administer the DIF and provide deposit insurance; provide incentives for sound risk management in the financial system; and promote or contribute to the stability of the financial system.

Its mandate also specifies that in administering the DIF and protecting deposits, the PIDM should act in such manner as to minimise cost to the financial system. The fact that cost minimisation considerations relate to the whole financial system rather than the DIF alone requires a significant exercise of judgment on the part of the PIDM, taking account of a range of quantitative and qualitative considerations.

14. **In other jurisdictions, cost minimisation requirements are more stringent and resolution authorities must pursue the least costly option.** This is the case for the Indonesian Deposit Insurance Corporation (IDIC), the Mexican Institute for the Protection of Bank Savings (IPAB) and US Federal Deposit Insurance Corporation (FDIC). Each of these agencies, which combine roles as deposit insurer with resolution and insolvency functions,[13] are subject to a statutory requirement to pursue the resolution or insolvency method that is least costly to their DIF. IDIC and IPAB each have at their disposal several resolution options for non-systemic banks:[14] closure and payout; P&A transactions; or use of a bridge bank. IDIC has the additional option of open bank assistance.[15] Similarly, the FDIC must use the DIF in a way that is the least costly of all resolution methods, including liquidation and payout. All three authorities are therefore required to perform a least cost analysis to compare the cost for the DIF of liquidating the failing bank with the cost of providing financial support for a P&A or, in the limited circumstances in which it is likely to be relevant, the costs of operating and disposing of a bridge bank. Whether liquidation and payout is likely to be the least costly option depends on the methodology by which costs are assessed and the circumstances of the individual case. Approaches to assessing costs in the surveyed jurisdictions are discussed in Section 3.

15. **The seven jurisdictions that use the capped support model differ in their institutional arrangements.** The model is followed by all jurisdictions in the sample (Brazil, Italy and Spain) where the resolution authority and deposit insurer are separate institutions and the deposit insurer has no direct involvement in resolution decision-making. In such cases, capping support may be a more pragmatic way to protect DIF resources than a least cost requirement, since the later could imply a different institution than the deposit insurer being responsible for performing the least cost analysis that ultimately determines the use of DIF resources. However, the capped support model is also used in jurisdictions (Colombia, Denmark, Turkey and Uruguay) where the deposit insurer has resolution functions, either exclusive or shared. The models also differ in their stringency, as other constraints to DIF support in addition to caps may apply in some of these jurisdictions.

16. **The metrics that determine a cap vary across surveyed jurisdictions.** All surveyed jurisdictions that cap DIF support do so with reference to the cost that the DIF would incur in a payout of the bank's insured deposits[16] (the payout counterfactual), although the methodologies to calculate that cost differ (as discussed in Section 3). However, in four jurisdictions the payout counterfactual is supplemented with an additional metric based on a fraction of the target or actual level of the DIF. Under the EU framework, the DIF contribution to a resolution measure is capped at the lower of: (i) the cost of payout; and (ii) 50% of its

[13] IPAB and the FDIC have exclusive competence for the resolution or insolvency of member banks. IDIC has the sole bank resolution power in Indonesia and is responsible for developing resolution policy and executing resolution for banks other than domestic systemically important banks (DSIBs), executing the resolution of a D-SIB and, at the systemic level, developing policies to maintain stability of the banking system. Decisions about the resolution of a D-SIB are taken by the Financial System Stability Committee, composed of the Minister of Finance, the central bank Governor and chairs of the banking supervisor and IDIC.

[14] In Indonesia, decisions about the resolution method for a D-SIB are subject to a different procedure and considerations. While cost is a factor in those decisions, it is one among others and is not determinative in the same way as for non-systemic banks. In Mexico, where a bank is a D-SIB and its market exit risks posing a threat to the financial system as a whole, the option of temporary open bank assistance is also available. In this case, the least cost rule does not apply. Exceptions to constraints on use of DIF resources are discussed in Section 3.

[15] In the case of a non-systemic bank, if open bank assistance is the least costly, additional requirements apply. In particular, this option may only be adopted if the estimated cost to IDIC is no more than 75% of the liquidation alternative and the support is expected to restore the bank to viability.

[16] In Turkey, in the case of Islamic banks ("participation banks") the payout counterfactual is based on the "contribution funds", being the equivalent to deposits in such banks.

target level (ie 0.8% of its total covered deposits).[17] In Brazil, the deposit insurer may provide financial support within the framework of a special administration overseen by the central bank.[18] That amount is subject to both a least cost assessment and a cap based on the deposit insurer's tangible net worth. The cost assessment informs the deposit insurer's decision about whether to provide financial support for a proposed measure. The amount that the deposit insurer could provide is subject to a further operational cap, which is considered in conjunction with the least cost assessment (see next paragraph). Such percentage-based caps are designed to avoid excessive depletion of the DIF by a single intervention, regardless of the size of the bank in question.

17. **Caps may also differ in their scope of application.** In most jurisdictions where DIF support is capped, the effect of the cap is to limit the amount that a DIF may provide in a single intervention in support of the resolution of a specific institution (case-based cap). However, the total outstanding amount of assets that a DIF may acquire through resolution action may be subject to an additional cap (balance sheet caps). In Brazil, for example, total assistance to a single institution must be less than 25% of the deposit insurer's tangible net worth, that is, the actual value of its net assets. Further cumulative caps apply that stipulate that the total outstanding amount of an assistance programme of the DIF to a troubled bank should not exceed 50% of the actual level of the DIF and the combined outstanding of the two programmes should not exceed 75% of the actual level of the DIF.

Combining the use of DIF and other resources

Some jurisdictions have created, or are creating, industry-sourced funds in addition to and separate from their DIF. While the primary purpose of a DIF is to ensure continued access to insured deposits, such resolution funds have other purposes and scope. Accordingly, the conditions for using each type of resource differ. In the US, for example, the Orderly Liquidation Fund (OLF) may be used to fund the resolution of financial companies under the Dodd-Frank Act, including bank holding companies, but is not available for the depository institutions that are covered by the Federal Deposit Insurance Fund (FDIF). Use of the OLF is subject to certain conditions, including a systemic risk determination and a writedown of all debt that is subject to regulatory order. In the European banking union, the Single Resolution Fund (SRF) may be used to support the use of resolution tools in relation to a bank in resolution under the Single Resolution Mechanism Regulation (SRMR), subject to conditions that include a requirement for the prior writedown of at least 8% of the failing bank's total liabilities, including own funds. In Brazil, Indonesia and Turkey, resolution funds are being established, with details of the scope and conditions for use still subject to ongoing policy debate or legislative process (Table 2).

[17] The DIF contribution is calibrated, in the case of a bail-in, by reference to the amount by which insured deposits would have been written down had they been included in the scope of bail-in, and in the case of another tool, for example sale of business, the amount is determined by reference to the amount of losses that covered depositors would have suffered in that resolution measure had they borne losses in the same proportion as other creditors of the same rank under national insolvency law. The caps described then limit the sum produced.

[18] In addition, it may also provide capital and liquidity assistance to a member bank outside of resolution. That support is also capped, but is not the focus of this paper.

Combined use of deposit insurance and resolution funds Table 2

Jurisdiction	DIF = RA?	Other industry-sourced funds	Combined use possible
Brazil (FGC)	No	Resolution fund	tbd
Canada (CDIC)	Yes	No	-
Colombia (Fogafin)	Yes	No	-
Denmark (FS)	Yes	Resolution fund	Yes
Indonesia (IDIC)	Yes	Resolution fund	-
Italy (FITD)	No	SRF	Yes
Japan (DICJ)	Yes	No	-
Malaysia (PIDM)	Yes	No	-
Mexico (IPAB)	Yes	No	-
Spain (FGD)	No	SRF	Yes
Turkey (SDIF)	Yes	Resolution fund	tbd
Uruguay (COPAB)	Yes	No	-
USA (FDIC)	Yes	Orderly Liquidation Fund*	No

* The OLF is available for funding resolution measures in relation to failed non-bank financial companies under the Orderly Liquidation Authority under Title 2 of the Dodd-Frank Act. It cannot be used in relation to depository institutions under the Federal Deposit Insurance Act.

Source: FSI survey.

18. **To date, among the surveyed jurisdictions, combined use of DIF resources and resolution funds in a single case is only possible in EU member states.** If a bank is resolved under the Bank Recovery and Resolution Directive (BRRD), the national DIF must contribute resources to support the resolution if the resolution measure protects continuity of access to deposits and conditions for access to the SRF are met. The amount of the DIF's contribution depends on the resolution tool applied and is subject to caps (Box 1). In the United States, the FDIF and the OLF are separate, designed for use under different statutory regimes, and their combined use explicitly prohibited by law. Whether combined use will be possible in Brazil, Indonesia and Turkey is not yet determined.

Box 1

Combined use of SRF and DIF resources in the European banking union

The DIF contribution under the Bank Recovery and Resolution Directive (BRRD) and Single Resolution Mechanism Regulation (SRMR)

The European framework allows the use of DIF resources both in a resolution proceeding under the BRRD and to support an "alternative measure" (for example, a transfer of assets and liabilities) in a national insolvency proceeding.① A key difference between these measures is that in resolution the DIF is required to contribute to the resolution action if it ensures continuity of access to deposits, while in an insolvency proceeding the EU framework permits but does not require DIF resources to be used for this purpose. Indeed, the provision for DIF funds to be used to fund "alternative measures" is a national option under the Deposit Guarantee Schemes Directive (DGSD) which has not been implemented by all EU member states.②

Box 1 (continued)

In resolution, the amount of the DIF required contribution is determined by the resolution authority after consulting the DIF, and depends on the resolution tool used in the given case (BRRD, Article 109(1)1st subparagraph). In the case of a bail-in, the amount that the DIF is liable to contribute equals the amount by which insured deposits would have been written down had they been included in the scope of bail-in ("bail-in support amount"). If another tool is used, for example sale of business, the amount is determined by the funding needs of that measure.

For any resolution strategy, the DIF support is capped at: (i) the losses the DIF would have to bear had the bank been wound up under normal insolvency proceedings (ie the cost of payout net of recoveries through subrogation); and (ii) 50% of the DIF target level (whichever is the lower). In addition, the BRRD provides that, if the bail-in tool is used, the DIF is not required to make a contribution towards the costs of recapitalising the bank. This effectively further limits the bail-in support amount. Lastly, if a subsequent valuation determines that the contribution of the DIF to resolution was greater than the net losses it would have incurred under national insolvency proceedings, the DIF is entitled to payment of the difference from the SRF.

Under the DGSD, the costs to the DIF of financing national insolvency measures to preserve depositors' access to their covered deposits is also capped at the net cost of payout. No surveyed jurisdiction reports that the methodologies to calculate the net cost of payout differ for resolution and insolvency. However, unlike in resolution, the 50% target level cap does not apply in insolvency.③ This may imply that DIF resources could be available in greater amounts for insolvency than for resolution.

① The DGSD also permits DIF funding for pre-insolvency "preventive measures" to prevent the failure of a bank. However, those measures are not within the scope of this paper. ② For example, only seven of 19 euro area member states have implemented the option to allow deposit insurer resources to fund deposit book transfers in national liquidation proceedings (see Arda (2022), Annex III). ③ While national discretion is provided regarding the 50% limit under the BRRD, the Single Resolution Mechanism Regulation does not provide for discretion regarding the 50% limit.

Using DIF resources for non-payout measures

All surveyed jurisdictions allow their deposit insurance funds to be used for purposes other than payout to preserve continuity of access to deposits. As reflected in Table 3, such measures may include merging the failing bank with a healthy bank or transferring some or all assets and liabilities, in particular deposits, to a suitable purchaser. In most of the surveyed countries, DIF resources may also be used to fund a bridge bank, whereby authorities create and operate a new banking institution to which the failing bank's business is transferred and managed before it is ultimately sold back to the market. In some countries, DIF resources may also be used to provide liquidity to a bank in resolution. Authorities that combine deposit insurance and resolution functions tend to have a broader spectrum of tools at their disposal. The only tools for which DIF support is available in all surveyed jurisdictions are transfer and payout.

Use of DIF funds for purposes other than payout — Table 3

Jurisdiction	Support a merger with another bank	Support transfers	Fund a bridge bank	Provide liquidity in resolution
Brazil (FGC)	✓	✓	×	×
Canada (CDIC)	✓	✓	✓	✓
Colombia (Fogafín)	✓	✓	✓	✓
Denmark (FS)	✓	✓	✓	×
Indonesia (IDIC)	✓	✓	✓	✓
Italy (FITD)	✓*	✓	✓	×
Japan (DICJ)	✓	✓	✓	✓
Malaysia (PIDM)	✓	✓	✓	✓
Mexico (IPAB)	×	✓	✓	✓**

Spain (FGD)	×	✓	✓	×
Turkey (SDIF)	✓	✓	×	✓
Uruguay (COPAB)	×	✓	×	×
USA (FDIC)	✓	✓	✓	✓

* Merger support is possible as a preventative measure.

** IPAB may only provide liquidity support in the context of open bank assistance for a bank that is systemic in failure.

Source: FSI survey.

19. **DIF funding of a transfer may be analysed as a non-recoverable negative purchase price paid by the DIF to the acquirer.** At a most basic level, if only insured deposits, cash and unimpaired assets are transferred from the failing bank, such a transaction is structurally similar to a payout in which depositors are reimbursed by receiving the insured amounts into accounts held with a third-party bank. In practice, however, transactions that include only insured portions of deposits may be difficult to realise, because they break up the deposit book and are therefore generally unattractive to potential acquirers. As a result, the business offered usually includes, at a minimum, all deposits, and probably other liabilities to preserve franchise value in the transfer. That, however, requires that the transaction include assets of sufficient quality to match the value transferred liabilities. Where such assets are not available, there will be a funding gap.[19] For the transaction to proceed, the gap needs to be met by external resources, for example DIF resources.[20]

20. **In a payout, the deposit insurer subrogates to the reimbursed claims in the liquidation and may – or may not – recover the entire amount that it paid out.** While liquidation and payout, unlike a transfer, offers the potential to recover some or all of the amount that it paid out to depositors, it still involves a risk to the DIF. The key variables that determine the recovery rate are the rank of insured deposits and the value of residual assets that is actually realised. Liquidation is likely to destroy any residual franchise value of the business and incurs procedural and operational costs, which are avoided in transfer. Moreover, liquidation can be a lengthy process, with an extended period before the subrogated claims are settled. Lastly, the DIF must initially expend a far greater amount in payout than in transfer to preserve access to deposits, which – at least temporarily, until the recoveries are realised – implies a greater rate of depletion of available resources or a greater need to borrow. Methodologies that benchmark the cost of payout against the cost of transfer seek to take these aspects into account.

Section 3 – Payout cost assessment methodologies

Calculating the cost of the payout counterfactual

21. **To use DIF resources for non-payout measures, authorities in all surveyed jurisdictions must quantify the cost of the options at their disposal.** This allows authorities to compare the cost of resolution and liquidation options and assess which best meets cost minimisation requirements or is feasible within caps on DIF resources. In all surveyed jurisdictions, the cost of reimbursing covered depositors is the reference point for that comparison since it is the default option. Where the deposit insurer

[19] The size of the funding gap depends upon the acquirer's pricing of the assets available for transfer and the return it expects to realise by acquiring the business.

[20] The DIF support may also take the form of a loss-sharing arrangement. This is defined by the IADI Glossary as an agreement in a financial transaction, in which the resolution authority or the liquidator agrees to share with the acquirer losses on certain types of loans. Loss-sharing may be offered in connection with the sale of classified or non-performing loans that otherwise might not be sold to an acquirer at the time of resolution. Where such an agreement is in place, instead of or in addition to providing support in cash, the DIF effectively guarantees the value of transferred assets up to a certain amount.

is subject to a cost minimisation or least cost requirement, calculating the cost of the payout counterfactual allows it to benchmark other options. In jurisdictions where DIF support for non-payout options is capped at the cost of a payout, authorities need to calculate that cost in each case.

22. **The elements taken into account when calculating the cost of payout differ across surveyed jurisdictions.** Table 4 classifies the elements that might form part of the calculation into five categories: (i) the payout amount for all insured deposits in the failed bank; (ii) operational expenses associated with the liquidation proceedings; (iii) recoveries or other proceeds of the liquidation that would reduce the net costs of the insolvency for the deposit insurer; (iv) consequential expenses of payout for the deposit insurer, such as borrowing expenses and opportunity costs; and (v) systemic costs, such as putative costs to the DIF arising from future bank failures that might result from the systemic impact of the liquidation, additional costs on other member banks, such as additional premia, or costs that do not accrue directly to the deposit insurer but arise elsewhere in the financial system. The only element common to all jurisdictions is the amount that the deposit insurer would be liable to pay out to insured depositors.

Methodologies for assessing payout costs — Table 4

Jurisdiction	Payout amount	DI operational costs	Liquidation recoveries	DI consequential costs	Systemic costs
Brazil (FGC)	✓	×	×	×	×
Canada (CDIC)*	✓	✓	✓	✓	✓
Colombia (Fogafín)**	✓	✓	✓	×	×
Denmark (FS)	✓	✓	✓	×	×
Indonesia (IDIC)	✓	✓	✓	×	×
Italy (FITD)	✓	✓	✓	✓	✓
Japan (DICJ)	✓	✓	✓	×	×
Malaysia (PIDM	✓	✓	✓	✓	✓
Mexico (IPAB)	✓	✓	✓	×	×
Spain (FGD)***	✓	✓	✓	×	×
Turkey (SDIF)	✓	×	×	×	×
Uruguay (COPAB)	✓	✓	✓	×	×
USA (FDIC)	✓	✓	✓	×	×

* In pursuing its statutory objectives to promote the stability of the financial system in Canada while minimising the CDIC's exposure to loss, the CDIC uses the costs of payout as a benchmark, but would also consider a range of additional elements including the possible costs arising from the impact of a bank failure on other member banks.

** The operating framework for Fogafín does not specify or explicitly limit the costs that must be taken into account in determining the payout counterfactual. Fogafín is currently reviewing its methodology and the feasibility of including Fogafín's operational costs.

*** FGD notes that the EU framework remains silent about consequential and indirect costs. To date, a methodology for assessing such costs has not been developed in Spain.

Source: FSI survey.

23. **In most surveyed jurisdictions, liquidation recoveries by the deposit insurer are included in the calculation as a cost-decreasing element.**[21] This is based on the deposit insurer's right of subrogation to claims that it has reimbursed. However, the effect of subtracting expected recoveries depends on the rank of insured deposits in a jurisdiction's creditor hierarchy, and therefore varies. As a general principle, where the deposit insurer is subrogated to the claims of insured depositors in insolvency, depositor preference is likely to result in higher recoveries, which in turn can significantly reduce the amount

[21] Only Brazil does not include recoveries in the calculation.

of DIF resources that would be available to support non-payout measures. The extent of this will depend on the form of depositor preference under a jurisdiction's framework. A "super-priority" for covered deposits under a system of insured depositor preference may have a stronger impact than general depositor preference, where the covered deposits may share losses with other depositors (Box 2). The former is the case, for example, in the European jurisdictions within the sample, while the latter applies in most other surveyed jurisdictions. In the European Union, insured depositor preference means that in many cases the deposit insurer may expect to recover from the liquidation most or all of the funds needed to pay out insured depositors, since the assets of a failed bank would be likely to be sufficient to cover most or all of that amount. This significantly restricts the amounts that it could contribute to fund non-payout measures.

Box 2

Forms of depositor preference

Depositor preference takes different forms, reflecting national policy choices, the structure of the financial system and the institutional architecture. However, there are three common types: insured depositor preference, general depositor preference and tiered depositor preference.

Where there is no depositor preference (for example, in Japan among the survey sample) all deposits rank equally with other general unsecured claims. This does not preclude subrogation of the deposit insurer to insured deposits.

Insured depositor preference

Insured depositor preference provides preferential treatment for insured deposits – those deposits that are eligible and within the specified deposit insurance limit – over other, non-preferred senior unsecured creditors. Uninsured depositors (and any portion of an "eligible" deposit that exceeds the insurance coverage level) rank equally with other senior unsecured claims. Where subrogation applies, the deposit insurer enjoys a priority claim to recoveries in liquidation over all other non-preferred creditors.

General depositor preference

General depositor preference gives preference to all deposits, including those of uninsured depositors, over other senior unsecured creditors. The deposit insurer is subrogated for insured deposits, and has an equal claim to recoveries in insolvency with all other deposit liabilities. As a result, its share of recoveries is lower than under a system of insured depositor preference, but recoveries for uninsured depositors commensurately higher.

Tiered depositor preference

Tiered depositor preference gives preference to insured deposits (and the deposit insurer through subrogation) over uninsured deposits, and prefers both over senior unsecured creditors. This form of depositor preference, which is sometimes referred to as "super-preference" for insured deposits, is likely to lead to similar levels of liquidation recoveries for the deposit insurer as insured depositor preference, but lower levels for non-preferred senior creditors.

24. **Consequential costs to the deposit insurer are recognised as cost of payout in only three surveyed jurisdictions.**[22] Those that include such costs characterise it as a true cost method of pricing, since interest payable by deposit insurers as a result of having to borrow funds to finance large payout payments can be attributed to the individual case and recognised as increasing overall cost of payout. The Italian deposit insurer (FITD) extends that rationale to "opportunity costs", that is, the expected return on lost investment opportunities that could not be realised as the funds had to be used to reimburse depositors. The argument is that even if deposit insurers have conservative investment mandates, the use of their funds to pay out insured deposits deprives them of liquid, readily available and potentially interest-

[22] Canada, Italy and Malaysia.

bearing assets, and the resulting deterioration of the liquidity position or future income should consequently be factored into the overall cost of payout. Although borrowing costs may, in principle, arise for both payout and non-payout measures, only the former are considered relevant in the cost calculation for some DIFs. In Italy, for example, the FITD can only activate its pre-agreed credit facility for purposes of payout. Moreover, in a payout, borrowing costs on a DIF may be considerably larger since a DIF is likely to have to borrow larger amounts for longer maturities given the likely higher initial expenditures (see paragraph 22).

25. **Only three of the surveyed jurisdictions include systemic costs in their calculation of the cost of payout.**[23] The Italian FITD may take into account a range of indirect systemic costs, including the possible increase in the level of contributions that member banks would be required to pay to the DIF in order to replenish the DIF following a payout and pending the realisation of recoveries; the increased funding costs for DIF member banks, other financial firms or the sovereign, if markets interpret a bank failure and depositor payout as a general increase in financial sector risk; and the possible contagion effects for other high-risk banks. The time horizons applied in assessing such costs typically run between one and three years depending, among other things, on the size of the bank in question and the time in which the liquidation would be expected to be completed. Similar methodologies apply in Canada and Malaysia. To the extent that these approaches have been applied in practice when dealing with bank failures (for example, in Italy during and in the aftermath of the Great Financial Crisis), they may be refined on the basis of empirical data. However, none of these jurisdictions has a published methodology or a finite set of items that they consider as contributing to systemic costs.

Dealing with uncertainties

26. **All surveyed jurisdictions acknowledge that cost calculations require judgment.** Decisions in insolvency and resolution are based on incomplete information or assumptions, and therefore entail significant elements of uncertainty. Authorities in most surveyed jurisdictions report the main sources of uncertainty, where a certain amount of judgment is required, as: expected asset recovery rates or recoveries that the deposit insurer would expect to realise through subrogation to the claims of insured depositors in liquidation; the expected period over which expenses will be incurred or proceeds realised; and the probability and expected extent of various systemic effects.

27. **Approaches to estimating asset recovery rates differ across surveyed jurisdictions.** Estimating recovery rates is only relevant in jurisdictions that calculate the cost of payout on a net basis. Among these, the survey results show two broad approaches. One allows authorities to estimate asset recovery rates by way of valuation at the point of failure. This typically involves appointing internal or external valuers, as practised, for example, by the US FDIC.[24] Other jurisdictions apply standardised recovery rates. In Colombia, for example, Fogafín applies a standardised haircut to assets that progressively increases over time, reflecting an incremental decrease in the value of assets the longer they are held by the deposit insurer.[25] In Uruguay, Copab applies a fixed recovery rate of 25% of asset value as recorded on the failed bank's balance sheet, which is based on the worst historical recovery rate.[26]

28. **Some authorities apply set time horizons for the purposes of estimating specific costs.** In Mexico, for example, the standard liquidation procedure is estimated to last for 36 months, allowing IPAB

[23] Canada, Italy and Malaysia.

[24] Assets available for distribution are calculated by deducting estimated asset losses and adding the premium or discount of any bids received for the failed bank (see FDIC Resolution Handbook).

[25] Fogafín may apply other rates and a revised methodology on a case by case basis.

[26] The 25% recovery rate determines the maximum amount that Copab can provide to support a transfer, and so calibrates the cap. However, if in a specific case a higher recovery rate could reasonably be expected, this will be taken into account by the Copab board when deciding the method of failure resolution.

to apply that time frame when calculating the net present value of payout costs. In Italy, the additional funding costs that the FITD may incur as a result of payout are estimated for a period of up to three years, which is based on the agreed duration of a borrowing facility between FITD and a pool of financing institutions. Moreover, FITD applies a one-year horizon to estimate knock-on effects of a payout. Similarly, Malaysia applies the duration of the intended resolution measure or the term of any additional borrowing by PIDM, whichever is longer, to project relevant costs to PIDM.

29. **The consideration of systemic costs by the DIF requires a combination of analysis and a high degree of judgment.** Jurisdictions that include systemic costs when calculating the cost of payout agree that an exact projection is impractical. Rather, they approximate such costs on the basis of historical observations and qualitative assessments. In Italy, for example, the observable deterioration of funding costs for the Italian banking sector at a time when three banks were resolved feeds into FITD's assessment of overall cost of payout for the DIF and may be complemented with other factors to reflect changed circumstances.[27] In Canada and Malaysia, where resolution cases have not recently occurred, hypothetical scenarios substitute for recent resolution cases.

Systemic exceptions

30. **In most surveyed jurisdictions, quantitative constraints on the use of DIF resources can be overridden in extraordinary circumstances.** Such systemic exceptions allow authorities to use more DIF resources to fund non-payout measures than would otherwise be possible under applicable constraints. This introduces the scope for greater flexibility within the framework. But that flexibility is typically circumscribed by governance arrangements designed to limit it to exceptional cases. Table 5 sets out how systemic exceptions are designed in surveyed jurisdictions.

31. **Availability of systemic exceptions correlates with how institutional arrangements and mandates are framed.** Within the survey sample, they are associated with jurisdictions where use of DIF resources is subject to a least cost or cost minimisation requirement.[28] In all those jurisdictions, authorities combine deposit insurance and resolution functions, and in most cases there is no separate resolution fund dedicated for use in systemic bank failures.[29] By comparison, systemic exceptions are available in four of the seven surveyed jurisdictions with a capped support model.[30] Although in two of those four jurisdictions (Denmark and Uruguay) deposit insurance and resolution functions are located within one entity, in none of the four can DIS resources be used to an extent that is higher than payout costs – however calculated. In the three EU jurisdictions in the sample, a special bank resolution regime exists in parallel to a bank-specific insolvency framework and applies to cases where a public interest threshold that incorporates systemic considerations is met. That resolution regime includes specific funding arrangements associated with it, reducing or obviating the need for systemic exceptions to the use of DIF resources.

32. **Systemic exceptions take different forms.** In those jurisdictions where there is an otherwise binding least cost requirement or quantitative cap,[31] the exception allows that constraint to be exceeded in specified circumstances. For example, the US framework provides for an exception to the least cost

[27] See De Aldisio et al (2019).

[28] This is the case for Canada, where the CDIC is subject to a cost minimisation mandate, and Indonesia, Japan, Mexico and the United States, where least cost requirements apply. While Malaysia does not have a systemic exception as such, systemic considerations are incorporated in the determination of the approach to managing any bank failure, and the PIDM's cost minimisation mandate is subject to such considerations. Of the jurisdictions that provide for a systemic exception, only Brazil, Colombia and Turkey apply capped support models.

[29] Canada, Malaysia, Mexico and United States do not have separate funding arrangements for managing bank failures distinct from the DIF.

[30] Denmark, Italy, Spain and Uruguay.

[31] Brazil, Colombia, Mexico, Turkey and the United States.

requirement[32] when a "systemic risk determination" is made to the effect that compliance with that requirement would have serious adverse effects on economic conditions or financial stability, and the provision of assistance would avoid or mitigate such adverse effects. When invoked, the exception would allow DIF funds to be used for measures designed to control contagion effects that would arise from the least cost resolution method, although there are parameters to the measures that may be used that aim to constitute a balance between flexibility and appropriate statutory guardrails.[33] Similarly, the Mexican framework permits an exception to the least cost requirement when a bank's failure is deemed to represent a systemic risk. The exception permits the provision of temporary open bank assistance. In Turkey, the financial cap may be overridden where there is a systemic risk determination. This permits the SDIF to provide extraordinary financial support.[34] By comparison, in Canada, where the CDIC is subject to non-hierarchical statutory objectives that include loss minimisation, the nature of the override takes a different form. In that case, the Minister of Finance may override the CDIC's loss minimisation objective in pursuit of financial stability. This would enable the CDIC to prioritise its other objectives of protecting depositors and maintaining financial stability over minimising its exposure to loss, further increasing its flexibility in the selection of the resolution method for a member institution. Similarly, when selecting its strategy for dealing with a failing bank, the Malaysian PIDM undertakes a systemic impact assessment that incorporates quantitative and qualitative considerations, in pursuance of its statutory mandate to contribute to the stability of the financial system.

33. **Systemic exceptions are subject to special governance arrangements.** This helps ensure that they are only invoked in exceptional circumstances. In some cases, the central bank or the Minister of Finance need to be involved in the decision-making process. The DIF authority may or may not be part of the process. In the US, for example, a systemic exception requires the written recommendation of the FDIC board of directors and the Federal Reserve Board (in each case, upon a vote of not less than two thirds of their members), followed by a determination by the Secretary of the US Treasury in consultation with the president. Similar arrangements apply in Colombia, where the decision to adopt an exemption to the applicable cap is taken by the board of Fogafín, which includes the Minister of Finance, the Governor of the central bank and the Financial Superintendent and two representatives from the financial sector, appointed by the president. In Brazil, an exception is approved by the FGC board following a written determination by the central bank that the liquidation of a failing bank is likely to give rise to an adverse market situation. In Malaysia, decisions regarding use of DIF resources are made by the PIDM board, which includes the central bank Governor and Secretary General of the Treasury. The PIDM also reports to the parliament through the Minister of Finance.

34. **Some jurisdictions have a specific framework for systemic banks that is not subject to the same constraints on resource use as apply to measures related to other banks.** This applies to all banks that authorities determine to be systemic, and therefore differs from a systemic exception that may be considered on a case by case basis and is not necessarily used for all systemic banks. Indonesia and Japan, for example, both have distinct frameworks for systemic cases.

- In Indonesia, while a least cost assessment drives the choice of resolution options for a non-systemic bank, different considerations are taken into account when deciding the resolution method for a bank that is determined to be a D-SIB. These include: the prevailing economic conditions; the complexity of the bank's problems; the time frame for intervention; the availability

[32] The US least cost requirement stipulates that the FDIC must use DIF resources in the way that is the least costly to the DIF of all possible resolution methods, including liquidation and payout.

[33] Since the 2010 Dodd-Frank Act, a systemic risk exception may only be used in the case of a closed bank for which the FDIC has been appointed receiver. Accordingly, it cannot authorise open bank assistance.

[34] In addition to the systemic exception, there is also no limit on the amount of financial resources that the SDIF can use to restructure and strengthen a failing bank where the SDIF has acquired the majority or all of its shares. However, the amount that the SDIF may use to acquire the shares of a bank is capped at the amount of insured deposits and participation funds in that bank.

potential investors; and the effectiveness of the resolution. Decisions in relation to D-SIBs are taken within the Financial System Stability Committee (KSSK), chaired by the Minister of Finance and comprising the chair of the banking supervisory authority, the central bank governor and the Chair of IDIC.

- Japan has different frameworks for managing bank failure, depending on the nature of the bank and the circumstances of the failure. In cases where the authorities determine that the failure would not cause systemic risk, a limited coverage system applies that involves the payout of insured deposits and the liquidation of the failed bank, or a transfer of insured deposits to an acquiring bank with financial assistance from the DICJ. In such cases, the DICJ is typically appointed as financial administrator and uses a least cost approach with a view to making an efficient use of its funds. The other two options – measures for orderly resolution and measures against financial crisis – are used in specific circumstances where a failure has systemic implications. These crisis management frameworks, which are used following deliberation by the Financial Crisis Response Council and with the approval of the prime minister, confer a wider range of tools, which may include, for insolvent institutions, financial assistance to a purchaser in excess of payout costs. The crisis management measures involve different funding arrangements for the DICJ.

Systemic exceptions are generally accompanied by public backstop funding arrangements for the DIF. As indicated in Table 5, with the exception of Brazil, all jurisdictions with a public backstop provide for a systemic exception and the deposit insurer has a loss or risk minimisation mandate. None of these jurisdictions makes the access to a public backstop conditional on prior use of a systemic exception or on depletion of the DIF, although the US caps amounts available to the FDIC under its public backstop with reference to available cash in the FDIF. Similarly, the surveyed jurisdictions that do not have systemic exceptions also do not have public backstops for their DIF.

Systemic exceptions

Table 5

Jurisdiction	Exception available	Conditions	Governance	Public backstop funding	Resolution fund *
Brazil	✓	Written statement by central bank of likely adverse market situation	Approved by board of the DIF following central bank statement	×	✓
Canada	✓	Override of loss minimisation objective by Minister of Finance	Decision-making by CDIC board in the light of statutory objectives	✓	×
Colombia	✓	Liquidation could jeopardise financial system stability or cause severe damage to national economy	Decision taken by DIF board	✓	×
Denmark	×	×	×	×	✓
Indonesia	✓	D-SIB determination Special bank restructuring programme (BRP) may be adopted in event of systemic crisis	Resolution decisions for handover to and support by IDIC coordinated by Financial System Stability Committee (KSSK).	✓	✓
Italy	×	×	×	×	✓
Japan	✓	Risk to orderly credit system or severe disruption to financial system	Determination by prime minister following deliberation by Financial Crisis Response Council	✓	×
Malaysia	[Systemic cost assessment]				

Mexico	✓	Determination that a bank could affect financial stability or pose a risk to payment systems	Following determination by Banking Stability Committee, IPAB board may decide to provide open bank assistance	✓	×
Spain	×	×	×	×	✓
Turkey	✓	Systemic threat	Approval of treasury, central bank, resolution authority and DIF in Financial Stability Committee	✓	✓
United States	✓	System risk determination that compliance with least cost requirement would have serious adverse effects on economic conditions or financial stability, and the provision of assistance would avoid or mitigate such effects	Written recommendation of the FDIC board and the Federal Reserve, followed by a determination of the Secretary of the Treasury, in consultation with the president	✓	× **
Uruguay	×	×	×	×	×

Source: FSI survey.

* Refers to a resolution fund for banks that is separate from the DIF.

** The Orderly Liquidation Fund is available for funding resolution measures in relation to failed non-bank financial companies under the Orderly Liquidation Authority under Title 2 of the Dodd-Frank Act. It cannot be used in relation to depository institutions under the Federal Deposit Insurance Act.

Section 4 – Conclusions

35. **Frameworks governing the use of DIF resources balance protection of those funds with appropriate flexibility.** On the one hand, the use of DIF resources for non-payout measures may expand failure management options in a way that supports financial stability and may ultimately help to protect public funds. On the other hand, unrestricted flexibility to use DIF funds without constraint risks unduly depleting DIF resources and going beyond the primary function of the DIF – to protect deposits – without necessarily adopting a suitable governance framework and funding arrangements to reflect that expansion.

36. **The institutional setup of bank failure management frameworks and wider domestic considerations affect the way that balance is achieved.** Jurisdictions where the deposit insurer is also the bank resolution authority tend to grant more discretion to the deposit insurer in deciding how its funds are used, whereas there is typically less flexibility within the framework where the resolution authority is institutionally separate from the deposit insurer. This suggests a greater need for constraints to protect DIS resources where key failure management decisions are made by another institution, while where the deposit insurer is the decision-maker, there is more scope for flexibility within the parameters of its mandate. Indeed, where the deposit insurer is not the primary decision-maker, the types of measures that bring the question of flexibility into play may not be available under the legal framework. For example, a number of EU member states have not implemented the option for the deposit insurer to fund "alternative measures" in insolvency instead of paying out insured deposits.

37. **All surveyed jurisdictions seek to achieve that balance by imposing quantitative constraints on the use of DIF resources while allowing for appropriate flexibility.** The most widely applied quantitative constraint is to limit DIF support to the cost that the DIF would incur in payout. However, legal frameworks and methodologies used by the deposit insurer that determine the cost of payout differ

significantly, as does the degree of flexibility provided within frameworks. For example, jurisdictions differ in terms of whether they recognise consequential and systemic costs, such as the borrowing and opportunity costs of the deposit insurer, when calculating the costs of a payout. Moreover, the net cost is affected by the rank of insured deposits in insolvency, with the deposit insurer's expected recoveries in a liquidation making payout less costly in jurisdictions with senior ranking of insured deposits. This can effectively limit the scope for the DIF to fund non-payout measures, irrespective of whether it is contemplated under the legal framework.

38. **Surveyed jurisdictions differ in how they approach cases with a systemic impact.** Two thirds of the surveyed jurisdictions provide for systemic exceptions that allow the constraints on the amount of DIF resources that can be used for non-payout measures to be overridden in circumstances that are generally based on a determination of a systemic risk. Jurisdictions that do not have a systemic exception often have a special resolution regime for banks that are systemic in failure, with specific funding arrangements that are separate from the DIF.

39. **Irrespective of the framework, governance matters.** Deposit insurers are responsible for the management of their funds and their appropriate use within their mandate, and transparency and accountability are important. A decision to invoke exceptional circumstances that justify diverging from constraints requires legitimacy. Jurisdictions where systemic exceptions are available underpin these through special governance arrangements that secure the involvement of relevant financial safety net participants and often involve approval at the political level. Where flexibility is introduced through cost methodologies that incorporate future - and to some degree speculative - costs, such as increased costs of funding for DIF member banks or possible contagion effects for other banks, similar principles of transparency and accountability would appear relevant to the calculation of such costs. However, in the jurisdictions that provide for a more comprehensive methodology for assessing the costs of liquidation and payout, the oversight of judgment is generally less formalised within the legal framework than the governance arrangements for systemic exceptions.

40. **Constraints are only one aspect of the financial safety net framework, and policy on the use of DIF resources is driven by multiple elements in the design of that framework.** Those elements include: the institutional arrangements and the allocation of responsibility for decision-making in bank failure management; the mandate of the deposit insurer; the coverage level of deposit insurance; the capacity of emergency funding arrangements for the DIF and, in particular, public backstop funding; and the availability of other sources of funding for resolving failing banks, such as separate resolution funds. The policy as regards use of DIF resources does not operate in isolation from those other elements. While the design of constraints is a means of balancing flexibility with protection, their outcome – whether a greater likelihood of payout or non-payout measures by the deposit insurer – is not consistent across jurisdictions because the constraint is not the only determining factor.

41. **The balance between protection of DIF resources and flexibility, and the design of constraints, is part of the broader approach to funding bank failure management.** The safety net framework, and the use of DIF resources within that framework, is shaped by high-level policy decisions about how the costs of bank failure management are allocated, the extent to which they should be borne by the banking sector and the channels by which that allocation is achieved. The deposit insurance system is one channel by which those costs may be transmitted to the banking sector.

42. **Where a policy decision has been taken that the DIF should provide substantial funding for non-payout bank failure measures, the deposit insurer is likely to need a greater degree of flexibility.** The design of such flexibility may include deliberations on the deposit insurer's mandate, cost elements that can be taken into account when calculating the cost of a counterfactual payout and the possibility of systemic exceptions to constraints. The degree of flexibility granted should also be appropriate to the institutional setup of the broader bank failure management framework. In particular, governance safeguards that are proportionate to the degree of flexibility desired should be in place.

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