Selected Aspects for a Prompt and Effective Reimbursement: Addressing Targeted Challenges

IADI Policy Paper

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This IADI Policy Paper has been prepared by the Reimbursement Technical Committee, with input from members of the Policy Council Committee and other IADI members. Helpful comments were received from staff of the International Monetary Fund (IMF).

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Key Terms

The following are key terms for the paper:

Core Principles: The IADI Core Principles for Effective Deposit Insurance Systems are the international standards for deposit insurers. They set out the key components of effective deposit insurance systems and promote best international standards in deposit insurance and support the stability and soundness of financial systems. They are reflective of and adaptable to a broad range of jurisdictional circumstances, settings and structures. They have been included in the FSB's Compendium of Key Standards for Sound Financial Systems and are the basis for the IMF/World Bank assessments.

Deposit Insurer: A specific legal entity responsible for providing deposit insurance or deposit guarantees to insured deposit-taking institutions.

Deposit Reimbursement: A resolution method that involves the reimbursement/payout of Insured Deposits to Insured Depositors. Reimbursement options may include cheque payments, electronic transfers, payment agents and agent banks, cash payments, and digital payment methods[1].

Financial Safety-Net: wider set of functions and entities that work together to support financial stability.

Financial Safety-Net participants: entities that support financial stability. These generally include the deposit insurer, the supervisor, the regulator, the resolution authority, the lender of last resort, and a department of government (generally a Ministry of Finance (MOF) or Treasury responsible for financial sector policy).

Insured Depositors: Holders of eligible deposits that do not exceed the maximum coverage level provided by a deposit insurance system.

Insured deposit-taking institution: any entity that is subject to sound prudential regulation and supervision and an effective resolution regime and which is licensed to take deposits which are insured under the jurisdiction's legal framework[2].

Insured Deposits: eligible deposits that do not exceed the maximum coverage level provided by a deposit insurance system.

Mandate: set of official instructions describing the DI's roles and responsibilities. These can be broadly classified into four categories:

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[1] The IADI 2014 Core Principles includes purchase and assumption (P&A) transactions among the reimbursement options. However, this paper deals only with the reimbursement of insured funds by the deposit insurer to the insured depositors. P&A transactions are thus out of the scope of this paper.

[2] Institutions classified under a jurisdiction's legal framework as 'insured deposit-taking institution' may differ in the legal forms they take. These may include private and public 'commercial banks,' 'financial cooperatives,' 'credit unions,' 'cooperative banks' or 'savings unions.' The determination of 'sound prudential regulation and supervision' of these institutions is made by ensuring that there is high compliance with the Basel Core Principles for Effective Banking Supervision.

1. A 'pay box' mandate, where the deposit insurer is only responsible for the reimbursement of insured deposits;
2. A 'pay box plus' mandate, where the deposit insurer has additional responsibilities. This includes the case where the deposit insurer is not the (sole) resolution authority, but where it participates in the resolution decision-making process, supports the resolution authority in carrying out its functions, or authorises the use of its funds to support resolution measures;
3. A 'loss minimiser' mandate, where the insurer actively engages in the selection and implementation of a range of resolution strategies for the benefit of insured depositors and in a manner that minimises costs or losses; and
4. A 'risk minimiser' mandate, where the insurer has comprehensive risk minimisation functions that include risk assessment/management, a full suite of early intervention and resolution powers, and in some cases prudential oversight responsibilities.

Member Institution: A financial institution that is a member of a deposit insurer.

Payment Agent: Entities (e.g., banks, postal banks) authorised by a Deposit Insurer to reimburse Insured Depositors on its behalf.

(Crisis) Simulation: Operation-based exercises that mobilise all the necessary personnel and logistics (e.g., systems, databases, crisis rooms, communication protocols) that would be called upon in a crisis. Often, they are run in real-time to reproduce the constraints and the stressful environment of a real crisis.

Single Customer View (SCV) file: a file containing the individual depositor information necessary to prepare for a repayment by a deposit guarantee scheme, including the aggregate amount of eligible deposits of every depositor[3].

Tabletop: Discussion-based exercises where team members meet to discuss their roles, responsibilities, and decision-making capabilities to respond to a simulated scenario without operationally carrying out steps or producing documents. Tabletops may be led by a facilitator who guides participants through a discussion of one or more scenario events.

[3] See EBA (2021). Definition according to EBA 2016 Guidelines on DGS stress tests, later revised in 2021.

Executive Summary

A fundamental function of deposit insurers (DI) is the prompt and effective reimbursement of depositors' insured funds, which minimises disruption in access to their insured funds and protects financial stability and confidence in the financial sector.

In 2023, IADI released two reports addressing this function.

First, an IADI Research Paper on reimbursement demonstrated that reimbursing most depositors in seven working days, as prescribed by IADI Core Principles (CP), can be difficult to achieve for DIs. This difficulty is at least partially explained by poor quality of depositor information. It is also linked to a lack of regular testing of systems and processes by a relevant proportion of DIs, even when experience shows that testing improves their performance in real cases.

In addition, IADI published a report on the 2023 banking turmoil and its implications for deposit insurance, including the depositors' growing expectation of continued access to their funds as a result of technological innovation. This expectation, if unmet, may cause a loss of depositor confidence, and further stresses the importance of a prompt payout. The report also identified opportunities for DIs to use technological innovation in their reimbursement functions.

This paper offers policy recommendations and options for DIs in relation to these topics.

Poor quality of depositor information is often linked to a lack of access to information before reimbursement. DIs should have direct access to depositor information on an ongoing basis and be entitled to prescribe their members both the data content and format for its submission to the DI. This allows the DI to have the necessary information it requires for the payout and to promptly process it when such payout is triggered. In this process, the DI should also safeguard the security and privacy of information. Furthermore, the DI must ensure during normal operations the accuracy of such information by means of periodic reviews, including both off- and on-site reviews, as these types of review can address different concerns. DIs should also be entitled to require member institutions to correct issues detected in submissions.

Regularly testing reimbursement operations should be a strategic action for DIs. A predefined plan that establishes a full set of actions and timelines, while keeping an adequate balance between resource demands and robust testing, could contribute to an effective implementation of testing activities. All areas involved in reimbursement operations should be included in the tests, and the DI should consider involving other relevant financial safety-net (FSN) participants and third-party providers. The scenarios of simulation exercises should replicate as faithfully as possible real situations of reimbursement and could progressively incorporate stressed scenarios that evaluate the DI's ability to promptly reimburse insured depositors in adverse circumstances. Testing should also encompass an objective assessment of results. This can be supported by the development of a dedicated methodology, and the adoption and subsequent retesting of corrective measures to address shortcomings.

Finally, building on examples of DIs that have **sped up reimbursement or successfully addressed complicated situations by using technological developments**, this paper presents technological options that could support the reimbursement function. Technology-based solutions can assist in communication with and identification of depositors or provide a general simplification of the process. In developing these solutions, DIs can benefit from cooperation with member institutions and FSN participants and may find it appropriate to incorporate existing and well-tested tools into the DI´s business processes. DIs should nevertheless retain options to promptly reimburse depositors who are not familiar with technological developments.

In the future, IADI members may benefit from guidance and in-depth work on topics which are not covered in existing guidance papers and could be incorporated into them, such as (i) ensuring the privacy and security of depositors' data submitted to the DI, (ii) the development of predefined plans to support testing of the DI systems and processes, and (iii) the development of a methodology to assess test results.

1. Introduction and Background

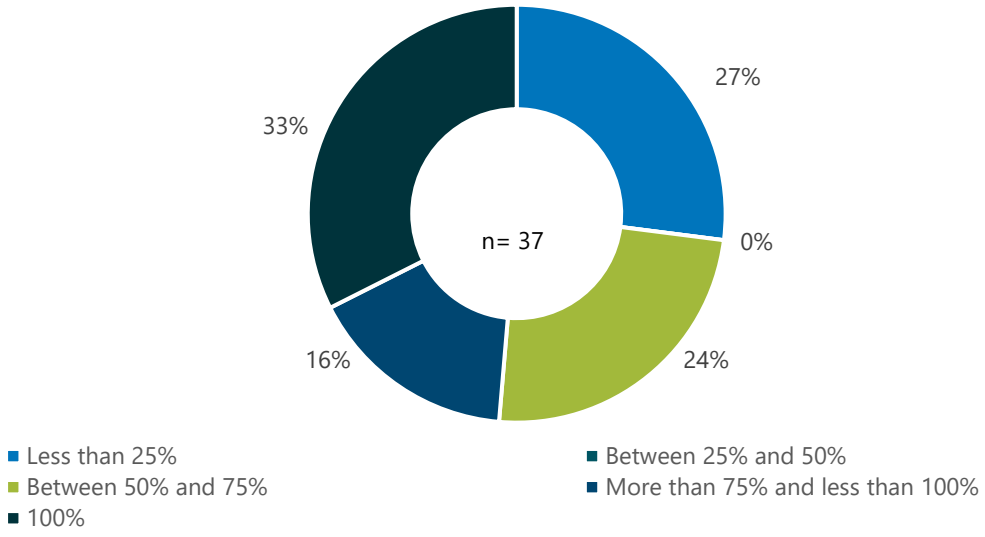
A fundamental function of DIs is the prompt and efficient reimbursement of depositors' insured funds.

A prompt and efficient reimbursement minimises disruption to depositors' access to their insured deposits, safeguards financial stability and maintains public confidence in and the credibility of the DI. However, available data suggest that the reference time of seven working days set in the IADI CPs for the reimbursement of most insured deposits is not consistently met.

IADI published a Research Paper in October 2023[4] on this particular topic and associated challenges faced by DIs and which hamper a prompt reimbursement. One of the sources for its development was a dedicated survey developed by IADI Reimbursement Technical Committee (RTC Survey[5]) which was answered by 51 DIs.

In particular, the 2023 Research Paper discovered that, between 2016 and 2021, in 51% of analysed reimbursement cases, fewer than 75% of depositors had been reimbursed within seven working days[6]. This challenge becomes more evident when reimbursement via purchase and assumption (P&A) transactions is excluded; in this case, 59% of analysed reimbursement cases show that fewer than 75% of depositors had been reimbursed within seven working days.

Figure 1 – Percentage of insured depositors with access to funds within seven working days



Source: IADI (2023).

[4] See IADI (2023).

[5] The survey investigated IADI members' experiences in conducting reimbursement cases in previous years. It looked into the challenges they found for a prompt and efficient reimbursement in those cases or in any simulations that may have been carried out, what measures had been adopted to address them and what new challenges could arise in the short/medium term.

[6] The sample for which detailed information was made available covers a subset of 37 reimbursement cases by 13 IADI members of six different Regional Committees, out of a total population of 448 reimbursement cases by 18 members in that period.

Data from the IADI 2024 Annual Survey further supports this assessment. Almost 30% of responding DIs report that they would not start the reimbursement process within seven working days. Moreover, of the nine responding DIs which had reimbursement cases in 2023 and provided information about reimbursement timeframes, only three reported having reimbursed more than 75% of insured depositors within seven working days. On the other hand, four DIs had reimbursed less than 25% of the depositors, and the remaining two reported reimbursement rates between 25% and 75% (between 25% and 50% in one DI, and between 50% and 75% in the other).

Given the importance of a prompt reimbursement, the 2023 Research Paper explored the challenges hindering DIs´ abilities to perform a swift payout.

One of them emerged clearly as the most frequent and high impact challenge: the poor quality of files containing depositor information, which sometimes DIs do not have access to before the reimbursement is triggered. This challenge was widely experienced by DIs from all regions and with different mandates.

The 2023 Research Paper also found that, although the performance of simulations or tests of the DI systems and processes provides clear benefits[7], a majority of DIs do not perform such tests regularly.

Finally, in December 2023, IADI published a report discussing that year´s banking turmoil and its implications for DIs[8]. The paper highlighted that many depositors, in light of the technological developments, have an expectation of continuous access to their funds. That expectation, if unmet, can cause a loss of depositor confidence and may negatively affect financial stability, which stresses the importance of a prompt payout.

The report also identified opportunities for DIs to use technology innovation in their reimbursement functions.

This paper offers policy recommendations and options for DIs on (i) improvements to the quality of depositor information, (ii) performance of tests on systems and processes and (iii) technological developments to speed up the reimbursement process.

[7] Of responding DIs that reported regular testing (i.e. every three years or less), 60% reported that in real reimbursement cases all depositors could access their insured deposits within seven working days. In contrast, of the responding DIs which reported just occasional testing, only 10% reported access within seven working days for all depositors.

[8] See IADI (2023a).

2. Access to and Quality of Depositor information

A DI must have the capacity and capability to promptly and efficiently reimburse depositors. Access to depositors' records at all times, as stated in the CPs, underpins this effort. Beyond access, the DI should also have the authority to require member institutions to maintain depositor information in a predefined format and to examine the records' reliability and member institutions' capability to produce them.

2.1. Challenges to Maintaining High-Quality Depositor Information

Despite its central importance, many DIs find accessing and maintaining high-quality data difficult. As demonstrated in the 2023 Research Paper, poor quality depositor information is a near-universal challenge for IADI members, ranking as the top obstacle to prompt reimbursement[9].

Poor quality depositor information affects all aspects of the reimbursement process. In the RTC survey, 20 out of 37 responding DIs reported it as an impediment to real reimbursements and a challenge in simulated exercises. High-quality data is especially important for meeting payment targets. Fifty percent of DIs with a seven-working-day payout deadline noted depositor information quality as a challenge, compared to 37% of DIs with longer or no payout deadlines[10].

Accordingly, the RTC survey notes that data quality clearly constrains the speed of reimbursement, an observation supported by data on time required to complete reimbursement. Excluding P&A transactions, 31% of responding DIs reported that fewer than 25% of insured depositors received access to their funds within seven working days, with an additional 28% of responding DIs reporting between 50-75% of depositors receiving access to their funds in the same period[11]. Simply put, high-quality data is a precondition for prompt reimbursement.

The existence of quality data on its own, however, is not sufficient; it must be available to DIs, both prior to and during a reimbursement event. Advance availability of depositor data enables a DI to plan and prepare for a reimbursement event and take the necessary measures to quickly start the reimbursement process. Advanced review of depositor information can identify potential data problems ahead of a reimbursement, providing time for remedial actions. In the RTC Survey, 16 out of 51 DIs indicated they do not have advance access to depositor data. In real reimbursement cases and simulated exercises, 12 out of 37 DIs identified the lack of advance access to depositor data or preparatory examinations on the reliability of depositor records as a key challenge[12].

[9] See IADI (2023), pp 7.

[10] Ibid., pp 34.

[11] Ibid., pp 21.

[12] Ibid., pp 13 and 26.

2.2. Powers of the DI

DIs should consider two guiding principles already covered in IADI CPs in their approach to the quality of depositor information:

- Depositor information should always be directly available to the DI; and
- The DI should have the authority to review depositor information in advance and require corrections for any deficiencies.

Direct availability of depositor information allows the DI to start the reimbursement process as soon as it becomes aware of an institution's potential failure. The DI's access to data should be through its own authority and not that of another FSN participant, such as the supervisor. Other FSN participants may not have the same level of expertise on depositor data and the DI´s operational needs for a prompt reimbursement, and they may not prioritise ensuring its accuracy ahead of the failure of a member institution. Thus, indirect access may complicate the DI's ability to complete reimbursement promptly and efficiently. Reality, however, shows that this direct access is not always the case. DIs that do not have direct access to depositor information could approach the relevant authorities to address (regulatory) challenges that impede such direct access. An example of this is Philippine Deposit Insurance Corporation (PDIC), which has requested the Congress to grant it real-time access to relevant depositor information from banks through an information technology solution.

The DI also should have the authority to review depositor information and require corrections where deficiencies are found. Ideally, the DI should be able to review depositor information on an ongoing basis to verify that it is complete and matches the DI´s prescribed format; it should not be accessing that information for the first time when a reimbursement event is triggered. If the information needs correction or modification, the DI should also be entitled to require the corrective measures and verify that such measures have been implemented. Although the DI should have these powers, in a number of jurisdictions this is not yet the case. In those scenarios, it should approach the relevant FSN participant with the objective of implementing these principles. Such participant should be required to cooperate closely with the DI, exchange of all the information needed by the DI and address information quality concerns.

2.3. Collecting Depositor Information

In defining the depositor information to be maintained by an institution and the capabilities needed to do so, a DI must balance the need to swiftly and efficiently process information, with the potential burden on member institutions.

The type of information necessary will depend on the jurisdictional design and circumstances and the type of coverage provided (e.g., differential coverage, limited coverage, targeted coverage, etc.), as well as the features of the DI reimbursement process (e.g. data required to identify the depositor, means of communications used, etc).

In general, the DIs should have constant availability of, at a minimum, (i) accurate and updated depositor information, including eligibility and contact information; (ii) the number, balance,

and type of accounts that each depositor has; and (iii) the amount of insured deposits[13]. As a general example, a DI may consider requesting items such as:

- Depositor's name;
- Depositor's address and other contact information (e.g. email, telephone number);
- Eligibility (or not) of the deposit/depositor[14];
- Special situations (e.g. sanctions, potential involvement of the depositor in or convictions for money laundering, among others);
- A unique identifying number[15];
- Account number;
- Account type;
- Any beneficiary or beneficiaries of the account;
- Ownership rights over the account;
- Insurance coverage category;
- Deposit balance;
- Insured amount;
- Terms of the account; and
- Interest rate.

The information to be sent by the member institution will include sensitive and confidential data. Therefore, security measures, including those mitigating cyberattack risk, could be considered by DIs when defining the submission process. IADI members could benefit from further work on this relevant topic in future guidance papers to be developed by the Association.

[13] The calculation of the amount of insured deposits might be performed by the member institution or by the DI, and the requirement against member institutions that the DIs should have constant availability of insured deposits applies only in the former case (regardless that the DI should be entitled to have the required information about deposits/depositors for the purpose of calculating the amount of insured deposits anytime it needs them). One example of the latter case is Japan. In Japan, where many depositors hold a number of deposit accounts in one institution, member institutions submit detailed depositor data to the DI (Deposit Insurance Corporation of Japan, DICJ) at the time of failure, which then aggregates these data and calculates the amount of insured deposits for each depositor by using a large-scale system.

[14] In certain jurisdictions, a specific treatment of DI coverage is given to deposits/depositors affected by particular circumstances. Depending on the complexity of these cases, to determine whether a deposit/depositor is eligible member institutions may need guidance from the applicable regulation, the DI or the relevant authorities.

[15] A unique identifying number may generally be an alpha-numeric code associated with an individual or entity that is used consistently and continuously by an institution to monitor the institution's relationship with that individual or entity.

Deposit Insurance Corporation of Mongolia (DICOM) – Implementation of an SCV model

DICOM was established in 2013 with a paybox plus mandate. Under domestic law, it is required to start the reimbursement of insured deposits within ten working days once the reimbursement has been triggered.

One of the measures adopted by DICOM to meet this obligation and better prepare for an event has been the implementation of an SCV model to collect depositors' information. Its development involved the cooperation with member institutions, including written feedback and the testing of the model ahead of its final approval, in order to identify potential issues that those institutions could face in the submission of information. While some banks were reluctant to send that information under assertions of data security concerns, those concerns were overcome by means of the legal requirement to banks to provide to DICOM all information that the DI requires.

The SCV model includes 14 information fields which deposit takers must send quarterly to DICOM following a defined structure, format, and method of submission. The SCV model allows the DI to identify insured/uninsured deposits ahead of a reimbursement event and is complemented by quality assurance checks by DICOM´s Supervision and Examination Divisions, which also cross-checks information from the Mongolian Central Bank.

2.4. Appropriately Formatting Depositor Information

A standardised format ensures that member institutions report depositor information in a manner compatible with the DI's systems. It allows the DI to easily process such information and supports identification of the amount and other data of insured deposits and comparability of the data across member institutions. Additionally, standardised formatting supports supervisory activities, such as monitoring (insured) deposit levels and potential flight.

Such a format also facilitates the swift identification of and contact with insured depositors and calculation of their insured amounts.

DIs may provide detailed file preparation requirements to member institutions. For example, the Canada Deposit Insurance Corporation (CDIC) and Spain´s Fondo de Garantía de Depósitos de Entidades de Crédito (FGD) publish detailed system requirements which set forth the technical standards for all depositor data elements, such as:

- The name of the element;
- A plain language description of what the element represents;
- Logical rules that the element must follow; and
- The expected format of the field (e.g. single or variable character, integer, date)[16].

Similarly, the United Kingdom´s Financial Services Compensation Scheme (FSCS) provides video guides, templates, and example files to assist institutions with submitting SCV files to FSCS[17]. The German Entschädigungseinrichtung deutscher Banken (EdB), via its service

[16] See for instance, CDIC (2023) and BdE (2021) Annex 2, pp 16-17.

[17] See FSCS (2024).

provider, offers individual telephone assistance to support member institutions compliance with the data requirements.

2.5. Addressing Data Quality Issues

When reviewing compliance with data requirements by member institutions, a DI faces: 1) verification of member institutions´ compliance with those requirements, and 2) application of corrective measures if required.

In general, a DI should regularly test member institutions' data to verify that it meets its standards of quality and format. Testing should not place an undue burden on member institutions but should be frequent enough to capture and appropriately respond to any changes in the member institutions' depositor and/or deposit base and the risk it poses for the DI, IT systems and procedures, considering also the resource needs for the DI and aspects like the number of member institutions. The Norwegian Banks Guarantee Fund (NBGF) tests each member institution's files at least once every three years and offers a solution that allows institutions to independently test their files. NBGF may also require additional testing of an institution's files if necessary.

Although many DIs conduct off-site reviews of data, some complement it with an on-site review. On-site and off-site reviews can address different concerns. Off-site reviews ensure compliance with formatting requirements for a swift processing of data and allow tests on their consistency (e.g. cross-checking the different fields submitted by the member institution and sometimes also with other sources of information, such as supervisory reports), usually through automated processes. On-site reviews allow DIs, by means of directly accessing the member institution´s systems and documentation supporting the commercial relationship with the depositor, to build on those automated checks and attest to the accuracy of the data. Some DIs conducting on-site reviews have noted that these can prevent errors in depositor information which otherwise may only be discovered during a reimbursement (e.g. consideration as eligible -or not- of deposits/depositors or existence of eligible deposits or depositors in addition to those reported by the institution).

In the interest of complete testing, the DI should be entitled to conduct on-site reviews if needed.

Contractors can also support DIs in conducting reviews and may be helpful in tasks such as developing an automated procedure to swiftly process the information received and make the necessary checks.

Where data quality issues are detected, a DI should first take care to identify all the issues but prioritise those that jeopardise the files' quality. In order to ensure consistency, a DI should follow a methodology to assess whether the information submitted by the member institution is sufficient to perform a prompt and efficient reimbursement, including timeframes for submission of valid files and definitions of quantity-standards that could trigger the requirement to a member institution to make corrections (e.g. a percentage of incorrect depositor records exceeding a certain threshold), with particular relevance for parameters which would be key in the reimbursement process.

Based on its assessment, a DI may then require the institution to make the necessary corrections within a specified timeframe. A DI should possess such power through law or regulation as is the case in the Netherlands. De Nederlandsche Bank, which is the Dutch DI, specifies in its Single Customer View Policy Rule that it may instruct a bank to take measures to improve the quality or control of the [Single Customer View] system[18]. Other DIs have added the quality of depositor information as a factor in calculating premiums as to incentivise institutions to improve the quality of depositor information.

2.6. Including Other Financial Safety-Net Participants

As discussed earlier, a DI should not need to rely on another FSN participant to access and review depositor information. However, the RTC Survey observed that 31% of responding DIs either did not have access prior to a reimbursement or were restricted[19].

Many of these restrictions are due to regulatory frameworks that require DIs to obtain information from other FSN participants or associated entities. For example, in Brazil, the Fundo Garantidor de Creditors (FGC) must rely on a list produced by the failed institution's liquidator to identify insured depositors, a process that can take weeks to complete. Thus, while FGC has the technical capability to promptly reimburse depositors, it cannot start doing so until another entity fulfils its duties, which in practice delays the process.

As also noted in Section 2.2, although the DI should have the power to obtain the information directly, a number of DIs do not have it. In these cases, FSN participants can assist the DI in obtaining the needed information. For example, if the supervisor anticipates that an institution is approaching the point of non-viability, it should inform the DI of the need for a potential reimbursement action. The supervisor could then obtain a snapshot of depositor information and supply it to the DI for evaluation and testing for accuracy. Where such cooperation is possible given a jurisdiction's law or regulations, it should be considered as part of standard cooperation between FSN participants. This should be assured either through an existing formal information sharing and coordination framework among FSN participants or, if such does not exist, on a bilateral basis between the DI and relevant FSN participants. At a minimum, the framework/agreement should stipulate that the DI has advance access to depositor data and specify how and when the data will be provided to the DI.

It may also be prudent for the DI to seek amendments to law or regulation so that it may obtain the powers it needs to directly access and review depositor information. In FGC's case, it has advocated for legislation that would exclude it from Brazil's bank secrecy laws and allow it to obtain depositor information prior to failure.

[18] See DNB (2022).

[19] See IADI (2023).

2.7. Summary of Key Policy Recommendations

DIs should consider the following recommendations for improving access to and quality of depositor information:

1. DIs should have direct and ongoing access to depositor information. If they do not, they could engage with the relevant FSN participants to address the (regulatory) challenges that impede that direct access.
2. In the interest of accurate and prompt processing of information, member institutions should be required to submit all depositor information needed for a prompt reimbursement in a standardised format prescribed by the DI.
3. The accuracy of data submitted by member institutions should be periodically examined, a process in which DIs should consider both off-site and on-site reviews.
4. The DI should determine key elements related to the reception of information required to reimburse depositors promptly, including the definition of data elements and submission deadlines.
5. The DI should have the power or authority to require member institutions to correct issues detected in submissions.
6. If the DI lacks some of the abovementioned powers, it should approach the appropriate FSN participant with the objective of implementing these principles. Such participant should be required to cooperate closely with the DI, including the exchange of all information needed by the DI and addressing information quality concerns.

3. Performance of Tests of the DI Systems and Processes

3.1. Introduction and Findings of the 2023 Research Paper

As reflected in the CPs, preparedness is fundamental to the DI´s ability to manage a banking crisis.

While DIs have different mandates, it is incumbent on all of them to incorporate crisis preparedness throughout all aspects of its operations.

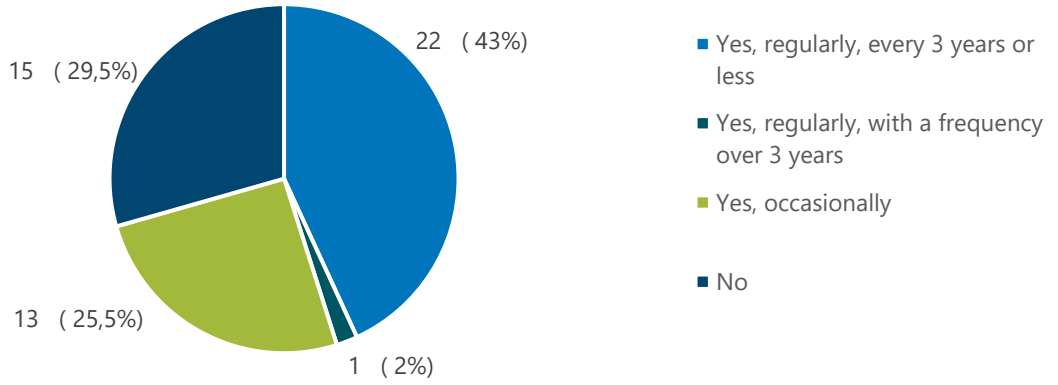
This section focuses specifically on preparedness for a prompt and efficient reimbursement.

Best practices, including those set forth in the CPs and recommendations by other international organisations, advise that DIs should test their reimbursement functions on a regular basis.

However, such regular testing is not always implemented in practice.

Almost 30% of the 51 DIs which responded to the RTC Survey declared that they do not carry out simulations or other comparable tests. In addition, only 43% of respondents reported carrying out simulations or tests regularly, defined as every three years or less.

Figure 2 – Performance of simulation exercises, stress tests or other self-assessments



Source: IADI (2023).

The 2024 IADI Annual Survey further supports this finding. In this survey, 58 DIs out of 107 respondents reported that in the preceding five years they had not carried out or participated in any scenario planning or simulation exercises regarding reimbursement activities.

Testing offers an effective means for DIs to improve their crisis preparedness by validating existing processes and identifying and mitigating potential obstacles before a crisis occurs[20], and data from actual reimbursement validates the importance of testing. The 2023 Research

[20] See IADI (2025).

Paper showed that in 37 reimbursement cases reported by 13 DIs, at least 75% of depositors were able to access their funds within seven working days in 89% of the cases where DIs conduct tests at least every three years. On the other hand, fewer than 25% of depositors were able to access their funds within seven working days in most cases where DIs do not conduct tests.

Although the number of responses is limited, it can be argued that there is a direct positive impact for DIs in the performance of simulations or tests on their systems and processes and, consequently, DIs should incorporate regular testing of systems and processes as a core part of their operations.

The next subsections offer considerations for DIs as they develop and perform tests on their systems and processes.

3.2. Strategic Action

To be meaningful, tests should not be carried out just occasionally or in isolation by one or a few areas of the DI. Tests should instead be integrated into the DI´s overall strategy.

The DI should achieve that by means of developing a plan approved by the relevant internal governing body with a complete set of actions and timelines covering the cycle of testing. This could include test design, the identification of the areas and functions to be tested, the type of exercises to be carried out, the assessment of results and the implementation of corrective measures to address any shortcomings, if they are detected. IADI members could benefit from further work on the development of such a plan in future guidance papers.

As part of this effort, that plan could also define a governance process for testing, to enhance the credibility and effectiveness of tests. This process would include not just the operational units responsible for execution, but all levels of the organisation. In particular, the involvement of the senior management in the design, execution and assessment of tests, and in the adoption of corrective measures when required, could be considered. The DI´s governing body could oversee that plan and, at least, be updated on the performance of tests, the assessment of results and the implementation of subsequent corrective actions, if required.

3.3. Allocation of resources

The performance of tests is resource-consuming, both in terms of financial and human capital (staff and equipment). To be credible, the aforementioned testing plan could aim to achieve an appropriate balance between resource demands and robust testing. The DI should carefully allocate resources to account for different types of testing and to ensure that all tests are complete and valid.

3.4. Areas and scenarios to be tested

While also considering the resource demands for the DI, simulations should replicate as faithfully as possible real situations of reimbursement, including all relevant processes and steps. These may include the reception and processing of depositor information, communication with depositors and other external stakeholders, liquidation of DI investments,

payment to depositors (directly or through collaborating/agent banks), and the analysis of depositor claims. The DI might carry out those actions directly or, in some cases, it might use the services of external providers.

A key action of preparedness is also the review of the accuracy of depositor information, as discussed in Section 2.

The scope of the tests to be performed should encompass all reimbursement processes and all relevant areas of the DI, and to the extent that they are expected to participate in an actual reimbursement case.

For example, in an actual reimbursement case, IT and operations staff will be devoted (almost) in full to the reimbursement, whereas other areas may not be as involved. Exercises should thus accurately reflect these different levels of participation and assess each area´s role.

In addition to reimbursement under 'standard' conditions, DIs could also contemplate stressed scenarios. Recent events such as the Covid-19 pandemic provide a clear example of a stressed scenario. In light of the pandemic, DIs have increased the use of stressed scenarios to test their ability to perform a full reimbursement remotely, and to simulate limited availability of staff or external providers. Stressed scenarios can also assess the impact of market disruption on the liquidation of investments, resistance against cyberattacks and general business continuity risks such as system interruptions or pandemics, among others).

DIs may even consider stress scenarios where reimbursements occur amidst extreme conditions, as the Deposit Guarantee Fund of Ukraine has experienced with conducting reimbursements in wartime (see case study in Section 4.2 below).

In general, DIs should begin the design and execution of simulations using base scenarios which replicate business-as-usual conditions and could progressively incorporate stressed scenarios to ensure preparedness for more complicated situations.

3.5. Involvement of financial safety-net participants

In many jurisdictions, a reimbursement usually involves an interaction between the DI and other FSN participants; in particular, other authorities are often the ones to trigger a reimbursement. Therefore, DI testing should include these entities.

Such inclusion is helpful for several reasons. More specifically, the supervisory authority may be able to inform the DI of an institution´s potential failure and the possibility of triggering a reimbursement, enabling the DI to begin preparatory actions.

Additionally, a banking failure is likely to attract public attention. Coordination between the DI and the relevant FSN participants in this regard will promote a unified message and reduce the spread of inaccurate information that could harm confidence in the financial system. The role of social media in the 2023 bank failures underscores the importance of proper coordination between DIs and other FSN participants in communication.

Accordingly, tests should also incorporate the procedures for coordination and exchange of information between the DI and FSN participants. This could include the involvement of authorities in the tests, for example with an active role in their execution, such as simulating

the exchange of information processes, decisions to be made (jointly) and coordinating the communication with depositors and the public. Another action to be explored could be a joint walk-through of the information exchange process to identify potential areas of improvement. The walk-through may identify a need to enhance the cooperation framework as well as the sufficiency and utility of the exchanged information.

Some DIs report that it may not be always easy to involve authorities in testing exercises. To address this, DIs should invoke existing cooperation agreements with the relevant authorities or, if these do not exist or do not cover testing, push for direct agreements with the relevant authorities or promote the legal recognition of a duty of collaboration between relevant authorities and the DI.

3.6. Involvement of third-party service providers

FSN participants may not be the only external actors involved in reimbursement. Depending on its structure, budget and mandate, a DI may use third-party providers such as IT providers, agent banks, mailing firms, legal advisors, call centres, communication firms, auditors and/or other firms.

As an ineffective performance from third-party providers may negatively affect a successful reimbursement, the DI should make sure that providers are familiar with both the reimbursement procedure and their prospective roles. DIs should therefore consider the regular participation of third-party providers in the simulations/tests (in particular those providing essential services for reimbursement).

Canada Deposit Insurance Corporation´s (CDIC) Fall 2024 Payout and Liquidation Simulation Exercise

CDIC established a Centre of Excellence (CoE) in 2019, a permanent unit with three full-time employees, to evaluate and enhance CDIC's resolution preparedness through deliberate and frequent testing exercises (four to six exercises a year, including simulations, tabletops and fire drills).

In the fall of 2024, the CoE jointly with experts across the DI, designed an exercise to simulate the payout and liquidation of a fictitious mid-sized banking group with two entities adhered to CDIC (over 200,000 insured depositors and roughly CAD 15bn insured deposits). The end-to-end exercise spanned two months and engaged over 100 staff and key third-party providers as participants and/or observers.

The objectives of the simulation were to (i) test the resiliency and scalability of CDIC's payout capabilities; (ii) identify execution risks associated with previously undertested or new processes (in particular 'final mile' activities); (iii) validate implementation of past learnings and controls; and (iv) provide crisis teams, surge resources and third-party providers an opportunity to practice execution.

The simulation covered the lead-up to failure and the execution of payout processes (data processing and validation, insurance determination, stakeholder communication, payment file generation, delivery of payments) as well as internal governance. To remind participants of the increased risk of cyber incidents during a public event and the importance of remaining vigilant, a phishing email disguised as an urgent request for a meeting was sent to participants during the simulation.

The exercise brought together crisis team members, the CDIC Chair (to simulate interactions with the Board of Directors), and key third parties (CDIC´s bank, public communications firm, commercial printer and contact centre) to evaluate payout operations and assess the adequacy of existing arrangements. Additionally, CDIC engaged an insolvency firm to play the role of the liquidator and a law firm to act as the court. Role players added realism, challenged existing assumptions in CDIC's playbooks and procedures and, in some cases, identified potential tension areas or blind spots (e.g. some assumptions about information third parties would need and be able to provide were not entirely accurate, or certain governance processes were unclear).

Throughout the exercise, there was a high level of engagement with participants displaying adaptability in responding to unexpected challenges and collaborating to deliver the best outcome for depositors. A detailed survey was circulated to participants and observers to ensure comprehensive evaluation of the exercise.

After the exercise, the CoE produced a report summarising key takeaways and action items. A timeframe for addressing the identified issues was agreed upon based on prioritisation of each takeaway. CoE is responsible for tracking progress to ensure follow-through, with updates on high-priority items being reported to the Risk Committee of CDIC´s Board of Directors.

Running an end-to-end simulation allowed testing of the sequencing and coordination of execution steps, emphasising dependencies between activities. Engaging external partners allowed that to familiarise with CDIC´s processes. It also allowed CDIC to rehearse coordination and hand-offs and test 'final mile' of payout execution, which led to the identification of improvement areas, e.g. on how CDIC works with a liquidator, how large payment files are generated, approved and executed, and the frequency with which key processes are tested. Simulating also the runway incentivised participants ensure that processes, controls and plans, including are fit for purpose, and make updates as needed, prior to execution.

The simulation also provided a reminder of the risk posed by third-party disruption and the importance of redundancy and backups, with a real-life postal strike prompting participants to explore alternatives for delivering written communications or cheques to depositors across Canada (alternatives included using electronic payments and/or ensuring reimbursement cheques are among mail exempted from non-delivery in case of strike, as is also the case of, for example, pension cheques).

Overall, the exercise helped uncover several opportunities for improvement which help focus the continued efforts to further enhance existing processes, playbooks and arrangements. These initiatives will collectively strengthen CDIC's resilience and make good on CDIC's promise to depositors.

3.7. Assessment of results

The main objective of testing is assessing the DI´s ability to (i) perform a prompt and efficient reimbursement and (ii) adopt and implement necessary corrective measures to address potential weaknesses. However, to do so, the DI must objectively assess results.

The DI should consider the development of a methodology to assess the results of simulations and promote their reasonability and objectivity.

The methodology could incorporate quantitative metrics as a way to reach that objectivity, such as percentage of depositors reimbursed in a certain number of days, or number of operational incidents experienced during the exercise. But other qualitative areas, such as the

satisfaction of depositors, the interaction with authorities or providers, or the communication with depositors and the public, may need expert judgement.

Expert judgement can also provide a valuable input for the assessment of the results of certain activities, identify areas of improvement and the adoption of corrective measures. Conversely, as it is necessarily subjective, the DI should carefully review such expert judgement.

In order to contribute to an objective interpretation of results, DIs could also consider the use of external and/or internal 'observers' with the adequate expertise to independently review or monitor the testing. These observers could, among other things, (i) validate the developed methodology, (ii) verify that the tests have been performed in accordance with their design and/or the terms defined by the DI, (iii) confirm that the results have been adequately allocated following such methodology, and (iv) review the expert judgments used in the results.

The DI should also take care to avoid conflicts of interest in testing. As such, senior management should not participate directly or indirectly in the assessment when their areas of responsibility are undergoing testing.

IADI members could benefit from further work on elements to be considered in this methodology in future guidance papers to be developed by the Association.

3.8. Corrective measures

A DI´s testing programme should address all shortcomings identified, implement the required corrective measures and test their effectiveness. Accordingly, the abovementioned plan could foresee that the implementation of the corrective measures is done as soon as possible, considering the number and level of severity of the weaknesses detected. Quick implementation is important, as it can also impact member institutions (e.g. if information on deposits/depositors was inaccurate or submitted late) or third parties.

Once the corrective measures have been implemented, 'retesting' would follow. This could be carried out either through a full retest of the whole reimbursement process or through a specific test of the affected area(s). In any case, the governing body of the DI should be informed about the corrective actions and their results in addressing the identified shortcomings.

3.9. Summary of Key Policy Recommendations

DIs should consider the following recommendations for testing their systems and processes:

1. DIs should regularly test their systems and process.
2. All areas/departments of the DI which are involved in the reimbursement process should be included in the tests, including other relevant FSN participants and third-party providers.
3. Testing should replicate as faithfully as possible real-world reimbursement scenarios. The DI could also incorporate progressively more stressed scenarios to evaluate its ability to carry out a prompt reimbursement under adverse circumstances.

4. Shortcomings identified in tests should be addressed and corrective measures adopted promptly, prioritising those with a higher impact for a prompt reimbursement. New tests should be carried out to verify the effectiveness of those corrective measures.

4. Use of technology developments in the reimbursement process

Digitalisation of financial services has enabled customers to have immediate or near-immediate access to their funds and other financial products.

A disruption in such immediacy can create uncertainty and spark a loss of confidence which, as seen in the 2023 banking turmoil, may be amplified by the extensive use of social media.

DIs could leverage technological developments to accelerate the reimbursement of insured depositors and support confidence in the financial system. Such developments could support quicker transfer of funds, faster identification of and communication with depositors after the failure of a member institution, and overall process simplification.

4.1. Quicker transfer of Funds

Consistent with market trends, DIs are turning toward electronic transfer as the prominent payment method. In 2023, 66% of DIs used this procedure, as compared to 46% in 2015[21].

One further step in this trend could be the use of instant payment systems, which, with significant variation between geographical regions, are experiencing a sustained growth. The European Union (EU) might be the clearest example of this trend. In the EU, instant credit transfers are based on the SEPA Instant Credit Transfer scheme[22]. The proportion of these transfers has more than tripled since the end of 2019 and reached almost 18% of the total credit transfers in February 2024. The EU approved in March 2024 its Instant Payments Regulation, which, among other things, requires all PSPs to offer instant payments to its customers.

Other regions are showing sustainable growth in the use of instant payments, as is the case of Brazil (with its PIX instant-payments network) or certain countries in Africa, such as Nigeria. In the United States, the Federal Reserve launched its FedNow instant payment infrastructure in 2023 to provide safe and efficient instant payment services. It is not, however, presently used to conduct reimbursements.

DIs should consider the use of instant payments to accelerate the reception of funds by insured depositors where such systems are broadly used. If the DI uses payment agent institution(s), it could consider also requiring such institution(s) to have the capability to conduct instant payments for the cases in which depositors request it.

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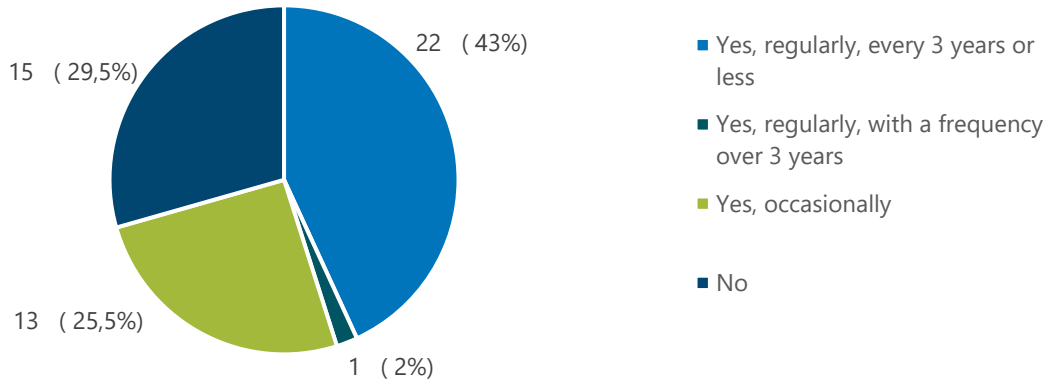
[21] See IADI (2023a).

[22] See ECB (2024). In the EU, instant payments are defined as a payment transaction taking no more than ten seconds for the recipient's payment service provider (PSP) to inform the payer's PSP whether the money has been received and, in the case of a successful transaction, to make the funds available to the recipient.

Figure 3 – Percentage of instant payments in all SEPA credit transactions



Source: ECB (2024).

4.2. Faster communication with/identification of depositors

Digitalisation of financial services means has altered depositors' expectations for communications, and the use of only traditional means (e.g. the physical letters that many DIs use to communicate with depositors during a reimbursement process) may not fully meet them. This section will examine the current uses and potential opportunities that financial innovation may offer for more efficient reimbursement mechanisms.

Technological advances are gradually being incorporated into the reimbursement process. The introduction of digital communication with depositors could accelerate the repayment process, and thereby help mitigate contagion risks and loss of confidence in the financial system.

There are real-world examples of solutions that have increased the speed of the reimbursement process and have made it possible to overcome situations which may complicate and delay the reimbursement.

The clearest example is the case of reimbursement processes in Ukraine. The outbreak of full-scale war in 2022 displaced many depositors from their homes and made traditional means of communication such as physical mail extremely difficult. Implementation of technological advances allowed the Deposit Guarantee Fund (DGF Ukraine) for a remote contact and successful identification and facilitated reimbursement in extreme circumstances.

Deposit Guarantee Fund of Ukraine (DGF Ukraine): Reimbursement via Public Services Mobile Application

DGF Ukraine is a legal entity governed by public law with the mandate of loss minimiser. In the past25 years, DGF Ukraine has reimbursed approx. EUR 2.3bn to depositors of 128 banks.

DGF Ukraine uses an automated payout system to receive and verify depositors' information, calculate the insured amount and generate registers of agent banks used by the DI. In 2022, the full-scale war provoked, among other evident difficulties, the challenge of continuing the reimbursement of insured depositors of member institutions that had already failed. Within two months, in cooperation with the largest agent banks and the involvement of the Ministry of Digital Transformation, DGF Ukraine developed a remote payout scheme that did not require depositors to physically attend bank premises. Agent banks organised remote identification of depositors via their online services and call centres, and the Ministry incorporated a 'Deposit Payout' service developed by DGF Ukraine into its web portal, DIIA, that allows Ukrainian citizens to access digital documents (ID cards, biometric passports, driving licences) and public services.

To log in to DIIA, depositors use the Bank ID system of the National Bank of Ukraine, an electronic remote identification of individuals. All the information required for the identification of depositors (full name, passport details and tax number) is included in the SCV. After login to the DIIA, the depositor can find a 'Deposit Payout' option within the services offered, selects the failed bank where he/she had an account and selects an existing 'E-support card' to which the funds will be credited or opens a new 'E-support card' in one of the DGF agent banks in the DIIA app (the 'E-support card' is a debit card created in 2020 as part of the programme of assistance of the Ukrainian government during the Covid-19 pandemic, and has also been used to assist citizens during the ongoing war). Subsequently, the claim indicating the payout amount is generated. Depositors can accept it using DIIA electronic signature, and the reimbursement amount is sent to the agent bank automatically, which processes the claim and immediately transfers the funds.

This solution, which took six months to be completed, has been used by more than 2,500 depositors of banks liquidated or under liquidation.

The choice of which solution to implement could depend on the tools available to each DI, which can be contingent upon the framework and developments occurred in the respective jurisdiction, both in the digital environment and, in some cases, in the possibilities for cooperation with other bodies/authorities.

One tool that has been used by DIs is an online/web solution that speeds up the start of the reimbursement process, which eliminates the need for physical communication and allows depositors to be proactive once the DI or the relevant authority informs about the reimbursement event being triggered. This approach is exemplified by DIs such as those in Norway, Uganda and Nigeria.

All of them report an improvement in the reimbursement process. In the case of the Nigeria Deposit Insurance Corporation (NDIC) the time required to commence the reimbursement has declined from 20 days to four. In the case of Norway´s NBGF, the solution has also addressed successfully the communication with and reimbursement of depositors living abroad, which has historically been (at least for some DIs) time-consuming. NBGF´s system incorporates contact information for depositors (e.g., email address and mobile telephone numbers), which member institutions are required to collect and send to the DI.

The Norwegian Banks´ Guarantee Fund (NBGF) Online Payout Solution

NBGF has had an online solution for reimbursement in place since 2015, following the shortening of the deadline to reimburse insured depositors (three months in 2012, seven working days following the publication of the EU Directive in 2014). This change required NBGF to rethink its approach to depositor reimbursement, and it decided to develop an online web-solution, taking inspiration from the banking industry.

The solution has had several major developments, such as those made to first incorporate the reimbursement of legal companies, then to allow the reimbursement of depositors in Norwegian branches of foreign EU/EEA banks and EU/EEA branches of Norwegian banks[23], and in 2022 to include the reimbursement of depositors in other EU/EEA states that were captured making use of the provision of freedom of services (not through branches).

Parameters which were fundamental in the development of this solution were an accurate identification of depositors, the provision of secure access, and the ability to support a large number of simultaneous users while meeting security requirements.

Cooperation with the banking industry and FSN participants has been key in this process. NBGF uses Bank ID as the main login method for depositors to access the online solution. This is a national digital ID system used in financial and public services, which was developed in cooperation with the banking industry. Also, NBGF relied on FSN partners to amend the regulation required to collect data from member banks. This was critical, as the solution requires high-quality SCV files that incorporate all depositors' information needed by NBGF. Following the regulatory amendment, the Norwegian DI has access to depositors' data and member institutions must provide it upon request, including for testing purposes, whenever the DI deems it necessary. NBGF tests SCV files from all banks at least every third year, partially on-site.

Depositors would thus enter the online solution providing the Bank ID (other digital IDs are possible) and would then detail the information of the account to which reimbursement will be transferred. For depositors which have been onboarded by the failed member institution in other European Union member states, making use of the freedom to provide services across the EU, an email account and mobile number (data which are on the SCV files sent by the member institution to the DI) are used for two-channel authentication.

In addition, NBGF paid substantial attention to the selection of partners and suppliers, having as some criteria for that selection (i) experience in developing financial solutions and applications, (ii) expertise in identification and login processes and (iii) knowledge about the mission and way of working of the DI.

NBGF online solution has been used in one real reimbursement case. In 2022 the reimbursement of insured deposits at Optin Bank was triggered. Optin was a small niche bank operating only in Norway with approximately 700 individuals as insured depositors, who were reimbursed within seven working days. The Norwegian DI estimates that, in general, the use of its online solution would allow that depositors receive their insured amount in five to six days. The DI has in place a back-up option for non-digital depositors, who would be compensated via cheque.

[23] This amendment follows the requirements of cooperation between Home and Host DGSs in the EEA for the reimbursement of depositors at branches of member institutions in another Member State.

Other DIs, including Brazilian FGC, have implemented a system via an iOS/Android mobile application (FGC App). The app is made available to depositors at the moment the central bank announces the member institution´s liquidation and allows for their identification and the designation by depositors of an account at another institution to receive their insured deposits. The app has substantially reduced the average time to complete the reimbursement, from two months to one.

Solution Developed by FGC Brazil: FGC App

Since October 2020 (when member institutions´ branches were still closed due to the Covid-19 pandemic) FGC offers its iOS/Android application to depositors who are able to claim their reimbursement remotely. Depositors can start their onboarding in the app as soon as the liquidation of a member institution is announced, going through authentication steps to verify their identity. In this regard, data submitted by the depositor are matched with data that member institutions are required to send to FGC (mainly the tax identification number). Insured depositors can then login, review and accept the electronic version of the subrogation terms and provide an account to which reimbursement is transferred.

The three major components of the process are the application itself, the SCV file and the Sistema de Pagamento de Garantias (SPG) payment system, which receives depositor information, makes the conciliation with the depositor data coming from the app and sends the electronic transfer instructions.

The development of FGC App took approximately two years and has become the default method for reimbursing natural persons (in the last three reimbursement cases, between 98% and 99% of insured depositors have been reimbursed through this app). On-paper and web processes are kept as a back-up and for handling special cases, as the reimbursement to companies, which requires signing authority checks to be concluded.

Going forward, the ability to register, validate and reimburse small companies via FGC App will be added.

Given the potential benefits for a more prompt and efficient reimbursement, DIs could consider the implementation of technological developments as part of their reimbursement process.

DIs should consider the following processes when defining and implementing technology-based solutions:

1. **Verification of depositors' identity**: any solution should be accessible only to the insured depositor. The DI must determine what procedure and what information will be used to ensure that only the entitled person can access the solution, as well as how identities will be confirmed. In some cases, the identification also requires a confirmation that the account to which the DI sends the reimbursement belongs to the depositor.

   DIs may verify depositor identities through several means. Some DIs demand that depositors input certain data, such as a national identity or taxpayer identification numbers, or other personal data that can be matched against information available to the DI, usually through member institutions, who are required to submit it to the DI. They can also be combined, and specific passwords submitted to depositors may complement the

system. For example, FGC and NDIC combine personal information with data such as the taxpayer identification number or account numbers, while the Deposit Protection Fund of Uganda (DPF), DGF Ukraine, Korea KDIC and NBGF use of passwords sent to depositors after the failure of the institution, bank identification cards, digital certificates or legally recognised digital IDs.

The Korea Deposit Insurance Corporation (KDIC) Online Reimbursement System

KDIC developed its *Reimbursement (Payout) System* in 2008 and began using the System in 2009 for online and offline payments. Prior to its implementation, depositors could only apply for payments by physically visiting a branch of an agent bank. The online system ensures quick and efficient payments by no longer requiring depositors to go to a branch to obtain their insured funds.

Through KDIC's Online Reimbursement System:

- Depositors can verify their identity and electronically sign documents when reimbursement is triggered, allowing them to apply for and receive payments.
- KDIC can manage failed institutions' submissions, calculate the insured amount to be paid, and wire transfer money through firm banking services.

The Process of KDIC's Online Reimbursement System includes:

- The failed institution verifies and transmits standardised electronic data, including customer information.
- KDIC receives depositor information from the failing institutions upon the declaration of insolvency (in addition to the submission of data in 'normal times'), and before the reimbursement process is initiated, through four forms covering (i) depositor identification, (ii) deposits and loans, (iii) deposits which are guaranteeing/collateralising obligations, and related data, and (iv) circumstances that prevent depositors from being reimbursed by the DI or lead to payment suspension. Depositors access the KDIC Online Reimbursement System via website or a mobile application, using a digital certificate issued by a third party. Depositors can then insert the account to which reimbursement is to be sent. Upon the identification of depositors, KDIC verifies the claims and approves the transfer of funds. These are transferred immediately through one of the banks which KDIC has agreements with (it currently has these agreements with six large commercial banks and with a business operator).

Since 2012 KDIC has the authority to send its staff to a failing bank and, in practice, can work onsite prior to the bank closing to make preparations for depositor reimbursement. The preparatory work also informs the decision on whether a payout should be made.

The Online Reimbursement System has been used in 33 failures. It has facilitated the claims process and reduced the required time: if a depositor chooses the online system, the payment will be wired to the provided account on the same day.

2. **Definition of information requirements and cooperation with authorities and member institutions**: solutions developed by the DIs may require external information. Considering their domestic framework, DIs should first consider what information might be already available and could be incorporated in its solution. The DI might have direct access to that information because it is part of the data that member institutions must keep about depositors, but it could also assess whether other organisation might share information that can enhance the functionality of its reimbursement process.

   Collaboration with public authorities and the financial system can assist in this process. A relevant example is that of Nigeria, where NDIC has been granted access to the database of bank accounts kept by the Nigerian Interbank Settlement System. This access allows NDIC to directly reimburse depositors which have banking relationships with another institution different to that which failed. NDIC may reimburse them directly through those alternative accounts, which has reduced its reimbursement starting period from 20 days to four. Likewise, in Norway NBGF uses for identification purposes BankIDs provided by the industry, in Brazil the banking federation maintains a repository of data that FGC uses for identification purposes, and in South Korea depositors make use of digital certificates issued by third parties (public and private) for identification before KDIC.

   In Ukraine, the DGF, with the assistance of the Ministry of Digital Transformation, integrated reimbursement into an existing digital app that supports government services, such as the payment of taxes and obtaining of certificates.

Cooperation with stakeholders: Nigeria Deposit Insurance Corporation (NDIC)

NDIC was appointed as liquidator of Heritage Bank after the Central Bank of Nigeria (CBN) revoked its banking licence on 3 June 2024. As part of its deposit guarantee mandate, NDIC initiated the payment of insured deposits within four days of the bank´s closure.

This was accomplished by using the Bank Verification Number (BVN) of depositors. The BVN is a unique identification number issued to every bank customer at enrolment and linked to every account that the customer has in all Nigerian banks. The BVN incorporates the bio-metric and data of the customer and is included in the SCV file. All banks are required to upload customer account details once an account is opened on to the Industry Customer Account Database (ICAD) maintained by the Nigeria Inter-Bank Settlement System (NBISS), which is the central switch company, jointly owned by all licensed banks, including the CBN.

The use of the BVN by NDIC eliminated the need for physical verification of depositors. On the date of the liquidation, NDIC in collaboration with the CBN forwarded the list of depositors of Heritage Bank to NIBSS and requested it to provide with the alternative bank accounts of depositors. NDIC also issued a press release informing that all depositors who had alternate accounts with other banks did not need to carry out any action except identify the account to which NDIC would then transfer the insured amount. Depositors with no alternative bank account or with no BVN data (or issues with those data) still needed to complete the verification form online or physically.

The use of the BVN, in cooperation with the CBN and industry, was the main factor that has reduced the time required by NDIC to commence the reimbursement. Compared to the reported 4-day period of Heritage Bank, prior to this case, the quickest time to start the reimbursement had been 20 days.

3. **Transfer of insured amount**: some DIs have developed online solutions that go beyond the transfer to alternative bank accounts.

   In Uganda, the DPF combines the uses of an agent bank with e-wallets linked to mobile phone numbers, while in Ukraine, once the depositor submits the required data, the DGF generates an electronic card with a credit equal to the corresponding reimbursement amount.

4. **Testing**: rigorous testing must be conducted in order to identify, for example, deficiencies in the process for the identification of depositors or in the transfer of data. In addition, testing should include both the accuracy and security of information that feeds the solution (including cybersecurity threats).

   In this regard, the DI must ensure that depositor information held by the member institution, which is a key for the identification of depositors, is accurate. Incorrect data is likely to make the developed solution unreliable or limit its effectiveness, further highlighting the importance of quality information, as explained above in this paper.

5. **Other actions**: while potentially costly, DIs must ensure that potential suppliers have a comprehensive understanding of the digital development aspects, the regulatory framework, the security concerns about data pertaining to customers and sufficient knowledge about the operations of the DI. In addition, the solution should be easy to use for depositors, who should be informed clearly about the procedure for identification and for uploading the requested data. Finally, if the solution requires actions from the member institutions, the DI may also need to provide them with training to ensure the correct utilisation of the systems, including the ability to request, collect and upload such data.

Notwithstanding the significant benefits of these solutions, DIs should also consider that **some depositors may not be familiar with new technologies or comfortable using them** and may find their use challenging. Accordingly, DIs should also consider having in place 'traditional' means of reimbursement alongside new solutions to ensure that no depositor is left behind.

Development of a depositor reimbursement system: Deposit Protection Fund (DPF), Uganda

The DPF of Uganda has a primary purpose to promote confidence and stability in the banking system, especially in the face of possible or actual banking failures. To fulfil this goal, DPF implemented a payout system to efficiently reimburse insured depositors.

Access to the Depositor Payout and Premium Management System (DPPS) is granted through a website portal, with secure access ensured through a Virtual Private Network (VPN) and a firewall. The DPPS manages the uploading, validation and disbursement of insured funds for depositors of failed member institutions. Member institutions can also access the DPPS to upload depositors' information, which the system validates, reporting on both successful and failed records.

The development of this solution involved a partnership with two external firms for system development, testing and maintenance, as well as the operationalisation of mobile wallets with major

providers (mobile money is one of the payment methods used by DPF, together with agent bank encashment and electronic transfer).

Other relevant elements of the implementation have been testing and training. Following the commissioning of the system and a stabilisation period that finished in January 2022, a pilot test was conducted with four institutions, allowing DPF to identify and resolve any issues prior to full deployment. In addition, the DI carried out reimbursement simulation exercises (which it keeps doing regularly) to identify challenges, refine procedures and ensure readiness for payouts. Training has been given (i) through an in-house course to provide users with an understanding of how to effectively interface with the different modules of the system and (ii) to member institutions (including issuing procedures for navigating the DPPS) to enhance their knowledge of the DPPS and the quality of data to be uploaded.

DPF reports that the new system has been successfully used to pay depositors in two real cases during 2024. Although DPF had not executed any reimbursement prior to the implementation of the tool, the speed of reimbursement improved significantly as compared to prior simulations and to real cases in which the Central Bank had carried out reimbursements (before the DPF was created). Main reasons reported are (i) the quarterly submission of SCV files, which has improved the preparedness of the DI, and (ii) the integration of mobile money wallets with the system, which enables prompt payments to depositors with updated information.

5. Conclusions

1. DIs report several challenges in conducting prompt reimbursements, most notably regarding the quality of depositor information, which is sometimes inaccessible for DIs before the reimbursement is triggered.

2. This paper offers policy recommendations and options in three areas that could help DIs reduce the time required to complete a prompt and accurate reimbursement:

    a) Improving the quality of depositor information,
    b) Performing tests on the DI systems and processes and
    c) Exploring technological developments to speed up the reimbursement process.

3. Accurate and quality depositor information is key for DIs to be ready to conduct a prompt and efficient reimbursement. Several actions could help improve such critical information:

    a) DIs should have direct access to depositor information on an ongoing business-as-usual basis and the power to prescribe member institutions the content and format of such information.
    b) The accuracy of data submitted should be periodically examined, and the DI should consider both off-site and on-site reviews. Key data elements on depositor information should be determined (as the deadline to receive valid files and critical information) and used as basis to assess whether a member institution has complied with its obligation of information.
    c) DIs should have the necessary powers to carry out the proposed actions and to require member institutions to implement any corrective measures needed.
    d) Although the DI should have those powers, if it lacks some of them, it should approach the appropriate FSN participant to implement these principles. Such participant should be required to cooperate closely with the DI.
    e) Ensuring the security of the confidential data included in the submission of depositors' information to DIs, including the risk of cyberattacks, is a relevant issue. IADI members could benefit from further work on this topic to be carried out in future guidance papers.

4. DIs should consider testing their systems and processes during normal operations. These principles could inform the performance of those tests:

    a) Regular testing of all relevant areas should be a strategic action for DIs.
    b) To the extent that they are involved in reimbursement, other FSN participants and third-party providers should also be involved in tests as appropriate.
    c) Simulations should replicate as faithfully as possible an actual reimbursement scenario, and the progressive incorporation of more stressed scenarios could be considered by the DI.
    d) Shortcomings identified in tests should be addressed and corrective measures adopted promptly, prioritising those with a higher impact for a prompt reimbursement. New tests should be carried out to verify the effectiveness of those corrective measures.

5. Certain elements could enhance the implementation of regular testing and its impact on the DI´s ability to reimburse depositors promptly and efficiently. IADI members could, therefore, benefit from further work on testing in future guidance papers, including on the:

    a) Development of a predefined plan approved by the appropriate internal body. This plan, considering an appropriate balance between resource demands and solid testing, could establish a complete set of actions and timelines. These might include the test design, identification of the areas and functions to be tested, type of exercises to be carried out, assessment of results and implementation of corrective measures.
    b) Development of a methodology to objectively assess the results of tests. Internal and/or external observers could participate in validating such methodology and the allocation of results, confirming the correct execution of tests or validating the expert judgment used (it can provide critical input, while objectivity must be maintained).

6. Appropriate technology-based solutions can support a DI's goal of prompt and effective reimbursement. In addition to considering depositor habits and domestic market features, the DI should also consider:

    a) The use of instant payments if these have been widely adopted by depositors.
    b) The development of solutions which accelerate communication with depositors (avoiding the need for physical means of communication) and other tools that allow a quicker start of the reimbursement process. Real experience shows that certain DIs have significantly reduced the time required to start and complete reimbursement with these solutions.
    c) Prioritising security so that only the entitled depositors can access the solution. For this purpose, some DIs match data supplied by the user (e.g. national identity card, etc.) with information provided by member institutions on depositors' data. Security measures should address also the risk of cyberattacks.
    d) Leveraging existing relationships with member institutions and authorities. Such collaboration creates synergies, taking advantage of information or solutions which are already available in the market and can support reimbursement.
    e) DIs should continue to offer efficient reimbursement options for depositors who cannot access or are not comfortable using technology-based solutions, ensuring accessibility to adequate reimbursement alternatives to all depositors.

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Annex 1: Members of the Reimbursement Technical Committee (RTC)

Name	Organisation	Jurisdiction
Borja Peletero (Chairperson)	Fondo de Garantía de Depósitos de Entidades de Crédito (FGD)	Spain
Adalzon Banogon	Philippine Deposit Insurance Corporation	Philippines
Allison Edwards	Deposit Insurance Corporation	Trinidad and Tobago
Baasandulam Dorjderem	Deposit Insurance Corporation	Mongolia
Bert Van Roosebeke	IADI Secretariat	Switzerland
Charles Greenslade	Central Bank of Bahamas	Bahamas
Cheng-Fang Liu	Central Deposit Insurance Corporation	Chinese Taipei
Colin Leach	Federal Deposit Insurance Corporation (FDIC)	USA
Emma McAllister	Financial Services Compensation Scheme (FSCS)	United Kingdom
Ivy Chang	Central Deposit Insurance Corporation	Chinese Taipei
José Vicente González	Fondo de Garantías de Instituciones Financieras (FOGAFIN)	Colombia
Martin Boegl	The Association of German Banks	Germany
Mohamed Mahraoui	Moroccan Deposit Insurance Corporation	Morocco
Pawanjeet Kaur Rishi	Deposit Insurance and Credit Guarantee Corporation	India
Sofyan Baehaqie	Indonesia Deposit Insurance Corporation	Indonesia
Teru Mitsuyu	Deposit Insurance Corporation of Japan	Japan
Tormod Skjærpe	Norwegian Banks' Guarantee Fund	Norway
Emil Olczak (Observer)	Bank Guarantee Fund	Poland