E-Money and Deposit Insurance

Policy Options

Draft for public consultation by 31 July 2025

July 2025

This IADI Report has been prepared by the Policy Council Committee's E-Money Working Group with input from members of the IADI Council Committees.

This publication is available on the IADI website (www.iadi.org).

Contents

Figures

Executive summary

The relevance of E-money, defined as an electronic store of monetary value used for making payments, is growing but very diverse across jurisdictions. Whereas it offers convenience and accessibility, especially in underbanked regions, it also comes with various risks such as liquidity risk, credit risk, market risk, and operational risk. To mitigate these risks, regulators have implemented a range of prudential and legal requirements, including licensing, capital requirements, fund safeguarding through segregation, and investment requirements. The paper describes a mechanism that offers protection for e-money users through segregation, which goes without intervention of the deposit insurer.

Despite these regulatory measures, residual risks remain, particularly in scenarios where the insured deposit-taking institution (IDTI) holding the e-money float fails or the e-money issuer (EMI) itself fails. In such cases, e-money users may face losses or temporary lack of access to their funds. This paper examines whether additional protection through deposit insurance is warranted and explores three policy options for integrating e-money into deposit insurance schemes: the default approach, the pass-through approach, and the direct approach.

1. **Default Approach**
    - This approach covers the default risk of the IDTI where the EMI has placed the segregated float. The deposit insurer treats the EMI's float account as a single depositor up to the coverage limit. In most cases this approach neither offers substantial protection to e-money users against losses nor does it prevent the follow-up failure of the EMI.
2. **Pass-through Approach**:
    - Under this approach, upon failure of the IDTI where the EMI has placed the float, the deposit insurer protects the eligible ultimate beneficiaries of the EMI's float individually up to the coverage limit. This offers a higher level of protection for e-money users compared to the default approach, in particular when reimbursement by the deposit insurer is to the EMI (and not to the e-money users). However, this approach comes with a number of technical challenges to the deposit insurer and, amongst others, requires detailed and accurate information from the EMI on the identity, eligibility, and balances of e-money users.
3. **Direct Approach**:
    - In this approach, the EMI is a member of the deposit insurer, and e-money users' claims against the EMI are insured up to the coverage limit upon the failure of the EMI, irrespective of the reason for this failure. However, it requires sound prudential regulation and supervision of the EMI and adequate pricing of the associated risks. This approach, in combination with pass-through or default approach, offers more comprehensive protection as it covers the failure of both, EMIs and IDTIs.

In addition, this paper discusses how the options above relate to a resolution strategy that includes the transfer of deposits books (including the e-money float) from a failing IDTI to an acquirer.

The paper concludes that there is no single solution that fits all jurisdictions. The appropriate policy option depends on the specific characteristics of the e-money market and the regulatory environment in each jurisdiction. While deposit insurance can provide significant benefits in protecting e-money users and enhancing financial stability, it also demands careful consideration of regulatory, supervisory, and operational challenges. Policymakers must weigh these factors to determine the most effective approach for their specific context.

List of abbreviations

CP	IADI Core Principles for Effective Deposit Insurance Systems
DIS	Deposit Insurance System
E-money	Electronic Money
EMI	E-money issuer
FOGAFIN	Fondo de Garantías de Instituciones Financieras
IADI	International Association of Deposit Insurers
IC card	Integrated circuit card
IDTI	Insured deposit-taking institution
IMF	International Monetary Fund
MNO	Mobile network operator
SEDPES	Specialised companies in electronic deposits and payments
SFC	Superintendence of Colombia

List of key terms

Account holder: represents the EMI who has an account at an insured deposit-taking institution where user funds are held, and it acts as a protective measure to ensure that these funds are not used for the EMI's own operational expenses and also provides a clear segregation in case of EMI insolvency or special administration.

Direct approach: Method of protecting the users of an EMI based on the intervention of the deposit insurer in the event of the failure of the EMI. It is characterised by the requirement that the EMI should be member of the deposit insurer. In this situation, the deposit insurer protects the users of the EMI in the same way as depositors.

Electronic Money issuer (EMI): Financial institution authorised and dedicated to issue and manage electronic money against the collection of user funds, offering e-money accounts and related payment and storage services. In this paper, the scope of EMIs considered is confined to issuers whose licence allows for e-money issuance, but not for other bank-like activities that require a more comprehensive licence, such as granting credit.

E-money: An electronic store of an official monetary value on a technical device that may be widely used for making payments to entities and natural persons other than the E-money issuer. The device acts as a prepaid bearer instrument. E-money represents an enforceable at par claim against the issuer.[1]

Financial safety net: refers to the wider set of functions and entities that work together to support financial stability.

Float: refers to the funds received from the Electronic Money Issuer (EMI) clients and held by an EMI in one or more separate accounts in an insured deposit-taking institution, to meet prudential requirements relating to liquidity, representing the value of the electronic money issued. These funds serve as backing for transactions made by the EMI's clients. In some jurisdictions, part or all of the float may be permitted or required to be invested in low-risk assets (e.g., government securities), or deposited in central bank accounts or public bureau accounts.

Mobile Network Operator (MNO): An operator of mobile communication networks, which may also be an EMI.

Pass-through (indirect) approach: Method of protecting the users of an EMI based on the intervention of the deposit insurer if the IDTI where the EMI holds its float with user funds fails. In this situation, the deposit insurer protects the eligible ultimate beneficiaries of the EMI's float account individually up to the coverage limit.

Default approach: Method of protecting the users of an EMI based on the intervention of the deposit insurer in case of failure of the IDTI where the EMI holds its float with client funds. In

[1] There is no internationally accepted definition of e-money. See paragraph 2.2 for more on the definition of e-money.

this situation the deposit insurer protects the EMI's float account as a single depositor up to the coverage limit and not the ultimate beneficiaries (EMI clients) to the account.

Segregation requirement: A regulatory requirement for an EMI to isolate clients' funds from the EMI´s assets, and, upon insolvency of the EMI, to shield e-money users' funds from claims from other creditors of the EMI.

1. Introduction and purpose

Rapid digital innovation in many jurisdictions' financial sectors has led to an expansion in the number and variety of digital financial products and financial service providers. Especially in emerging economies, there has been a significant increase in the use of e-money products.

These developments have raised concerns about the safety of e-money. Questions arose regarding the need to protect e-money users against losses; and what may be the appropriate policy instruments to offer such protection.[2]

To address these developments and concerns, the purpose of this paper is to

- Define the concept of e-money and its varying degree of economic relevance across jurisdictions.
- outline the risks inherent to the activity of EMIs and the use of e-money;
- gain a deeper understanding of the various legal and regulatory e-money frameworks in different jurisdictions that aim at mitigating these risks;
- investigate the potential value of deposit insurance for e-money;
- provide policy options to offer protection for e-money through deposit insurance;
- and address the challenges and preconditions for such approaches to function effectively.

2. What is E-Money?

2.1 Definition of e-money and scope of this paper

In many jurisdictions, e-money does not exist as an explicit legal concept; and where it does, the definitions may vary significantly. However, on a technical level, there are a number of elements that are common to products that are generally referred to as e-money. In many cases, e-money products show the following characteristics:

1) an electronic store of monetary value (e.g., on physical or virtual cards or mobile phones);
2) expressed in an official monetary unit (fiat money);
3) representing a claim enforceable at par against the EMI, i.e. the e-money is redeemable in fiat currency and at par by the user; and
4) multipurpose, i.e. they are accepted as a payment mechanism by entities other than the EMI.

As a consequence, crypto assets do not typically fall within the definition of e-money. As most stablecoins do not come with an enforceable at par claim, they would also not be covered by the definition of e-money. However, depending on the (future) prudential regulation of

[2] Izaguirre et al. (2019)

stablecoins, certain elements of this paper may prove relevant, although this paper does not cover specific issues particular to stablecoins and other similar financial products.

For the purpose of this paper, the scope of e-money issuers (EMIs) considered is confined to such issuers whose licence allows for e-money issuance, but not for other bank-like activities, such as intermediation, that require a more comprehensive licence.

Variety in e-money concepts

The following illustrates the global variety in e-money-like products in a selected number of jurisdictions. Whereas in some cases, these products meet all characteristics of e-money, in others, they do not.

The **European Union** has formally defined "e-money" as electronically, including magnetically, stored monetary value represented by a claim on the issuer which is issued on receipt of funds for the purpose of making payment transactions, and which is accepted by a natural or legal person other than the EMI.[3] The Directive requires e-money to be issued at par value and includes provisions regarding the redeemability of e-money at par value.[4]

In Japan, there is no legal definition of e-money and there are several financial products which would be categorized as "e-money". Prepaid payment instrument would be one of major and typical financial products which would fall under the category of e-money. Their definitions show a number of similarities, but also differences with the e-money concept used here. The current legal framework[5] defines such instruments to include both single-purpose and multipurpose instruments. It also includes both prepaid cards on a card-basis and on a server-basis. Prepaid payment instruments[6] must satisfy the following conditions: (1) the amount or unit for use is recorded on a paper voucher, IC card or server, etc. (2) they are used in exchange for the receipt of consideration corresponding to the amount or unit, and (3) they are used for conducting payment for purchase of goods or services.[7] In principle, redemption of the prepaid card value into cash is prohibited, to avoid such cards to qualify as a deposit.[8] Meanwhile redemption is possible, if instruments are issued as legally defined "funds transfer service" provided by "funds transfer service provider".

In **Kenya**, e-money covers monetary value as represented by a claim on its issuer, which is (1) electronically or magnetically stored, (2) issued against receipt of currency of Kenya or any

[3] E-Money Directive 2009/110/EC, Art. 2 (2). A June 2023 legislative proposal by the EU-Commission (pending as of January 2025) to replace this Directive by a new "payment services and electronic money services Directive" does not alter the existing definition.

[4] E-Money Directive 2009/110/EC, Art. 11 allows for redemption to be subject to proportionate and commensurate fees. In June 2023, the EU-Commission proposed to cover these redemption rights in a new EU-Regulation. The proposal sets out that "redeemability does not imply that the funds received in exchange for electronic money should be regarded as deposits". The proposal is pending as of January 2025.

[5] Payment Services Act, enforced in April 2010.

[6] For using prepaid payment instruments, various devices are utilised, including mobile phone, plastic card, access code, papers containing information on rights and obligations about prepaid payment instruments.

[7] Article 3, paragraph 1 of the Payment Services Act

[8] For a more detailed description of the Japanese legal framework, see IADI Fintech Brief No. 10

other currency authorized by the Central Bank of Kenya, and (3) accepted as a means of payment by persons other than the issuer.

In **Brazil**, e-money is defined by law as "resources in national currency stored in a device or electronic system that allows end users to carry out payment transactions".[9] The concept encompasses both hardware and software-based products. Non-deposit-taking issuers of e-money are regulated as EMIs.

In **Colombia**, there is no specific definition of e-money, but it is generally considered to take the form of deposit storage products that can be opened and handled fully digitally using different technologies. The acceptance of funds as e-money is considered a deposit-taking activity that can only be performed under a financial license granted by the Financial Superintendence of Colombia (SFC) using any of the licenses available according to the law, all of them under the subsequent supervision of the SFC. Deposits in banks and in EMIs (SEDPES) are considered "deposit contracts". These contracts are defined as instruments in which a person (client) entrusts a thing to a person (depository) who oversees keeping it and giving it back on the client's demand. When the deposited thing is money, it is presumed that the depository can use it and is obliged to return the same amount in the same currency.[10]

In **Uruguay**, e-money is formally defined as instruments representing a monetary value claimable from its issuer. Its monetary value is stored in electronic means (such as a chip in a card, a mobile phone, a computer hard drive, or a server) and it is accepted as a means of payment by entities or persons other than the issuer. It is issued for a value equal to the funds received by the issuer against its delivery and it is generally convertible to cash at the request of the holder. Electronic money in Uruguay must not generate interest.[11]

In **Ghana**, the most widely used form of e-money is "mobile money". E-money is defined in law[12] as a monetary value, which is stored electronically or magnetically, and represented by a claim on the issuer, which is issued on receipt of funds, redeemable against cash and maybe accepted by a person. This is backed by an equivalent amount of Bank of Ghana notes and coins, stored using the Subscriber Identification Module (SIM) in a mobile phone as an identifier. Mobile money is issued by licensed EMIs.

In **South Africa**, the Deposit Insurance Regulations of 2024 defines "electronic money products" as products offered by a bank, which represent a monetary value and must be claimable by an issuer; can be stored electronically and issued on receipt of funds; are generally accepted as a means of payment by persons other than the issuer; and are redeemable on demand for physical cash or a deposit into a bank account[13].

[9] Law No. 12,865, of October 9th, 2013, Article 6th, Item VI.
[10] Article 2236 of Colombia's Civil Code
[11] Law No. 19210 Financial Inclusion Law, Art. 2
[12] Payment Systems and Services Act, 2019 (Act 987)
[13] Deposit Insurance Regulations 2024

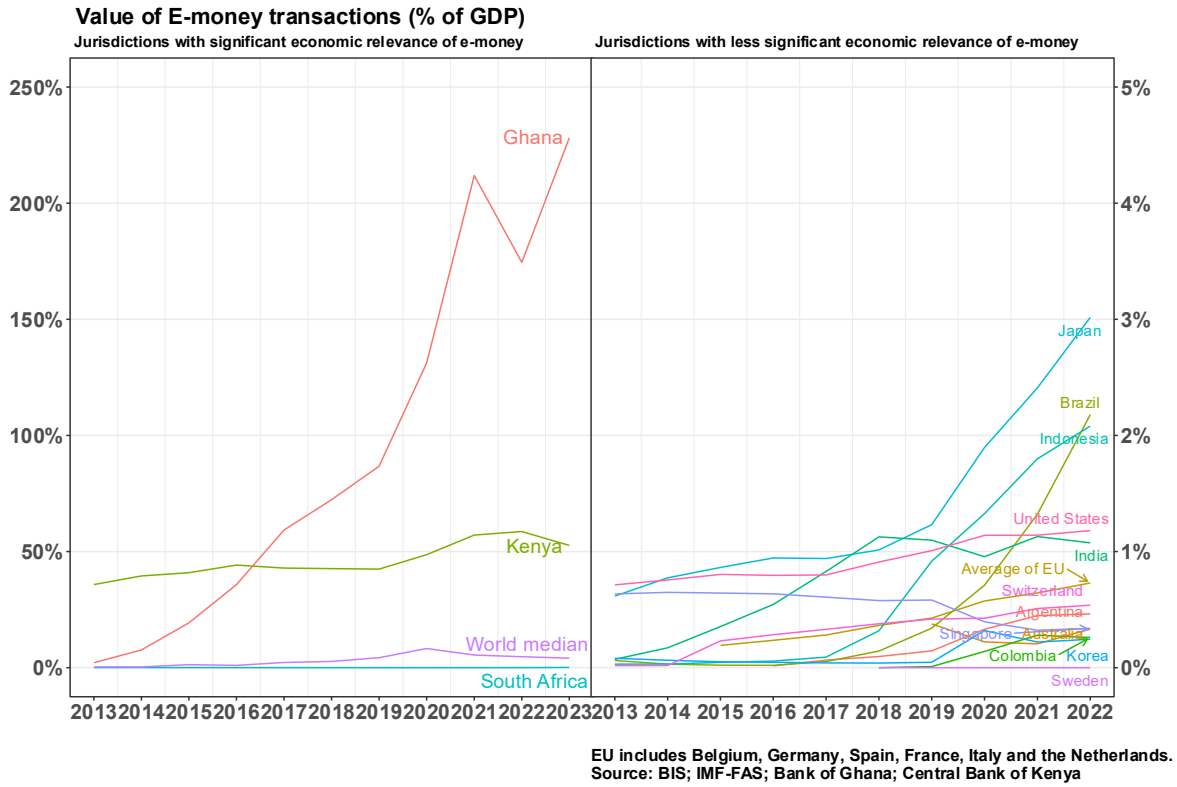
2.2 The economic relevance of e-money

Similar to regional variances in the definition of e-money concepts, the economic relevance of e-money to economies varies widely. In most economies, the share of e-money in the payment industry is relatively modest, but in a number of economies, for a significant share of the population, e-money is an important payment and value-storage instrument. Apart from a lack of a commonly accepted definition of e-money, data availability and cross-country comparison are challenging. The following demonstrates the significant differences in the economic relevance of e-money in a selected number of economies.

Where e-money users lack access to banking services, the use of e-money may reach dimensions that are relevant for financial stability. This is particularly the case in underbanked economies where demand for e-money products is spurred by the cost-effectiveness of using e-money and by the fact that e-money may contribute to financial inclusion by providing unbanked parts of the population with access to payment services.

The following graphs illustrate the growing relevance of e-money transactions in terms of their value as a percentage of the GDP in several countries. Even though, given the heterogeneity in defining e-money, caution is required when conducting cross-jurisdictional comparisons, in many jurisdictions, the value of e-money transactions as a share of GDP has steadily increased over the past ten years. In many jurisdictions however, the value of e-money transactions as percentage of GDP remains fairly low. This applies especially to advanced economies where the percentage is typically below 1% of GDP. In emerging economies, e-money accounts for higher percentages, such as in Ghana (more than double of GDP) and Kenya (50% of GDP).

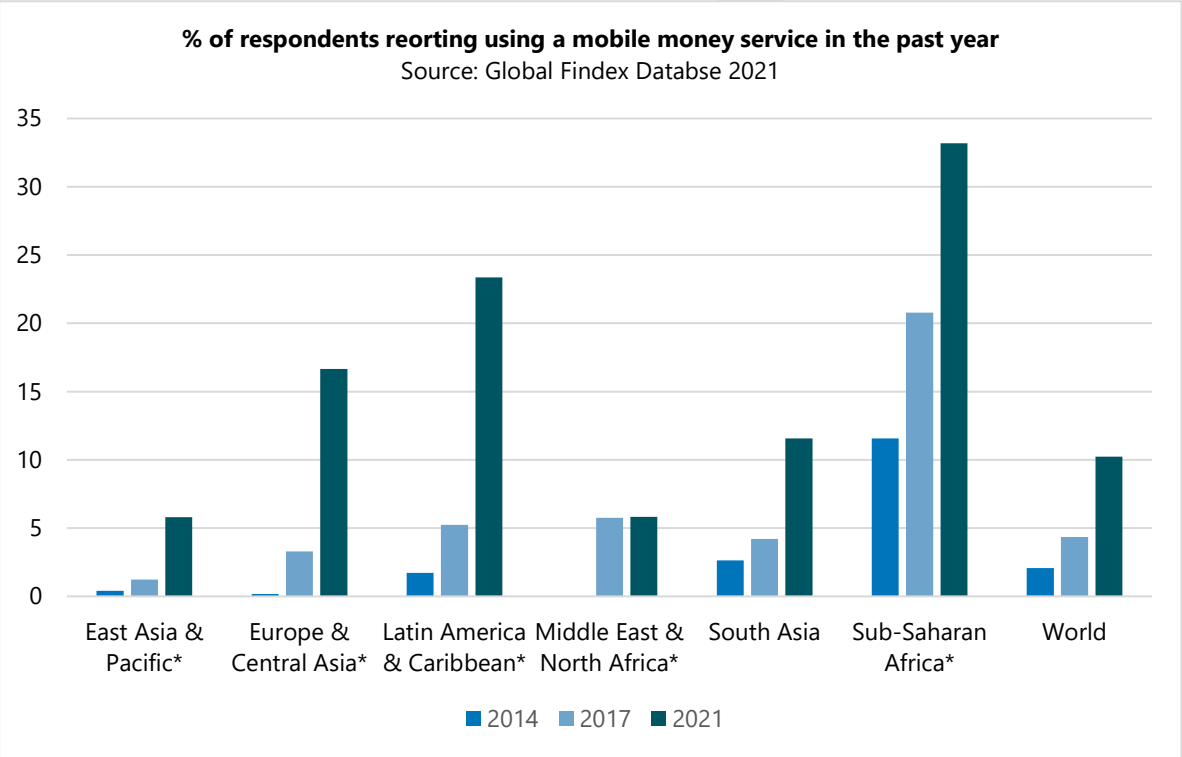
Figure 1: Economic Relevance of E-Money



EU includes Belgium, Germany, Spain, France, Italy and the Netherlands.
Source: BIS; IMF-FAS; Bank of Ghana; Central Bank of Kenya

The graph below[14] illustrates the increasing economic significance of e-money-like products, as reported by the Global Findex Database 2021. Globally, the share of adults with access to mobile money has risen from 2% in 2014 to 10% in 2021. During the same period, this growth is particularly notable in the Sub-Saharan Africa, where access increased from 12% to 33%. While the exact definition of the e-money concept in the Findex Database may differ from the one used in this paper, the data clearly highlights the growing adoption of such products.

Figure 2: Access to Mobile Money Accounts



3. Protecting users of e-money through regulation

3.1 Major relevant risks to E-money issuers

Using e-money is not without risks. EMIs may fail; or may not be able to allow the redemption of e-money funds by users for several reasons, including [15]

- **Liquidity risks:** there is a risk that the EMI is not able to meet e-money users' demands to redeem their e-money because it has invested the float in insufficiently liquid assets;
- **(Counterparty) credit risk:** there is a risk that the EMI is not able to meet e-money users' demands for redeeming their e-money because it has suffered losses due to the default

[14] Data with asterisk (*) excludes high income users. Data includes personal use of a mobile money service to make payments, buy goods or services, or to send or receive money, including respondents who reported personal using services included in the GSM Association's Mobile Money for the Unbanked database to pay bills or to send or receive money.

[15] International Monetary Fund: E-Money Prudential Supervision, Oversight, and User Protection (DP/2021/027). Annex 1.

of issuers of assets in which the EMI invested the float – this includes the scenario in which a IDTI, where the EMI has safeguarded the float, fails;

- **Market risk:** there is a risk that the EMI is not able to meet e-money users' demands for redeeming their e-money because upon liquidation of assets, it suffers losses as a consequence of changes in market prices (e.g. due to changes in interest rates or stock prices);
- **Operational risks:** there is a risk that the EMI is not able to meet e-money users' demands for redeeming their e-money because of business continuity risk, cyber risk, fraud and the EMI's mishandling of users' records.

3.2 Prudential regulation and supervision as first lines of defence

To protect EMI customers against the above-mentioned risks, regulators in different jurisdictions have subjected EMIs to a set of regulatory mechanisms. While there is no internationally established prudential framework for the prudential regulation of EMIs, a number of comparable regulatory approaches seem to emerge.[16] Some of these prudential and legal requirements tackle the risks set out above.

3.2.1 Registration or licensing requirements

Many jurisdictions require a registration or specific licence for service providers to offer e-money like products.[17] This ensures that there is a legal entity to which prudential requirements apply. As a result of licensing requirements, any e-money related activity may be required to be legally separated from other activities of an EMI, e.g. telecommunication services, where e-money is offered by an MNO, which may further support the regulation, supervision and contribute to the separation and protection of e-money users' assets from those of the service supplier (see also 3.2.3).

Generally, and mainly related to the fact that they are generally not allowed to intermediate, issuing e-money does not require a license as an IDTI. In a number of jurisdictions, such-type licenses also allow for the issuing of e-money. The license required by EMIs is generally much simpler to obtain and subject to less prudential requirements. The main reason therefore is that EMIs are commonly not allowed to intermediate user funds, e.g. through lending activities. As a result, credit and liquidity risks – while still present – are generally of lower relevance for EMIs.

3.2.2 Capital Requirements

Many jurisdictions apply minimum capital requirements to EMIs to ensure that investors have the necessary capital for the intended activities of the EMI. Given the differences compared to bank activities, these capital requirements are typically rather low and not risk-based. Capital

[16] As noted in IMF (2021), such frameworks exist for banks, insurers and payment market infrastructure. Dias, D., Staschen, S. (2018) set out some of the elements of such a framework for EMIs.

[17] See the Basel Committee (2016) guidance on the application of the Core Principles for Effective Banking Supervision to the regulation and supervision of institutions relevant to financial inclusion, Principle 5.

requirements serve as a buffer against losses originating from risks to the business model as well as from credit and liquidity risks.

3.2.3 Fund safeguarding through segregation

EMIs are typically required to back each e-money unit with one unit of fiat money. These collected funds (the float) are protected against losses in the event of insolvency of the EMI as to ensure that sufficient resources are available to convert users' e-money into fiat money on demand.

To achieve this, various methodologies are used.[18] A common approach is segregation (ring-fencing), which involves the separation of user funds from the assets of any other natural or legal person, including the EMI. Segregation is a fundamental principle of e-money regulation. It protects users' assets (the float) from claims by the other creditors of the EMI, particularly in the event of the EMI's insolvency. Jurisdictions employ different mechanisms to protect EMIs' clients against potential claims from other EMIs creditors in the event of failure.

The exact legal form to implement this segregation of user funds depends on the country´s legal system.

Trusts are used mostly in common law jurisdictions and are a legal arrangement whereby control over a property is transferred to the trustee for the benefit of the beneficiary. In the e-money context, it implies the transfer of property from the provider (here: the EMI) to the trustee, who is responsible for managing the property (here: the float) for the benefit of one or more beneficiaries (here: e-money users).[19]

Fiduciary contracts are used mostly in civil law jurisdictions and imply that a legally authorised fiduciary is bound by contract to use a property (here: the float) in a pre-specified manner. In the case of e-money, the fiduciary can be bound to return the float funds to the e-money user in the event of the EMI's insolvency.[20]

Other legal forms include storing the float in **escrow accounts at deposit-taking institutions, which earmark** funds for a particular purpose and protect these against creditors' claims in the case of failure of the EMI; and potentially even failure of the deposit-taking institution managing the escrow account.

In addition, where these legal instruments are not available, a number of countries (e.g. the European Union and Brazil) have introduced **specific legislative provisions** stating that EMIs' clients' funds are deemed separate from the EMI's assets and are protected against the EMI's other creditors' claims.

[18] See Kerse, M. and Staschen, S. (2018) for more detail.

[19] Trusts are used in Afghanistan, Bangladesh, Jamaica, Japan, Kenya, Korea, Lesotho, Liberia, Malawi, Myanmar, Namibia, Rwanda, Tanzania, the United States and Zambia. (IMF (2021) and IADI (2022a)

[20] According to IMF (2021), Fiduciary contracts are employed in Latin American countries and in francophone countries in sub-Saharan Africa.

3.2.4 Fund safeguarding through investment requirements

In addition to segregation rules, EMIs are generally subject to requirements that aim at managing the credit and liquidity risks of investing the float. It is worth recalling that, especially given the fact that the EMI's licence generally does not allow it to conduct intermediation, these risks are of much more moderate nature than they are for deposit-taking institutions. However, in circumstances where e-money users have reason to believe the EMI will incur substantial losses on its float, or may lack liquidity for them to transact or redeem their funds, there is a risk that the EMI's users may run on the EMI to profit from a first-mover advantage in converting e-money. Safeguarding typically includes the requirements to place the float at a IDTI in a deposit, at the central bank or another public authority[21], or to invest these funds in low-risk, liquid assets.[22] Some jurisdictions add diversification requirements, by demanding the float to be placed in at least two different insured deposit-taking institutions.[23] In some jurisdictions, EMIs are also allowed to purchase private insurance against investment risks.[24,25]

3.3 Remaining Risks

Despite all these regulatory measures and efforts, a residual risk of failure or illiquidity – and hence of loss or temporary lack of access to e-money users - remains. Some of the most relevant possible failing scenarios are set out below.

3.3.1 Failure of an IDTI holding the EMI float

Of particular relevance for this paper is the scenario wherein the deposit-taking institution, where the EMI has placed the segregated float, fails and there is no protection of the float held by an IDTI. In this scenario, the EMI is likely exposed to considerable losses to the float, which put its ability to meet users' demands to convert the e-money into fiat money at risk. Even if the EMI was able to eventually recover (part of) its claim on the deposit-taking institution, there

---

[21] As an example, in Japan, issuers of prepaid instruments can fulfil obligation by depositing at least 50% of their clients' unused balances as a security deposit with the Legal Affairs Bureau, a government agency [IADI (2022a)]. In Colombia and Brazil, EMIs may deposit the float at the Central Bank [IADI (2025) forthcoming and IADI (2024]

[22] Requirements to invest in such assets exist amongst others in Brazil, the EU and the UK. [IADI (2021), IADI (2022b) and IADI (2024)]

[23] In Kenya, EMIs may be required to diversify risks by keeping its liquid assets in more than one bank and limit exposure to a single bank. See IADI (2021a).

[24] In the EU, EMIs may purchase an insurance policy or equivalent guarantee from an insurance company or credit institution that must cover an amount equal to the segregated funds, when the EMI fails to meet its financial obligations. (Second E-money Directive (2009/110/EC) Art. 7 in conjunction with Directive (EU) 2015/2366 Art. 10). In Korea, one method for the electronic prepaid payment instrument issuer to ensure safeguarding is to subscribe to a payment guarantee insurance. This insurance must cover the amount of user funds that are directly managed by the EMI, and not safeguarded in a trust or in a deposit-taking institution.

[25] In Japan, if an issuer of prepaid payment instruments has concluded a guarantee contract for security deposits for issuance, it may choose not to deposit all or part of the security deposits for issuance with regard to the secured amount (Article 15 of the Payment Services Act).

is material liquidity risk to the EMI. Public knowledge thereof may cause a run on the EMI by users aiming to profit from a first-mover advantage in converting e-money to avoid losses.

Transfer of floats held at deposit-taking institutions: The Case of Uganda

A number of jurisdictions allow for the e-money float to be invested in low-risk, liquid assets, such as cash or treasury bills with short remaining maturities (see section 3.2.4).

A third party may act as a safekeeper (e.g. a trustee) and safeguard these securities or the cash float received from the EMI. In the event of the safekeeper's failure, this cash, securities or other assets that form the float may be transferred to another safekeeper. If sufficiently fast, such mechanism may reduce liquidity risk and maintain users' confidence in the e-money. For this to function effectively, the legal framework must explicitly recognise the segregation of the float from any other assets of the safekeeper. This ensures that, in the event of the insolvency of the safekeeper, the cash, securities or other elements of the float, are not part of the estate out of which claims of the safekeeper's creditors are serviced.

A special case of such a safekeeping is the situation where the safekeeper is a deposit-taking institution. This may result from a regulatory framework that requires the EMI to hold (parts of) the float with deposit-taking institutions.

The approach adopted in Uganda provides a practical example of such a framework. Under Uganda's National Payment Systems (NPS) Act, the EMI float must be held in a ring-fenced trust (or special) account with licensed deposit-taking institutions. At this institution, the float must be held in unencumbered, liquid assets, such as (amongst others) cash or government securities. Importantly, these assets must not be commingled with other funds held by the deposit-taking institution; and they must not be subject to any debt or claim. As a consequence, any cash parts of the float cannot be intermediated in the form of credits granted by the deposit-taking institution.

Upon failure of the deposit-taking institution holding the float, the latter is to ensure that the float is readily available; and is not part of the liquidation estate of the failed institution. As such, the float remains intact upon failure and is readily available for transfer to another safekeeping party (e.g. another deposit-taking institution). This applies to both cash and security element of the float.

The transfer of the float in the event of the deposit-taking institution's failure is designed to occur swiftly, typically on the same day, to ensure continuity of the EMI operations and allow

for uninterrupted access to e-money services. Uganda has not yet experienced a failure of a deposit-taking institution that required such transfer of EMI trust balances.[26]

In the event of failure of the EMI itself, the trust balances at the safekeeper (in Uganda, this must be a deposit-taking institution) remain unaffected. The NPS Act requires EMIs to hold reliable data that links e-money balances to individual users and replicate it at the banks holding the trust funds. As such, the EMI liabilities can be transferred to another EMI that is willing to assume these or can be paid out directly to the users. In Uganda, following an EMI failure in 2021, such transfer of EMI liabilities took place from a failing to another EMI. Customers could either use the services of this assuming EMI or select to have their EMI claims being paid out.

Although this framework includes trustee-like activities by deposit-taking institutions, protection is essentially offered with means other than deposit insurance. A precondition for this to be feasible is for funds (both securities and cash) to be readily available upon failure of the deposit-taking institution. In turn, this requires strict segregation and non-intermediation rules. This may involve challenges, such as the perception of preferential treatment of the EMI float over (especially uninsured) deposits, who could bear additional losses in the event of insolvency. Also, market or credit risks cannot be excluded for those parts of the float held in securities. Especially in cases where an EMI fails, and users redeem their funds because of fading confidence in the e-money, situations may arise where the float-value is insufficient to service all e-money users' claims in full.

3.3.2 Failure of the EMI

In spite of all the prudential requirements, EMIs may fail for a number of reasons. When an EMI lacks a convincing business case or does not generate sufficient income (typically through transaction fees) to cover its costs, it may eventually become insolvent. If in such a case, float segregation has been adequate and the insolvency framework gives the float preference in liquidation, e-money users may not incur losses, even though the repayment of the float to the users may take long. E-money users are hence exposed to liquidity risk because of delays in accessing their funds.

Other scenarios may include losses to e-money users. This is the case when the EMI committed fraud and misused the float; or did not comply with the requirements for safeguarding the funds received in exchange for issuing e-money. In such scenario, the float may no longer be available and/or other EMI creditors may compete with e-money users in servicing their claims, resulting in losses for e-money users.

[26] A somewhat similar approach is in place in Korea. If the custodial deposit-taking institution fails, the segregated assets held as deposits must be returned to the EMI issuer as a priority. The EMI is then required to entrust these assets to another custodial financial institution.

3.3.3 Float preservation risks

Segregating funds and subjecting their management to prudent investment requirements offer substantial protection for e-money users but cannot fully guarantee the preservation of the float value at all times. Credit risks remain, although failure of the counterparty is limited to exceptional circumstances since the investments are with/in high-quality creditors (even sovereign issuers). Liquidity risks may arise, especially in small markets with less developed secondary markets upon massive conversion of e-money. Market risks exist especially in times of changing interest rates and when EMIs are allowed to invest in securities with longer maturities. As a result, the value of the float may fall – either temporarily or permanently, which limits users' ability to reclaim funds at par. In addition to these risks, risks remain as in some jurisdictions, the insolvency frameworks do not allow for the safeguarding measures to be used efficiently when the EMI fails.[27] Safeguarding risks can likely be minimised by a requirement to hold the float as cash with the Central Bank.

3.4 Policy Question: Is there a need to offer additional protection?

Given the residual risk of losses to e-money users, policy makers are faced with the question whether, in addition to the prudential regulation and supervision described above, further protection is warranted. Such protection could take the form of coverage through deposit insurance.

In weighing the benefits and costs of protection through deposit insurance, in addition to considering whether e-money shows similar characteristics to "deposits issued by IDTIs", policy makers are encouraged to reflect on the public policy objectives of deposit insurance. According to the IADI Core Principles, the public policy objectives of DISs are to protect depositors and to contribute to financial stability.

3.4.1 Financial stability and e-money

Similar to protecting deposits, protection of e-money by deposit insurers may offer confidence to users such that, even in failure events, they will not suffer losses or lengthy interruptions of access to their funds. This reduces the incentives for and likelihood of runs by e-money users. However, given significantly lower credit and liquidity risks; and with appropriate prudential regulation and considering the peculiarities of EMIs' activities, in most jurisdictions, both the risk of e-money runs and the expected financial losses they inflict on e-money users can be expected to be of a significant smaller magnitude than for bank runs.

Hence, and taking into account the – at least currently and in many jurisdictions – limited economic relevance of e-money, from a financial stability point of view, including e-money in the scope of deposit insurance is unlikely to be generally necessary to prevent runs that may cause a subsequent destabilising contagion of other financial service suppliers. However, if the

[27] Martinez et al. (2023) highlights that the creditor hierarchy in the insolvency frameworks of many emerging market countries do not support the protection of e-money users or EMI first (using the safeguarded funds) before following normal liquidation processes.

economic relevance of e-money were to grow significantly, this assessment may need to be revisited.

3.4.2 Systemic risks and e-money

In some jurisdictions, e-money[28] holds a high economic relevance and the failure – even if unlikely – and subsequent losses born by e-money users may give rise to significant concerns.[29] This can be the case especially if:

- a significant part of the population uses e-money as main payment and value storage instrument resulting in improved financial inclusion through access to banking services[30]; and
- the e-money market is heavily concentrated[31], i.e. the failure of a single provider affects most of the population.

In these cases, the failure of an individual EMI is particularly sensitive in regions where a significant share of unsophisticated, low-income households and small businesses use EMI products and may be vulnerable to financial loss in the event of a failure. This is likely to affect a considerable number of the economy's payment transactions and population, which may hold considerable parts of their savings in the float. This may lead to a major economic fallout, including contagion effects on other sectors of the real economy. The wide-spread loss of e-money users' savings could result in a general loss of confidence in e-money, which would have a detrimental impact on financial and economic development and may render e-money to be of systemic relevance. Consequently, in such cases, the existence of a supplementary layer of protection for e-money by deposit insurance, in addition to sound prudential requirements may be advisable to safeguard confidence in the financial system and encourage financial inclusion.

4. Policy Options for deposit insurance

E-money products have led to complex relationships between the e-money user, the EMI and the IDTI where the EMI holds its float. Part of this complexity relates to e-money users' awareness of the protection available to their EMI balances should either the IDTI or EMI fail[32].

The following section presents two failure scenarios and three policy options in which deposit insurance can play a role in protecting e-money users' funds and sets out some of the main

[28] In Kenya, MPESA accounts for 90% of mobile money transactions. In Kenya, Rwanda, Uganda and Tanzania approximately 66% of the combined adult populations use e-money regularly.

[29] For a more detailed on potential forms in which e-money may cause systemic risks, see Greenacre et al. (2022)

[30] As the Basel Committee (2016) refers to, "in some countries, non-bank financial institutions, while not systemic based on the value of funds they intermediate, may present a systemic dimension due to the number and type of customers they serve." (p. 2)

[31] E-money markets show characteristics of platform economies and exhibit economies of scale and as a consequence, show a tendency for concentration and lack of readily available substitutes.

[32] IADI's Core Principles for Effective Deposit Insurance Systems (2014) requires that a DIS inform the public on an ongoing basis of the benefits and limitations of the DIS. The effectiveness of the public awareness initiatives should be regularly evaluated.

conditions for this to be effective. The failure scenarios that are covered and the degree of protection offered in each through deposit insurance differs, as will be discussed in further detail below.

The two failure scenarios considered are:

(1) the failure of the IDTI where the EMI holds the float and

(2) the failure of the EMI itself.

In the first failure scenario, we distinguish between the default and the more comprehensive pass-through approach for deposit insurance. In the second failure scenario, the direct approach by deposit insurance will be discussed.

The default and pass-through approach address the relationship between the EMI user and the deposit-taking institution, which may have no direct relationship with each other. The direct approach also addresses the relationship between the EMI user and the EMI.

The following diagram depicts the three approaches discussed.

Figure 3: Approaches to e-money

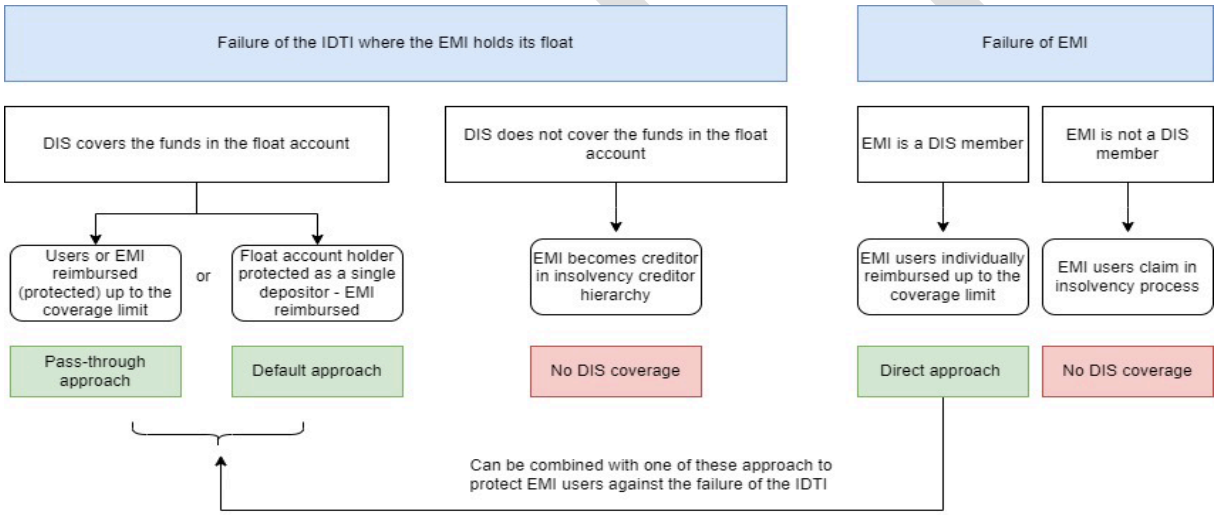
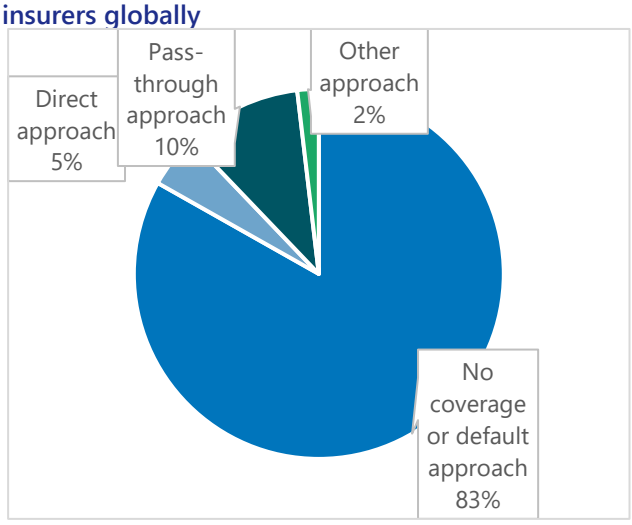


Figure 4: Approaches to e-money taken by deposit insurers globally



Most deposit insurers globally offer no specific protection for e-money, or treat the float held by the EMI as a single insured deposit (default approach, see section 4.1.1) (83 %). One out of 10 deposit insurers applies a pass-through approach (also: indirect approach) to e-money (see section 4.1.2). The direct approach described in section 4.2.1 is the least common approach, taken by few deposit insurers only.

Source: IADI Annual Survey 2024

4.1 Failure scenario 1: Failure of the IDTI holding the e-money float

In jurisdictions where the EMI (must) hold the float fully or partially at one or multiple insured deposit-taking institutions, the case may arise that one or more of the IDTI fails. As the failed IDTI must be a member of the deposit insurer, we identify the following policy options for the deposit insurer in dealing with the e-money float.

4.1.1 Option 1: Default approach

Under this approach, if the EMI is a depositor eligible for deposit insurance, the deposit insurer treats the EMI's float account at the failing IDTI as a single deposit and up to the coverage limit set by the deposit insurance framework. The deposit insurer compensates the EMI, not the e-money users upon the failure of its member IDTI.

4.1.1.1 Effective protection

The default approach offers a limited level of protection to the ultimate e-money user. The coverage is applied to the account holder (the EMI or an agent holding the float on its behalf) and the deposit insurance coverage limit applies to the total balance of the account. The EMI's clients are not insured individually. As the EMI pools the funds of a potentially very large number of users, the float balance is likely to substantially exceed the coverage limit, causing only a minor share of the float to be effectively protected. In those cases where the EMI or the agent holding the float account is not considered eligible for deposit insurance, there would be no protection.[33] In rare cases, protection may be effectively higher when the coverage level is exceptionally high, or unlimited.

As a result, in most cases, this approach neither offers substantial protection to e-money users against losses nor does it prevent the follow-up failure of the EMI. Except for the scenarios of high effective protection, the EMI will likely suffer considerable losses to the float deposited at the failing institution if the entire float is held at this institution. As a result, the value of the reimbursed float will be reduced considerably. This can cause the EMI to become insolvent; or, if information on the EMI's losses becomes public, may reduce the acceptance of the e-money and will lead users to run the EMI to profit from a first-mover advantage in converting funds.

Continuity of services of the EMI and prevention of losses to users will require additional capital or a transfer of the float. The EMI may mobilise capital to refill the float gap following reimbursement by the deposit insurer and hence re-install full backing of the e-money. Alternatively, a resolution measure applied to the failing IDTI that results in a transfer of the full float to another IDTI (such as through a purchase and assumption) can also uphold the EMI's services and prevent losses for e-money users. As the float will likely be uninsured in part, the most realistic scenario would be a transfer of the full deposit book, including the float and

[33] As an example, according to the 2024 IADI Annual Survey, 10% of deposit insurers globally do not insure deposits held by legal persons.

the non-insured deposits. The default approach will limit the funding contribution of the deposit insurers to such transfer, as it lowers the payout counterfactual.[34]

Quick action is required to avoid an EMI failure (if at all). Even if only minor parts of the e-money float are affected by an IDTI-failure, delays in reimbursement or transfer of the float by the deposit insurer or resolution authority increase the risk of a follow-up failure of the EMI. This is so since liquidity pressure on the EMI will reduce its ability for conversion of e-money into fiat money. Upon such failure of the EMI, causing significant delays in access to funds, insolvency procedures will likely assign remaining liquidity pro-rata to the e-money user.

4.1.1.2 Technical considerations for deposit insurers

From the operational point of view, this approach is not fundamentally different from providing deposit insurance to individual depositors. The deposit insurer protects the insured depositors of a member of the deposit insurer which contributes financially to the deposit insurance fund through regular premiums, based on the volume of deposits. The deposit insurer does not interact with the e-money users and its administrative burden is comparable to the conventional coverage scenario.

Legal complexities may arise. For example, if an EMI deposited the float in two trusts at two different IDTIs, one of which fails, losses need to be allocated to the e-money users[35].

Awareness and communication issues may arise. Even if individual e-money users were aware of this approach, it is unlikely that they have an informed view on their effective level of protection. Users typically lack knowledge about the balances of the float and the existence of EMI deposits at IDTIs representing the float at IDTIs. This requires appropriate communication by the EMI, and potentially the deposit insurer.

4.1.1.3 Use case and preconditions for the deposit insurer

The default approach may be considered in cases where EMIs can safeguard (parts of) the float at IDTIs, as it relates to the IDTI's failure only. It is most fitting to economies in which e-money plays a minor role as a payment instrument and where prudential regulation and supervision are deemed to be sufficient safeguards to protect e-money users.

As the default approach mirrors standard coverage practices, there are no additional requirements from the IADI Core Principles for deposit insurers to apply this approach effectively in practice.[36,37]

---

[34] The impact thereof is limited as the share of the float in overall deposits is likely limited.

[35] Legal complications could occur in the absence of specific and comprehensive legal or contractual documents that delineate the rights and responsibilities of the parties involved and/or deal with the allocation of losses among the parties in the event of a failure.

[36] This includes in particular: adequate funding and pricing of deposit insurance and receiving timely, accurate and comprehensive information (e.g. on the insured accounts) from the IDTI.

[37] More substantial preconditions apply to the EMI: To allow for a correct redemption to e-money users in insolvency procedures, EMIs must hold correct and up-to-date records of the identities and balances of its users.

4.1.2 Option 2: Pass-through approach (indirect approach)

Under this approach, the deposit insurer protects the eligible ultimate beneficiaries of the float (i.e. the e-money users) individually up to the coverage limit set by the DIS. The deposit insurer compensates either the EMI or the users directly, upon the failure of its member IDTI.

4.1.2.1 Effective Protection

The pass-through approach signals a higher level of protection to the ultimate e-money user. When EMIs place the float at an IDTI, they typically pool the funds of a large number of e-money users. Applying the deposit insurance coverage limit to each user's individual balance within this float leads to a significantly higher level of protection for the ultimate e-money user than under the default approach. If e-money is used as a payment instrument only – as opposed to an instrument for value storage – this may lead to a very high level of protection (in many cases likely full protection) for e-money users when the institution where their EMI holds the float, fails.[38]

Reimbursement by the deposit insurer to the EMI leads to a refill of the float and contributes to protection through continuity of services. The deposit insurer may reimburse the EMI up to the value of its users' covered claims. Such "refilling of the float" may be an effective method to uphold the EMI's liquidity and hence the continuity of its credibility and activities. Reimbursement to e-money users instead of to the EMI may on the contrary cause users to redeem e-money as they doubt the viability of the EMI. However, complications arise if the float is not fully reimbursed, e.g. because some e-money users may not be eligible for deposit insurance (e.g. because legal persons in general or financial institutions may not be eligible for deposit insurance) or because their balances exceed the coverage level. In that case, there is a risk that such users convert their e-money faster than insured users and that there is insufficient remaining liquidity to fulfil other users' claims. In case of a partial refill only, the EMI would need to mobilise additional capital to re-establish full backing of the e-money.

Reimbursement by the deposit insurer directly to the e-money users is very complex and will likely require time. A failure of the deposit taking institute holding the float may not necessarily or immediately lead to a failure of the EMI. The impact of the failure may be moderate and may at first remain without consequence. This can be the case if e-money users do not know that the EMI holds (parts of) the float at a failing IDTI. In that case, and unless public authorities prevent so, existing users may continue to use the EMI's services and whereas the overall float would remain unchanged; the balances of e-money users (and hence users' claim on the deposit insurer) may change following the failure of the IDTI holding the float. This creates complex legal and practical issues for the deposit insurer. Reimbursing the balance at time of failure to an ultimate beneficiary may lead to overcompensation. To avoid this, the EMI's activities could theoretically be halted following such failure but the knock-on effects

[38] Globally, deposit insurers typically fully insure more than 90% of depositors. Assuming significantly lower values being held as e-money for transactional purposed, coverage ratios for e-money users in these default scenarios would be even higher.

may affect the viability of the EMI; alternatively, a netting between the EMI and the e-money user may be necessary to allow the deposit insurer to reimburse the correct amounts.

Additional capital or a transfer of the float can also contribute to continuity of services of the EMI and can prevent losses for e-money users. Similar as under the default approach, the EMI may mobilise capital to refill the float gap following reimbursement by the deposit insurer. Reimbursement by the deposit insurer to the EMI – and not to the users – is likely to ease this process as it can be expected to require less time. Alternatively, a resolution measure applied to the failing IDTI that results in a transfer of the full float to another IDTI can also uphold the EMI's services and prevent losses for e-money users. By applying the pass-through approach, the share of insured claims in the float is likely to be elevated such that the potential funding contribution by the deposit insurers to such transfer will be higher as under the default approach.[39]

Quick action and communication are required if an EMI failure is to be avoided. As under the default approach, delays in reimbursement or transfer of the float and other deposits by the deposit insurer or resolution authority increase the risk of a follow-up failure of the EMI. Significant communication and trust-building measures may be necessary to uphold the EMI's liquidity and credibility amongst users. Reimbursement, especially when made to the e-money user and not to the EMI, is more likely to cause communication issues, which may eventually cause the EMI to fail.

4.1.2.2 Technical considerations for deposit insurers

Similar to the default approach, the pass-through approach takes place in setting that is well-known to deposit insurers. It offers a significant level of protection for e-money users upon the default of a conventional member of the deposit insurer. This member is a well-regulated and supervised institution, which through premiums contributes to the funding of the DIS. Both the insured actors and the insured risks are standard to deposit insurance.

The deposit insurer may face challenges in adequately pricing the risk of the pass-through approach. The pass-through approach leads to an increase of the value of insured deposits. An adequate pricing by the deposit insurer of associated risks is very challenging as it requires information to identify the ultimate beneficiaries (the e-money users) as well as both their current e-money and deposit balances. Without information on the identity and deposit insurance eligibility of the ultimate beneficiaries and their individual float balance, the insured value of the float cannot be assessed, and the deposit insurer cannot charge premiums that adequately reflect its exposure. This increases the risk of underfunding and moral hazard.

The applicable coverage level may not be obvious. E-money users may hold deposits at the institution that holds the EMI's float. This raises questions regarding the applicable coverage level, were this institution to fail. In jurisdictions that apply the coverage level "per depositor per bank", the e-money user's float balance is at risk of being unprotected if their deposits are sufficiently high. As the e-money user is unlikely to know at which institution the EMI holds the

[39] The impact thereof is limited as the share of the float in overall deposits is likely limited.

float, this may raise concerns as the user may not be able to anticipate whether deposit protection applies so as to lodge a compensation claim where applicable. Such risk for depositors related to the co-existence of combined funds, regular deposit and part of the cash float, above the coverage limit could also be addressed by granting a separate coverage to each of them if the required information is available to determine eligibility and protected balances for reimbursement and premium calculation purposes, where relevant.

Information requirements are pivotal for reimbursement but very challenging. In order to reimburse swiftly following a failure, the deposit insurer requires detailed and accurate information from the EMI on the identity, eligibility and balances of e-money users. Receiving such data and ensuring – prior to any failure – that such data is held accurately may be challenging to implement, as the EMI is not a member of the deposit insurer and the latter may not have authority against the EMI. A possible mitigation action could be the EMI to prepare e-money users' data in a format provided by the DIS before any liquidation event.

Reimbursing e-money users is more complex than reimbursing the EMI. In most cases, the failure of the IDTI will not lead to the EMI halting its activities. As a result, existing users' claims with the EMI will change since transactions continue, whereas the float balance remains unchanged since the operations of the IDTI have been suspended. Correct compensation will require additional coordination between the EMI and deposit insurer. Also, EMIs may choose or may be obliged to split the float over multiple IDTIs. If only one of those fails, and reimbursement is made directly to e-money users, a decision will need to be made on which how to allocate the float losses to the overall pool of e-money users.

Awareness and communication issues arise as e-money users must be made aware of the limitation to the scope of protection. Pass-through coverage does not cover losses related to other risks than that of the failure of the safeguarding insured deposit-taking institution. As an example, the EMI's inability to convert e-money due to fraud by the EMI or loss incurred by the EMI upon investment in allegedly low-risk assets, are not covered. It may be challenging for e-money users to understand their actual level of protection, as this assumes that user have knowledge about safeguarding mechanism applied by the EMI.

Deposit insurers may be faced with compliance issues. If the EMI's clients have not been subject to a know-your-client (KYC) requirement, the deposit insurer may face challenges in properly identifying users and complying with legal standards upon reimbursement.

4.1.2.3 Use case and preconditions for the deposit insurer

The pass-through approach applies to a similar scenario as the default approach, but in most cases will offer a higher level of protection to e-money users. Several jurisdictions apply this approach to trust (Canada, Kenya[40], UK, USA), and pooled and beneficiary accounts (EU), conditional up the availability of proper records and disclosure. Note that these legal forms of account types to which pass-through is applied is not necessarily related to the use of e-money and the issues referred to above may not always apply.

[40] IADI Fintech Brief No. 6

In addition to preconditions for the default approach, effective pass-through deposit insurance requires that at a minimum, the following conditions are met:

- The prudential framework applicable to the EMI includes enforceable requirements for proper record holding and disclosure of their users.
- A regulatory framework must be in place that ensures that, in peace time, the EMI must have available adequate records of the beneficiaries, including their balances and make it available (indirectly through the IDTI, or directly) to the deposit insurer, when required, to allow the deposit insurer to quantify the coverage provided, and the deposit insurance premiums to be made by the IDTIs.
- A regulatory framework must be in place that allows, upon failure of the IDTI holding the float, the deposit insurer to receive all necessary information regarding the identity and the balances of all relevant e-money users from the EMI.
- Public awareness of deposit insurance coverage for e-money must be assured, since most EMI clients may not be aware of the relationship of the EMI with the insured deposit-taking institution and the consequences of its failure on them.
- E-money users must have clarity, prior to any failure, of their total balances – be it in deposits or in the e-money float – and how the deposit insurer covers these balances.

4.2 Failure scenario 2: Failure of the EMI

In addition to a failure of an IDTI holding the float, EMIs may fail for other reasons, including fraud, operational risks or losses to the float, which may be invested in assets that may not be managed by an IDTI. We identify the following policy option for the deposit insurer in dealing with a failure of the EMI.

4.2.1 Option 3: Direct approach

Under this approach, the EMI users are protected through an intervention of the deposit insurer in the event of the failure of the EMI. It is characterised by the requirement that the EMI should be member of the deposit insurer[41]. In this situation, the deposit insurer protects the users of the EMI in the same way as depositors.

4.2.1.1 Effective protection

The direct approach signals the widest scope of protection to the ultimate e-money user. As, in this approach, the EMI itself is a member of the deposit insurer, the individual e-money users' claims against the EMI are effectively insured up to the coverage limit against failure of the EMI. Legally or functionally, this approach treats e-money as a deposit and the EMI as an

[41] IADI's Core Principles for Effective Deposit Insurance Systems (2014) require that members of the deposit insurance system be subject to sound prudentially regulation and supervision.

insured deposit-taking institution. The exact level of protection is shaped by general eligibility criteria and the coverage level set by the DIS.

The direct approach may be combined with either the default or pass-through approach. Upon failure of the IDTI that holds the float, which is also a member of the deposit insurer, an intervention of the deposit insurer (e.g. reimbursement to the EMI) is likely. However, if such intervention would not prevent the eventual failure of the EMI, the direct approach would cause the deposit insurer to compensate eligible users directly for their insured claims against the EMI. [42]

Reimbursement by the deposit insurer upon failure of the EMI likely offers high protection. If, upon failure of the EMI, the deposit insurer initiates reimbursement, this will need to be done to the e-money users directly. For this purpose, the deposit insurer will require detailed access to users' identity and balances. As the EMI will have halted its activity upon failure, gathering information on users' balances is unlikely to be overly complicated.

Under this approach, a number of resolution-type actions could contribute to safeguarding continuity of access to EMI services, which may be relevant in scenarios where EMI failures cause systemic risks. Given the broader scope of coverage under this approach, the deposit insurer will be faced with a higher cost of the counter-factual payout. For example (and different from the other approaches), if a set of securities in which the EMI was allowed to invest the float in dramatically loses value, the EMI may fail; and the deposit insurer would compensate users' losses. As a consequence, depending on its mandate, the deposit insurer may be able to contribute to the funding costs of refilling the damage of the float and transferring it to another EMI. Depending on the precise circumstances of the case, this may come at lesser cost than actually reimbursing users. However, such transfers require a regulatory framework to be in place that prepares and allows for such resolution-type measures. Most jurisdictions have not developed special wind-down regimes for EMIs, which leaves liquidation as the only strategy to deal with the failure of an EMI.

The direct approach causes costs. The direct approach makes e-money as a product more secure, which may increase its attractiveness to certain users. However, this comes at the financial cost of deposit insurance premiums and record keeping requirements, which the EMI will need to refinance (e.g. through higher service fees). This may lower the demand for e-money and may negatively impact on financial inclusion.

4.2.1.2 Technical considerations for deposit insurers

Taking on EMIs as members of the deposit insurer is a significant change. It may be challenging for deposit insurers to take on EMIs as new types of members as typically, deposit insurers only deal with IDTIs. This may require additional skills and systems also for the EMIs. The legislative framework would have to be amended to allow for this approach.

[42] In cases where the prudential regulation framework demands for the full float to be held in cash at the central bank, market risks or default risks (e.g. a failure of the IDTI holding the float) to the float are irrelevant. In such scenario, the direct approach may be used in isolation to protect e-money users against remaining failure risks of the EMI.

EMIs as deposit insurer members come with additional risks. The membership of the EMI in the deposit insurer exposes the deposit insurer to additional risks. Through premiums, EMIs contribute to financing this risk. Setting risk-adequate premiums may be challenging and requires an adequate analysis of the prudential framework – which may in part mitigate those risks – as well as the failure scenarios and risk drivers.

The membership of the EMI in the deposit insurer comes with advantages. EMI membership facilitates enacting and enforcing requirements regarding record holding, disclosure and reporting. Being a member means the EMI must adhere to the deposit insurer's recordkeeping requirements, including information regarding the clients and their balances. This can make reimbursement timelier and more effective.

The direct approach comes with advantages in public awareness and communication. This approach covers the failure EMIs, meaning the protection for user is clear. This facilitates communication and public awareness. It minimises the risk of confusion in the public regarding the presence and scope of coverage.

Combining the direct approach with the pass-through approach has a benefit for the speed of interventions if the IDTI fails. Since, upon such combinations, both the EMI and the IDTI are members of the DIS, the deposit insurer may be able to intervene already at the point in time where the IDTI holding the e-money float fails. Under use of the direct approach only, intervention options would be limited and in certain scenarios, this may lead to a follow-up failure of the EMI. Combining the direct with the pass-through approach allows for quicker interventions to mitigate the impact of the IDTI failure on the EMI's ongoing operations.

A well-known case for the direct approach in treating e-money is Colombia. As part of its financial inclusion strategy, in 2014, the Colombian Congress created a license for SEDPES ("specialised companies in electronic deposits and payment"). The e-money products offered by SEDPES are called "small-balance deposits".[43] SEDPES are subject to lighter prudential regulation than other insured deposit-taking institutions. Key elements of the prudential regulation applicable to SEDPES include:

- minimal capital requirement of 2% of the balance of deposits, but no risk-based capital requirements;
- lending or other intermediating are prohibited;
- the float must be held in deposits in insured deposit-taking institutions or at the Central Bank;
- limitations on the funds a client can hold[44];
- mandatory membership in the deposit insurer;

[43] Decree 222, 2020

[44] Balances that can be maintained in SEDPES' small-balance deposits are limited, while in savings accounts, due to the full customer knowledge process, they are unlimited. For this reason, there is a significant difference in the average balances maintained in each product; $900 USD as the average balance of savings accounts, versus $18 USD in small-balance accounts (IADI Fintech Brief, E-Money in Colombia, Maria del Pilar Galindo (2025, forthcoming).

- the resolution framework covers both banks and SEDPES although some resolution mechanisms can only be used for banks.

FOGAFIN covers bank deposits and small-balance deposits in the same way.[45] In the case of liquidation of either the EMI or the bank, FOGAFIN pays deposit insurance to each depositor considering all covered products, up to the maximum limit of COP$50,000.000 (approximately USD$11,500).

FOGAFIN holds extensive powers vis-à-vis SEDPES, which must make depositor information available to the deposit insurer in a format and timeframe set by FOGAFIN. Upon failure of the EMI, the liquidator must hand over these data to FOGAFIN within five days to allow FOGAFN to directly reimburse insured users. FOGAFIN will apply the pass-through approach when the deposit taking institution holding the EMI's float fails.[46]

4.2.1.3 Use case and preconditions for the deposit insurer

Given the wider scope of failure scenarios covered by this approach, it may be particularly advantageous in economies where e-money constitutes a principal financial instrument and storage of value. In such scenarios, it may be advisable to shield e-money users from losses caused by EMI failures that are not linked to defaults of the institution holding the EMI's float.

In addition to preconditions for default and pass-through protection of e-money, effective direct deposit insurance for e-money requires that at a minimum, the following conditions are met:

- the additional risks taken on by the deposit insurer given the direct membership of the EMI require sound prudential regulation and supervision of the EMI. This is necessary to minimise moral hazard and the risk that EMIs enter high risks in the investments and other business decisions;
- a regulatory framework must be in place that empowers the deposit insurer to set detailed membership and recordkeeping requirements for the EMI which must be subject to periodic audits and controls to ensure the data is of a high quality; and
- the deposit insurer is able and capable to identify and price the risk drivers – other than the default of the EMI's float-managing insured deposit-taking institution - of the EMI's default to ensure adequate funding. These include risks of fraud, of business risk or of risk related to failing safeguarding measures (see section 3.3.3).
- Transfer strategies that assist in upholding the activity of systemically relevant EMIs requires a regulatory framework to be in place that prepares and allows for such resolution-type measures.

[45] See definitions of covered deposits in article 4 of Resolution 1 of 2024 and article 4 of Resolution 2 of 2024

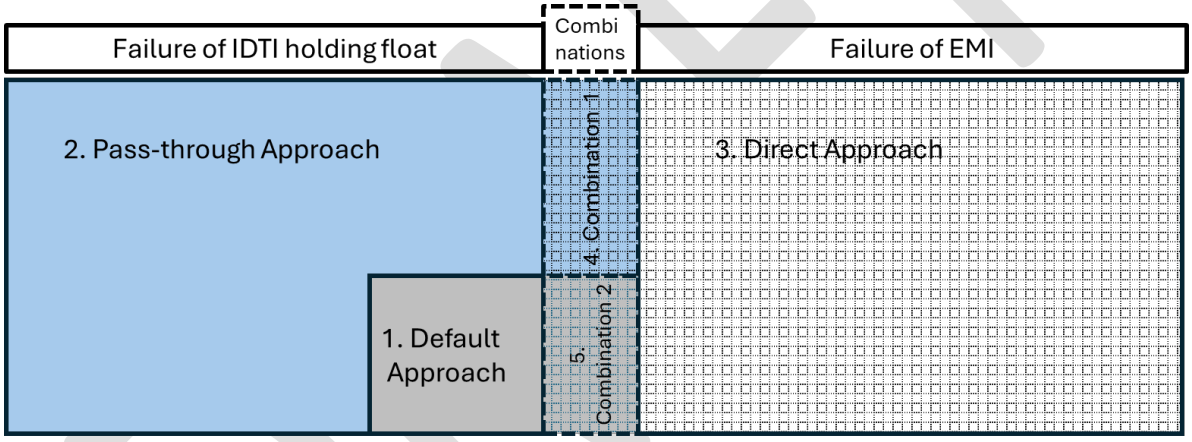
[46] IMF (2021), p. 17

5. Conclusion

Given the heterogeneity in the economic relevance of e-money across jurisdictions, there are various options available to protect the customer's e-money balances, including, but not limited to, protection by deposit insurers. This paper identifies a number of different options and the elements to consider by policy makers and technical experts when considering the application of deposit insurance to e-money. As shown in Figure 4, there are different policy approaches to protect e-money balances from the failure of the EMI and the insured-deposit taking institution where the e-float is held.

Any decision on the protection of e-money by deposit insurance depends on several factors that are jurisdiction-specific. These include the significance of e-money within a jurisdiction, the number of EMIs in the jurisdiction, the percentage of the population relying on e-money as a primary payment and value storage instrument and the safeguarding requirements for the EMI float.

Figure 4: Potential implementation of the approaches to e-money[47]



The default approach provides limited additional protection for e-money users beyond the protection offered by prudential regulation and supervisory frameworks for e-money. This approach may fit well for jurisdictions where the use of e-money is limited and where, in the presence of well-calibrated prudential regulation and supervisory frameworks, the residual e-money default risks is found to be a minor concern for financial stability and systemic reasons This approach is unlikely to allow for continuity of services of the EMI upon failure of the IDTI holding the float.

The pass-through approach may be more suitable for jurisdictions where e-money has reached a certain threshold of economic significance. Whereas under this approach, individual coverage granted by the deposit insurer to each e-money user offers additional protection as compared to the default approach, this is unlikely to allow for continuity of services given the operational complexities involved with reimbursing EMI users. If the latter is a policy aim by itself, reimbursement by the deposit insurer to the EMI (and not to the users), or non-payout resolution tools such as the transfer of the float to another IDTI may be more promising. In any

[47] The blocks describe the different approaches available; the sizes thereof do not indicate any significance, preference or superiority.

case, this approach comes with significant technical challenges to deposit insurers, that, amongst others include adequate pricing of deposit insurance, access to timely information on EMI users' claims and the communication of the relevant coverage.

The direct approach by the deposit insurer protects the EMI users from the failing of the EMI issuer. The direct approach could be applied in combination with the default (EMI users' balances are protected as a single account up to the coverage limit) or the pass-through coverage (each EMI user is covered by the deposit insurer up to the coverage limit). This latter combination provides the widest scope of protection, as essentially, it treats e-money as an insured deposit. In this combination, irrespective of the failure scenario (failure of IDTI holding the float or failure of the EMI itself), eligible e-money users will be protected up to the relevant coverage limit.

The direct approach, in isolation or on combination with another approach, may be more suitable in jurisdictions where e-money has become systemically significant and the failure of either the EMI or IDTI could affect financial stability.

If continuity of e-money services is to be upheld, non-payout alternatives are a more promising alternative. Given the wider scope of protection under the direct approach, the deposit insurer's ability to fund such measures may be elevated. Combining the direct approach with the pass-through approach may speed up interventions to protect the continuity of operations of the EMI. This is so as, already in the case of the failure of an IDTI holding the float, the deposit insurer may intervene, since both the IDTI and EMI are members of the DIS.

Even though the direct approach comes with advantages regarding communication to the e-money users, it causes financial risks to the deposit insurer which must be adequately understood and priced. It is an essential precondition for the prudential regulation and supervisory frameworks of e-money to recognise and minimise these risks.

6. Bibliography

Basel Committee on Banking Supervision (2016). Guidance on the application of the Core Principles for Effective Banking Supervision to the regulation and supervision of institutions relevant to financial inclusion.

Dias, D., Staschen, S. (2018). A Guide to Supervising E-Money Issuers. Technical Guide. Washington, D.C.: CGAP

Greenacre J., Geva. B (2022). Failure of Mobile Money Services: Standards for Systemic Risk Journal of International Banking Law and Regulation, Issue 6.

IADI (2014). IADI Core Principles for Effective Deposit Insurance Systems. https://www.iadi.org/uploads/cprevised2014nov.pdf

IADI (2021). Fintech Brief No.4: E-money in the United Kingdom: a case study. https://www.iadi.org/2021/09/iadi-fintech-brief-no-4-e-money-in-the-united-kingdom-a-case-study/

IADI (2021a). Fintech Brief No.6: E-money and deposit insurance in Kenya. https://www.iadi.org/2021/12/iadi-fintech-brief-no-6-e-money-and-deposit-insurance-in-kenya/

IADI (2022). Fintech Brief No.9: E-money in Ghana: a case study. https://www.iadi.org/2022/08/iadi-fintech-brief-no-9-e-money-in-ghana-a-case-study/

IADI (2022a). Fintech Brief No.10: Prepaid cards: a case study of Japan, the United States and the European Union. https://www.iadi.org/2022/09/iadi-fintech-brief-no-10-prepaid-cards-a-case-study-of-japan-the-united-states-and-the-european-union/

IADI (2022b). IADI Fintech Brief No. 7 – Beneficiary Accounts: Challenges for Deposit Insurance Schemes. https://www.iadi.org/2022/04/iadi-fintech-brief-no-7-beneficiary-accounts-challenges-for-deposit-insurance-schemes/

IADI (2023). Fintech Brief No.16: E-money and deposit insurance in Uruguay. https://www.iadi.org/2023/09/iadi-fintech-brief-no-16-e-money-and-deposit-insurance-in-uruguay/

IADI (2024). Fintech Brief No.17: E-money regulation in Brazil.

https://www.iadi.org/2024/04/iadi-fintech-brief-no-17-e-money-regulation-in-brazil/

IADI (2020). Research Paper: Deposit Insurance and Financial Inclusion: Current Trends in Insuring Digital Stored Value Products. https://www.iadi.org/2020/03/deposit-insurance-and-financial-inclusion-current-trends-in-insuring-digital-stored-value-products/

IMF (2021). DP/2021/027 E-Money Prudential Supervision, Oversight, and User Protection. https://www.imf.org/-/media/Files/Publications/DP/2021/English/EMPSOUPEA.ashx.

Izaguirre, J.C., Dias, D., Kerse, M. (2019). "Deposit Insurance Treatment of E-Money: An Analysis of Policy Choices." Washington, D.C.: CGAP.

Kerse, M. and Staschen, S. (2018). Safeguarding Rules for Customer Funds Held by EMIs. Technical Note. Washington, D.C.: CGAP.

Martinez, Andres Federico; Will Paterson; Greenacre, Jonathan Espie. (2023). Insolvency of Mobile Money Firms in Developing Countries - Overview for Policy Makers (English). Equitable Growth, Finance and Institutions Notes Washington, D.C.: World Bank Group.

7. Members of the Working Group

Sabihah Mohamed (Chairperson)	Corporation for Deposit Insurance, South Africa
Alejandra Becerril	Fondo de Garantía de Depósitos, Spain
Bert Van Roosebeke	International Association of Deposit Insurers, Secretariat
Carlos Weitz	Seguro de Depósitos S.A., Argentina
Kazu Hara	Deposit Insurance Corporation of Japan
Kwesi Attoborah	Ghana Deposit Protection Corporation
Paul Manga	Kenya Deposit Insurance Corporation
Sandra Anaman	Ghana Deposit Protection Corporation
Sathish Kumar	Deposit Insurance and Credit Guarantee Corporation (DICGC) (India)
Seng Eng Chheath	International Association of Deposit Insurers, Secretariat
Vongani Masondo	Corporation for Deposit Insurance, South Africa