

DEPOSIT INSURANCE TREATMENT OF E-MONEY

An Analysis of Policy Choices

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SECTION 1

INTRODUCTION

EMERGING MARKETS AND developing economies (EMDEs) are experiencing rapid financial-sector innovation marked by a growing number and variety of digital financial services, providers, and delivery channels. Transaction accounts (see definitions in Table 1) have been at the center of innovations, and an e-money account is often the first type of transaction account accessed by previously unserved and underserved consumers in EMDEs. In fact, e-money accounts are more prevalent than bank accounts in at least 10 countries in Sub-Saharan Africa, a region where 21 percent of adults have a mobile money account (e-money account operated via mobile phones) offered by nonbank e-money issuers (EMIs) (Demirgüç-Kunt et al. 2018).

The expansion of e-money accounts in financial inclusion contexts raises several policy concerns, including whether and how e-money should be insured as part of a country's deposit insurance system. Deposit insurance aims to protect customers against the loss of their money in case the institution holding it fails and is unable to meet its obligations to its customers. It also contributes to financial stability by limiting contagion and systemic risks. Some EMDEs may support applying deposit insurance to e-money because many e-money customers are low-income individuals with little capacity to assess the risks of EMIs and to absorb losses. If some customers lose their funds, other current and potential customers could lose confidence in e-money, limiting its potential to advance financial inclusion. Some EMDEs also believe deposit insurance could encourage underserved segments to adopt e-money.

However, in most EMDEs, deposit insurance for traditional bank deposits is a recent development. Extending insurance

coverage to e-money could divert authorities' attention and resources from financial institutions engaged in a wide range of activities that could pose considerable systemic risk (e.g., intermediating deposits by offering credit) to EMIs engaged in a narrow set of activities that, in most cases, pose limited or no systemic risk (e.g., limited value storage and money transfers).

Furthermore, for deposit insurance regimes to be effective, there first needs to be strong prudential regulation and supervision that focuses on having safe and sound institutions that are less likely to fail—what we call the first line of defense. Regarding e-money, it is thus essential to first set up a sound, risk-based prudential regulatory and supervisory framework that emphasizes effective implementation of fund safeguarding rules with ring-fencing and segregation requirements, which reduces the probability and magnitude of customer losses in case an EMI fails. Combined with prudential supervision of the deposit-taking institutions (DTIs) holding float accounts, such a framework may result in a very low residual risk of failure that would not justify extending deposit insurance coverage to e-money.

Many EMDEs may lack an effective regulatory and supervisory framework for EMIs and DTIs holding float accounts, which impacts the level of residual risk. For instance, EMIs may not be subject to appropriate segregation and ring-fencing requirements, leaving authorities unable to reimburse customers if an EMI fails. Situations in which authorities are not prepared to deal with the failure of EMIs (Crisis Scenario 1 in this Note) or DTIs holding the float accounts (Crisis Scenario 2) may lead e-money customers to lose money and may even spur

TABLE 1. **Key definitions**

		Types of accounts	Types of providers
Transaction accounts Accounts held with banks or other authorized and/or regulated institutions, which can be used to make and receive payments and to store value (CPMI and World Bank Group 2016) ^a	Deposit account	<p>Deposit: Redeemable funds stored in deposit accounts, which are often covered by deposit insurance systems.</p> <p>Deposit account: A transaction account that can provide a range of services (e.g., savings, checking, overdraft) depending on the type of license held by the provider.</p>	<p>Deposit-taking institutions (DTIs): DTIs include conventional banks and nonbank institutions authorized to receive deposits from the public, such as deposit-taking microfinance institutions, financial cooperatives, etc.</p>
	E-money account	<p>E-money^b: Monetary value electronically stored on a system or device that can be used for making payments and transfers to entities and persons other than the e-money issuer. For this Note, e-money is not considered a deposit (it is a type of “deposit-like product”).</p> <p>E-money may be called other names such as “stored value facility” and “mobile money.”</p> <p>E-money account: A transaction account that is not a deposit account, which usually offers basic services without necessarily involving deposit accounts, and through any type of electronic channel (e.g., internet, cards, mobile phones). E-money accounts have the same functions and offer the same basic services regardless of the type of issuer.</p>	<p>Nonbank e-money issuer (nonbank EMI): Nonbank institution authorized and dedicated to issue e-money against the collection of customer funds, offering e-money accounts and related payment and storage services only. Nonbank EMIs are often prohibited from engaging in credit operations; i.e., they cannot intermediate the funds collected from e-money customers. They cannot offer interest-bearing accounts, but they may be allowed to distribute interest earnings to their customers (e.g., as in Ghana).</p> <p>Bank e-money issuer^c: Banks usually can offer e-money accounts in addition to their deposit accounts (e.g., savings and checking accounts). Banks include full-fledged, conventional banks or payment banks such as India’s payments banks and Nigeria’s payment service banks.</p>
<p>a CPMI and WBG (2016) https://www.bis.org/cpmi/publ/d144.htm</p> <p>b This definition aligns with the European Union’s Directive 2009/110/EC and the definition of “digital deposit-like stored value” in IADI (2014) and GPF (2016).</p> <p>c The regulatory treatment of e-money issued by banks vary, but in this Note, “e-money account” means only accounts that are not classified as deposits in bank books. They are registered as a different type of liability. There are many jurisdictions where banks can issue e-money, e.g., Brazil, the European Union, Ghana, India, Kenya, Luxembourg, Mexico, Myanmar, Paraguay, Peru, the Philippines, the United States, and member countries of the West African Economic and Monetary Union.</p>			

contagious runs on e-money balances. Identifying and measuring residual risks associated with different crisis scenarios will help authorities prioritize policy measures in their specific country context.

This Note does not advocate for extending deposit insurance to e-money as a rule, rather it analyzes when doing so may or may not address potential residual risks—how deposit insurance could act as the last line of defense for e-money customers. It analyzes how the first line of defense may protect e-money customers in two crisis scenarios and looks at implementation issues that authorities may face when covering e-money accounts with deposit insurance to address residual risks.

It discusses two deposit insurance approaches: the direct approach, whereby each e-money account is considered an eligible deposit, and the pass-through approach, whereby deposit insurance coverage passes through from the float account (held at a DTI member of the deposit insurance system) to reach each e-money account.¹ While the direct approach aims to address residual risks from the failure of an EMI, the pass-through approach is aimed at residual risks from the failure of a DTI holding a float account. The Note draws from CGAP's global experience, desk research, and in-depth analysis of eight countries: Colombia, Jamaica, Kenya, Mexico, Nigeria, Peru, the Philippines, and the United States.

This Note does not endorse any approach. Because these approaches are recent developments, there are several unanswered questions about their implementation and cost effectiveness. Once a country opts to extend deposit insurance to e-money, the choice of an approach will depend on country-specific factors, including legal framework, current deposit insurance regime, the maturity of the e-money market, and relevant business models. In any case, policy makers and financial authorities must assess expected costs and benefits of insuring e-money and must not see deposit insurance as a substitute for effective regulation and supervision. It is, rather, only the last line of defense.

There are relevant aspects outside the scope of this Note. For instance, there is no evidence based on consumer research on whether and how e-money customers value deposit insurance, their level of knowledge and understanding about customer funds protection, and whether these impact adoption of e-money products. There are also technical issues related to deposit insurance applied to e-money and the workings of trust or other types of custodial accounts, highlighted in this Note, that require further research to adequately support policy decisions. Finally, it would be relevant to monitor implementation issues in the EMDEs where deposit insurance coverage has already been extended to e-money, in particular when they are put to test by actual crises or through crisis simulations. Exploring these issues requires coordination among financial-sector authorities and industry players.

¹ See Izaguirre et al. (2016), who also identified the exclusion approach, whereby e-money accounts are explicitly excluded from any deposit insurance. A first line of defense for e-money customers in this case is described in Section 3 (e.g., Australia, Brazil, the European Union, Hong Kong, Paraguay, Peru, the Philippines, and Singapore). CGAP initially introduced these approaches at the 2014 Global Partnership for Financial Inclusion and the Financial Stability Institute Second Conference on Standard-Setting Bodies and Financial Inclusion. At the International Association of Deposit Insurers' 48th Executive Council meetings in May 2016, CGAP launched a consultation process of a draft working paper that eventually evolved into this Note. In both cases, standard-setting bodies and policy makers supported the framework and started using it in their own work.

SECTION 2

THE FINANCIAL SAFETY NET AND HOW IT RELATES TO E-MONEY

THE FINANCIAL SAFETY NET IS A broad framework that aims to reduce the probability of DTI failures and their impact on individual depositors, other DTIs, and the entire financial system. It includes prudential regulation and supervision and the functions of resolution, lender of last resort, and deposit insurance (IADI 2014, p. 9). These functions intend to provide emergency funds to healthy institutions that are facing temporary liquidity shortages, and because effective prudential regulation and supervision do not guarantee zero failure of regulated institutions, they also provide a framework for resolving failing institutions and insuring small individual depositors. Resolution and deposit insurance intend to address the risks of disorderly winding down of complex institutions, such as banks, that intermediate retail deposits.

Basic protections for customers and markets are embedded in e-money regulations, starting with prudential and business conduct regulation and supervision of the DTIs that hold float accounts and of the EMIs themselves. Another layer of protection is the prohibition from lending and engaging in other banking activities, which substantially limits the risk of nonbank EMIs and payment

banks (conventional banks can engage in the full range of banking activities). Another central protection is the fund safeguarding requirements that oblige nonbank EMIs to set aside—in separate accounts called float accounts, which are held at DTIs or invested in safe assets—sufficient liquid funds to back the e-money issued.²

While regulation and supervision of EMIs have been discussed in the literature,³ and their resolution is a topic that is still largely unexplored, there is growing interest and emerging experience in extending deposit insurance to e-money in EMDEs, especially in the context of financial inclusion efforts. However, many EMDEs are new to deposit insurance, having only recently set up their deposit insurance systems (see Box 1) and are still working to implement the International Association of Deposit Insurers (IADI) Core Principles for Effective Deposit Insurance Systems,⁴ which is further complicated by the existence of a variety of DTIs other than banks, such as financial cooperatives and microfinance institutions. Still, the Core Principles require staying abreast of financial inclusion innovation, which has led some EMDE policy makers to consider whether and how e-money should be insured.⁵

2 Safeguarding rules are detailed in Staschen and Meagher (2018) and Kerse and Staschen (2018).

3 For more on e-money regulation, see Staschen and Meagher (2018) and di Castri (2013) and CGAP's Regulation for Inclusive Digital Finance (<http://www.cgap.org/regulation>). For more on risk-based supervision of EMIs, see Dias, Staschen, and Noor (2015), Dias and Staschen (2018), and Brix Newbury and Izaguirre (2019).

4 The Core Principles for Effective Deposit Insurance Systems (IADI 2014) are the international standards for deposit insurance systems.

5 IADI's Financial Inclusion and Innovation Technical Committee is exploring inclusive products and providers that could be covered by deposit insurance. See IADI (2013).

Box 1. A primer on deposit insurance systems

Deposit insurance is the protection provided by a deposit insurance agency—the deposit insurer—to ensure that deposits up to a certain amount (the coverage limit) are reimbursed to depositors in the event that a DTI fails and thus is unable to meet its obligations to depositors. The deposit insurer is the legal entity responsible for managing the deposit insurance fund, among other roles, with responsibilities and powers established in its official mandate. The deposit insurer sets a target fund size that is sufficient to meet expected future obligations and to cover the deposit insurer’s running costs.

A **deposit insurance system** encompasses the deposit insurer and its relationships with member institutions and the financial safety-net participants that support deposit insurance functions and resolution processes (e.g., the banking supervisory authority, the resolution authority, and other authorities).

A **member institution** participates in the deposit insurance system. Its eligible deposits can benefit from deposit insurance up to the coverage limit. Eligible deposits are those that fall within the scope of deposit insurance coverage according to their characteristics (type of deposit or depositor). The typical deposit insurance

system covers only natural persons (individuals) and not legal persons (e.g., companies). Insured deposits are the eligible deposit amounts that are within the coverage limit. The coverage limit is the maximum amount that each depositor can claim from the deposit insurance fund in the event of failure of a member institution. Most countries set it “per depositor per institution,” but some countries set it as “per depositor” so that the limit applies to the sum of deposits of the same depositor in all member institutions or “per account,” when the limit applies to each individual account of a depositor at each member institution (Demirgüç-Kunt et al. 2014).

A member institution must pay a premium to the deposit insurer on a regular basis. Premium systems can be flat rate when there is a uniform rate for all member institutions, typically calculated based on their total deposits, insured deposits, or eligible deposits. Premium systems can also be differential, when the premiums are calculated on the basis of the risk profile of each member institution.

For a full list of terms and definitions related to deposit insurance, see IADI’s Glossary (<http://www.iadi.org/en/core-principles-and-research/publications/glossary/>).

E-money poses conceptual and practical challenges to existing deposit insurance systems because these have been set up for traditional products, such as deposit accounts, and institutions, such as conventional banks. From a product perspective, e-money is not considered a deposit in most legal frameworks, hence e-money accounts are not usually covered by deposit insurance, even if offered by banks. From an institutional perspective, deposit insurance systems have costs and rules for membership and operation that are suited to the size and complexity of conventional banks and may not easily accommodate nonbank EMIs or payment banks with their particular risk profile and limited complexity.

Considering both the product and the institutional perspectives, this Note analyzes implementation issues in extending deposit insurance to e-money, as the last line of defense to e-money customers facing one of two crisis scenarios: the failure of the EMI or the failure of a DTI holding the float account. The next section analyzes how fund safeguarding requirements impact the level of protection in these two crises scenarios and the potential residual risks that would be addressed by deposit insurance.

SECTION 3

THE FIRST LINE OF DEFENSE AND TWO CRISIS SCENARIOS

3.1 The First Line of Defense: e-Money Regulation and Supervision

The first line of defense for e-money customers is the effective implementation of e-money regulations (and their enforcement through supervision), which contain, for instance, prudential and business conduct requirements for EMIs, such as risk management and transparency rules and licensing criteria (e.g., minimum capital and fit-and-proper standards). One typical provision is limits on the scope of activities—for example, that they cannot lend—permitted to nonbank EMIs and payment banks, which dramatically curbs their risk profile compared to conventional banks.

Another measure with enormous impact is fund safeguarding requirements. These mandate EMIs to set aside liquid funds to back a minimum percentage of the total of e-money issued—called the e-float—so that EMIs are able to meet all customer demands for funds at all times. A high level of protection is given by combining two types of fund safeguarding requirements: segregation and ring-fencing.⁶

The segregation requirement asks for the e-float to be kept separate from (not comingled with) other funds, including the EMI's own funds. This segregation may be done in one or more separate float accounts held at DTIs. An additional layer of protection is given by the ring-fencing requirement, which mandates that the segregated float account be a special type of account, such as a trust account or custodial account, that ring-fences it from creditors of the EMI and segregates the e-float from other assets of the trustee or custodian (a third party managing the trust or custodial account on behalf of e-money customers). Fund safeguarding requirements are applicable to nonbank EMIs and payment banks in India and Nigeria, but most regulations are silent as to whether banks must set up float accounts for e-money, and if so, whether these must be trust accounts.

Despite reducing risks substantially, the implementation of the above requirements and their enforcement through effective supervision do not intend to guarantee that EMIs will not go bankrupt.⁷ Also, it is possible that a DTI holding float accounts can go bankrupt.

⁶ Kerse and Staschen (2018) discuss fund safeguarding requirements in detail.

⁷ Fund safeguarding requirements are intended to protect consumers if an EMI fails, while other requirements, such as capital requirements, are intended to reduce the probability of failure of an EMI (in the case of capital, by providing a cushion against losses).

3.2 Crisis Scenario 1: Failure of the EMI

In preparing for the failure of an EMI, the first question to ask is whether the EMI is required to implement fund safeguarding requirements. This will determine the availability of funds to pay back customers according to the current balances in their e-money accounts.

3.2.1 IF THE EMI IS NOT SUBJECT TO FUND SAFEGUARDING REQUIREMENTS

If an EMI that is not subject to fund safeguarding requirements goes bankrupt, e-money customers are likely to be lined up with all other unsecured creditors of the EMI. As such, they will have lower priority than secured creditors and others specified in the country's bankruptcy regime to get their money back through ordinary bankruptcy procedures, which are usually lengthy and do not guarantee that there be assets designated specifically to reimburse e-money customers. This could be an especially hard blow to the previously underserved or unserved customers who are not able to deal with the losses. This risk exists even if the regulation requires the EMI to keep high levels of liquidity (e.g., in the form of government securities or demand deposits). Without segregation and ring-fencing, such liquidity may not ultimately benefit customers.

3.2.2 IF THE EMI IS SUBJECT TO FUND SAFEGUARDING REQUIREMENTS

When an EMI is required to maintain at least one float account to back its e-money liabilities—separate from other funds managed by the EMI—the funds exist specifically to protect customer balances. However, the ability to reimburse customers promptly when the EMI goes bankrupt will depend on the legal nature of the float account. Trust accounts, as opposed to regular deposit accounts, ring-fence the e-float from claims by creditors

of the EMI—that is, only the e-money customers can claim the balances in the trust accounts. For example, the European Union requires that the e-float not be commingled with other assets and be held in an account that protects against creditor claims.⁸

Trust accounts may effectively protect e-money customers when an EMI fails only when the law provides for undisputable ring-fencing and segregation through the following features:

- Trust accounts are managed by a trustee, separate from other assets of the trustee, on behalf and for the benefit of e-money customers.⁹
- The e-money customers are recognized as the ultimate and only beneficiaries (beneficial owners) of the trust account. This means that, legally, e-money customers have ownership of and a beneficial interest in the funds.
- The trustee has limited rights to the funds in the trust account.
- The funds in the trust account are protected against creditor claims during insolvency or bankruptcy proceedings of the EMI. As long as the trust is legally valid, customers' funds will not be considered assets of the EMI.

Civil law jurisdictions usually lack a legal framework for trusts, and the legal concept of trust is usually absent (see Box 2). In the context of e-money, some of these jurisdictions have used other instruments, such as fiduciary (Peru and most Latin American countries that have e-money regulation),¹⁰ custodial, or escrow accounts, to set up alternative mechanisms with features and benefits similar to those provided by trust accounts. Some jurisdictions, for example, Turkey and the Philippines, that lack legal concepts such as trust and fiduciary accounts have incorporated provisions in the e-money regulation to emulate the benefits of trusts. One example is a provision stating that the e-float can be used only to compensate e-money customers in the event of the liquidation of the

8 [European Union's Directive 2015/2366](#) on payment services in the internal market. See also Greenacre and Buckley (2014) on the use of trusts to protect customer funds.

9 Who can act as a trustee of float accounts varies and depends on the country. For instance, in some countries the DTI holding the float account or even the EMI can double as trustees, while in others, such as in Kenya, this is prohibited. Further research is needed to explore whether this variation impacts the protection granted to e-money customers in crisis scenarios.

10 See the Superintendence of Banking, Insurance and Private Pension Funds of Peru's [Resolution SBS No. 465-2017](#) on operations with e-money.

EMI. However, these mechanisms seem to offer a lower level of protection than trusts, and their effectiveness in a crisis situation has not yet been put to test (Oliveros and Pacheco 2016).

Box 2. Legal systems

Common law and civil law are the two main types of legal systems around the world. Countries following a common law system are typically former British colonies or protectorates. In a common law system, judicial decisions are binding, and there is extensive freedom of contract, since few contractual provisions are implied by law. A common law system is less prescriptive than a civil law system. Countries following a civil law system are typically former French, Dutch, German, Spanish, or Portuguese colonies or protectorates, in addition to most Central and Eastern European and East Asian countries. A civil law system features codes (e.g., civil code, codes covering corporate, administrative, tax, and constitutional law) and the fact that only legislative enactments are binding for all. There is less freedom of contract because many contractual provisions are implied by law and cannot be contracted out.

Source: “Key Features of Common Law or Civil Law Systems,” Public-Private-Partnership Legal Resource Center, <https://ppp.worldbank.org/public-private-partnership/legislation-regulation/framework-assessment/legal-systems/common-vs-civil-law>

3.3 Crisis Scenario 2: Failure of the DTI Holding the Float Account

Since float accounts are held at DTIs, the failure of the DTI could potentially impact e-money customers, such as by limiting the EMI’s access to the float account or by exposing it to creditors of the DTI. As counter-measures against these risks, some jurisdictions require the EMI to spread the e-float across several DTIs, establish that only DTIs that are financially healthy can hold float accounts, and/or limit how much e-float can be placed on a single DTI.¹¹ Other jurisdictions impose a minimum ongoing capital requirement on the EMI (e.g., a ratio of the e-float) to act as a cushion against any unexpected losses, including the ones due to DTI insolvency.¹² Private insurance covering the safeguarded e-float could also protect against loss of funds in the float account due to failure of the DTI; however, this is not usually a requirement in e-money regulations.¹³

A question remains as to whether and how placing the e-float in trust accounts or alternative mechanisms as described in Section 3.2 can mitigate the risks involved in a DTI failure. Further research is required into the laws and regulations around trusts for this scenario. It may be, for instance, that trust accounts are granted special treatment during bankruptcy or insolvency processes, guaranteeing the availability of the funds to the trustee. Since bankruptcy and insolvency are lengthy procedures, the protection availed by the trust is not a good substitute for the other measures.

11 These issues are discussed in Kerse and Staschen (2018).

12 Examples include Brazil, Colombia, the European Union, Kenya (for large nonbank EMIs), Mexico, Peru, and members of the Western African Economic and Monetary Union.

13 In the [European Union’s Directive 2015/2366](#) allows EMIs not to safeguard part of the e-float if it is protected by private insurance.

SECTION 4

THE LAST LINE OF DEFENSE: COVERING E-MONEY WITH DEPOSIT INSURANCE

4.1 Residual Risk and the Role of Deposit Insurance

Even when there is an e-money regulatory and supervisory framework that includes fund safeguarding requirements (the first line of defense), e-money customers may remain exposed to some level of risk of losing money in case of failure of an EMI or a DTI holding float accounts. This is what we call residual risk. The level of this residual risk and how it can be addressed have utmost importance in a financial inclusion context because many e-money customers are low-income, are not familiar with financial products and services, and have little capacity to weather financial losses. Also, when some customers experience the loss of their e-money balances due to failures, other current and prospective consumers might lose their trust in the e-money industry and potentially other financial institutions, which could reverse progress achieved in promoting financial inclusion in many EMDEs.

The regulatory and supervisory framework for EMIs and DTIs of a country and its effectiveness impact the level of

residual risk. Effective fund safeguarding rules combined with appropriate segregation and ring-fencing requirements provide a high level of protection to e-money customers on an ongoing basis and reduce the residual risk to a minimum in the event the EMI goes bankrupt. (The risk of financial authorities not being able to access funds in a timely way would remain, though.) Other measures provide a cushion to protect the EMI and its customers against potential losses due to the failure of the DTI holding the float account.

However, the combination of a solid regulatory framework and its enforcement through effective supervision is likely to be absent in many EMDEs. Not all EMIs are subject to fund safeguarding requirements based on trust accounts. The alternatives used in civil-law jurisdictions usually offer a lower level of protection than trusts, and there could be practical challenges to the application of these alternatives to float accounts.¹⁴ The limited ability and capacity of the supervisor and the deposit insurer to deal with the crisis scenarios (e.g., established resolution and crises preparedness frameworks) could also negatively impact the outcome for e-money customers. Accessing

¹⁴ See Ramos et al. (2015). An example of a challenge is a custodial account law that requires custodians (DTIs) to issue legal instructions for all transactions, making it difficult for float accounts that back high volumes of e-money transactions to operate. Some jurisdictions are addressing this by requiring additional funds to be kept in a separate settlement account where e-money transactions can be carried out without immediately triggering a transaction in the float account.

the safeguarded e-float to pay out to e-money customers or transferring it to another EMI or another DTI, in a timely manner, may not be possible because of unexpected operational, administrative, and legal challenges.

The existence of such residual risk and the desire to foster financial inclusion have been fueling discussions about adding a last line of defense in the form of deposit insurance coverage. The following sections analyze two approaches to do so: direct and pass-through.

4.2 The Direct Approach

The direct approach to deposit insurance is intended to provide the last line of defense against the failure of the EMI (the first crisis scenario), because the deposit insurance directly covers the e-money accounts offered by the EMI. This approach entails two steps: establishing that the e-money accounts, including those issued by banks, are eligible deposits for deposit insurance purposes (see Box 1) and requiring nonbank EMIs and/or payment banks to become members of a deposit insurance system. The main advantage of the direct approach is that it is clear how much each and every customer would receive from the deposit insurance.

4.2.1 RECOGNIZING E-MONEY AS ELIGIBLE DEPOSIT

The definition of eligible deposits is usually limited to deposit liabilities owed to natural persons by banks and other DTI members of the deposit insurance system. E-money, as defined in this Note, is not a deposit liability, so an e-money account is often not covered by deposit insurance from the outset, even when offered by banks that are members of existing deposit insurance systems. Therefore, it will be necessary to modify the definition of eligible deposits in the law and/or regulations pertaining to deposit insurance to include balances held in e-money accounts offered by banks and nonbanks and establish their insurability. If a jurisdiction is still designing its deposit insurance system and aims to apply the direct approach, it would be easier to include e-money liabilities in the definition of eligible deposits from the start.

To date, there is no country example of directly applying deposit insurance to e-money accounts (as defined in Table 1). Although it does not fit the definition of e-money accounts and EMIs used in this Note, the case of “electronic deposits” in Colombia (Box 3) is, nevertheless, illustrative of how a country has extended deposit insurance to deposits of nonbank institutions. Colombia defined in the law a new type of deposit product that is eligible for deposit insurance coverage, and it also created a new type of regulated nonbank institution (Sociedad Especializada en Depósitos y Pagos Electrónicos [SEDPEs]), which is similar to EMIs. As a result, SEDPEs have been incorporated as members of the existing deposit insurance system (Fondo de Garantías de Instituciones Financieras [Fogafin]). Colombia’s approach

Box 3. SEDPEs and “electronic deposits” in Colombia

Colombia has taken significant strides toward financial inclusion, but it has not issued an e-money regulation. Instead, in 2011 it passed a law (Decree 4687/2011) that created a new type of deposit product called an “electronic deposit.” In 2012 the funds held in electronic deposit accounts were categorized as eligible deposits for deposit insurance purposes, on par with regular bank deposits (Resolution Fogafin 4/2012). The coverage limit applicable to all eligible deposits is COP 50 million (US\$15,900) per depositor, per institution (Resolution Fogafin 1/2018).

A 2014 legal reform (Law 1735/2014) created a new licensing category for Entities Specialized in Electronic Deposits and Payments (SEDPEs in Spanish). SEDPEs are nonbanks, licensed and supervised by the Financial Superintendence. They have a range of permitted activities that make them very similar to EMIs. SEDPEs are subject to fund safeguarding requirements such as keeping a float account at the central bank or with DTIs, with funds equivalent to the totality of their electronic deposit liabilities, even though these are directly covered by deposit insurance. Because electronic deposits are, from the start, eligible deposits, SEDPEs must become members of the deposit insurance system.

supports the view that deposit insurance is a last-resort measure, since the coverage has not substituted for the typical fund safeguarding requirements.

4.2.2 REQUIRING NONBANK EMIS TO BE MEMBERS OF DEPOSIT INSURANCE SYSTEMS

Requiring nonbank EMIs and payment banks to become members of an existing deposit insurance system that has been set up for conventional banks requires considering how their membership will affect existing members. The deposit insurer needs to set up an appropriate premium system to reach its target fund size (see Box 1). With the addition of new members, the deposit insurer has to evaluate whether the premium levels of existing members need to be adjusted, and what the premium levels for new members shall be.¹⁵ Depending on how the premiums are assessed (e.g., based on total, insured, or eligible deposits; flat rate or differential), the premiums of existing members may need to be revised. If no adjustments are made, the funds available to existing members could be affected. Moreover, the addition of new members could strain the deposit insurer's resources if it also has supervisory responsibilities.

Another consideration is whether to set up a separate fund for nonbank EMIs and payment banks, to avoid the complexity of mixing fundamentally different types of institutions with different risk profiles. A separate fund could provide greater flexibility for the deposit insurer to set a customized target fund size and premium system. To date, there is no country example of a separate fund for nonbank EMIs and/or payment banks, although some countries have set up separate funds for nonbank institutions, most notably credit unions and cooperatives. These may be government run (e.g., Fondo de Garantías de Entidades Cooperativas in Colombia, the National Credit Union Share Insurance Fund in the United States)

or privately run (e.g., Fondo de Garantía de Ahorros Confía in Costa Rica).

4.3 The Pass-Through Approach

While the direct approach provides insurance for customers of an EMI by recognizing their e-money accounts as eligible deposits (hence, protecting customers when the EMI fails), it generally does not provide protection when the DTI holding the float account fails.¹⁶ The pass-through approach is more relevant for this crisis scenario.

The pass-through approach does not require the EMI to become a member institution. It relies on the requirement that the float account be held as a deposit liability at a DTI that is already a member of the deposit insurance system, and it requires that the float account be set up in a manner that allows the deposit insurer to identify each individual e-money customer.¹⁷ This approach is intended to overcome some fundamental barriers to insure the beneficiaries of float accounts—the e-money customers. The first barrier is that the typical deposit insurance system covers only natural persons, but the float account is operated by a legal person (either the EMI or a third-party trustee). Further, even if the deposit insurance covers legal persons, the coverage limit is usually much lower than the balance in float accounts. The pass-through approach solves these problems by granting a special treatment to the float accounts for purposes of deposit insurance. Instead of considering the legal person as the depositor and applying the coverage limit to the float account as a single deposit account, the insurance coverage “passes through” the float account to reach each individual e-money customer—that is, the insurance is applied to the beneficiaries of the float account.

This approach is largely based on the regulatory framework of the United States for prepaid instruments (including e-money) and has not been tested in EMDEs. Nigeria

15 See IADI Core Principle 9, Essential Criterion 5 (IADI 2014, p. 29).

16 Further research is needed to gauge whether the direct approach could provide any protection if a DTI holding the float account fails—for instance, whether the DTI insolvency, by eroding the e-float or restricting its access by the EMI, could be an event that triggers reimbursement or other type of deposit insurance intervention in the direct approach.

17 Further research is needed into whether deposit insurance systems have specialized eligibility and operational rules for trusts compared to conventional bank deposits.

Box 4. Pass-through approach in Nigeria

In Nigeria, the existing deposit insurance system for bank deposits would insure float accounts up to the existing coverage limit of about US\$2,500, which is much lower than their expected balances. This would leave a potentially large part of e-money balances uncovered if the bank holding the float account failed. In light of these issues, the Central Bank of Nigeria has coordinated with the Nigeria Deposit Insurance Corporation (NDIC) to create a more adequate framework for e-money issued by nonbank entities known as mobile money operators.

NDIC has chosen the pass-through approach, which requires float accounts to be trust accounts opened at banks for the benefit of e-money customers. If the bank fails, the deposit insurance would cover each e-money customer up to the coverage limit of US\$2,500.

This limit, however, applies over all deposits of each customer in the bank, including regular bank accounts, in addition to the e-money account. In practice this requires that each e-money customer be mapped to a specific float account in a specific bank (in case the mobile money operator has float accounts in more than one bank). To be entitled to pass-through coverage, the float account must be designated as a trust account in the records of the bank holding the account.

Note: See NDIC's Framework for the Establishment of Pass-Through Deposit Insurance for Subscribers of Mobile Money Operators in Nigeria (2015), and NDIC's Deposit Insurance Guidelines on Mobile Payments System (2016).

(Box 4), Kenya (Box 5), Jamaica,¹⁸ and Rwanda¹⁹ are among the first adopters of this approach among EMDEs.

The pass-through approach does not require the EMI to become a member of a deposit insurance system, but it requires the DTI holding the float account to be a member of an existing deposit insurance system. It also most likely

requires the float account to be a trust or an alternative mechanism that benefits from the protective features listed in Section 3.2.2. Further country-specific research and analysis are needed to identify the additional legal requirements and formalities needed for civil law jurisdictions to implement the pass-through approach with alternative mechanisms based on custodial, fiduciary, or other similar accounts.

The formalities needed to ensure e-money customers are effectively protected as beneficiaries of the float account—hence, rightful claimants of deposit insurance payouts—may vary across countries and may impact EMIs differently. They may include clear identification of the trust or custodial nature of the float account, a trust or custodial agreement that formally recognizes the key features mentioned in Section 3.2.2, and detailed record keeping that identifies beneficiaries. For instance, in the United States, the EMI and the trustee must maintain records that identify the individual e-money customers and how much of the trust account balance each customer is entitled to (*pro rata* or a discrete amount) (Seward & Kissel 2011; FDIC 2010). Such requirements can be challenging to implement.²⁰

When an EMI spreads the e-float across several float accounts at different DTIs, customers could face different risks related to the failure of different DTIs (when they are “mapped” to specific banks). The potential payout of insurance to only part of the e-money customers (the ones “mapped” to a failed DTI) and not to other customers may cause confusion and lead to reduced trust in EMIs. A potential solution would be for all customers of an EMI to be mapped to all float accounts. This means that the trust relationships and therefore the exposure to DTI failure risk would be equal across all e-money customers; it would not vary according to each DTI holding different float accounts. However, it is not clear that this would be a legally valid option.

Alternatively, deposit insurers using a pass-through approach to insuring e-money may consider reimbursement options other than paying directly to e-money customers.

18 See [Deposit Insurance Act \(including 2011 amendments\)](#) and [Joint, Trust and Nominee Accounts Regulations of 2014](#).

19 See National Bank of Rwanda's [Regulation No 001/2016 concerning Operations of the Deposit Guarantee Fund for Banks and Microfinance Institutions](#).

20 See FDIC (2016) for examples of implementation challenges with the pass-through approach in the United States, some of which also could be relevant to the direct approach (e.g., inaccurate or incomplete records that do not identify beneficial owners). For a discussion on implementation challenges and potential implications for customers, see Izaguirre, McGuire, and Grace (2016).

Assuming that only the DTI—but not the EMI—fails, paying out insurance claims directly to e-money customers could deteriorate customer trust and lead to a run on e-money balances that could affect the viability of the EMI and potentially impact other EMIs. Deposit insurers could consider other mechanisms for reimbursing e-money customers, such as transferring the equivalent amount into another float account at a solvent DTI or paying it out to the trustee as in the case of Kenya (see Box 5), without disruption to e-money customers.²¹

4.4 A Few Practical Considerations Relevant to Both Approaches

Applying deposit insurance to e-money is a complex policy issue. An effective implementation requires policy makers to consider potential challenges of applying an approach from the outset and then decide the specific features of their approach. They also should analyze their current level of effectiveness in implementing the first line of defense and whether the residual risk stemming from their regulatory and supervisory framework makes deposit insurance a priority.

4.4.1 DEPOSIT INSURANCE COVERAGE LIMIT

What is the appropriate deposit insurance coverage limit for e-money? Should e-money balances be covered in their totality? Generally, deposit insurance should not cover the totality of deposits to avoid moral hazard among member institutions (IADI 2014, p. 11). However, in EMDEs a large contingent of e-money customers may be low-income and with little financial capability and capacity to weather losses, while using e-money accounts as a substitute to bank deposits. In such instances, there might be a case for prioritizing protection over moral hazard concerns and insure e-money accounts in their totality. The case is reinforced by the fact that e-money accounts are often subject to low maximum balance limits, by regulation, and may present an average balance lower than such limits.

Box 5. Pass-through approach in Kenya

The increase in the number of customers of nonbank EMIs (from 21,000 in March 2007 to 16 million in June 2011) raised concerns among Kenyan policy makers about the risk of loss of funds in the event of the failure of a bank holding large float accounts and the impact this could have on the financial system. As a result of this concern, the 2014 National Payment Systems Regulations of Kenya required nonbank EMIs to set up multiple float accounts in the form of trusts operated by trustees, at highly rated prudentially regulated banks. Also, the Kenya Deposit Insurance Corporation (KDIC) adopted the pass-through deposit insurance approach for such float accounts. Section 29 of the Kenya Deposit Insurance Act of 2012 allowed for the deposit insurer to cover the trust accounts held at member institutions by a trustee on behalf of its beneficiaries (the e-money customers) as “separate from a deposit of that beneficiary with the institution on his own behalf and (...) separate from any deposit held in trust by another trustee for the beneficiary in the institution.” Thus, in case of failure of a DTI holding float account, KDIC would cover the funds that an e-money customer has in each float account separately and up to the coverage limit of KES 100,000 (US\$870). If the same customer also has a deposit account in the same DTI, this account would be covered separately and up to the limit, without impacting the coverage of float accounts benefitting from the pass-through approach. The trustee is required to maintain detailed records and to submit such records to the DTI. KDIC has also adopted a plan to pay out the insured funds to the trustee rather than the customers. So far Kenya’s approach has not yet been put to test.

Should the coverage limit for e-money differ from that of other eligible deposits? The coverage limit set for bank deposits is typically set at a high enough level to protect the large majority of retail bank depositors across all member institutions. This level could be significantly higher than

21 This situation and the respective power of the deposit insurer to transfer funds could be recognized in the deposit insurance legal/regulatory framework and in trust agreements through the concept of “protector” or third party responsible for monitoring the actions of the trustee and preserving the integrity of the trust. The deposit insurer could be the protector.

the average balances held in e-money accounts. Setting a lower coverage limit for e-money accounts that considers such low average balances would avoid inefficiencies and costs of over-insuring e-money. The downside is that, if e-money accounts are not capped by regulation, a low coverage limit could leave some e-money customers partially uninsured, particularly when they are not able to spread their funds across multiple EMIs. Reduced transparency is another disadvantage of having different coverage limits in a country—consumers may be confused as to which coverage limit applies to them.

To which balance(s) should the e-money coverage limit apply? Should it apply to the aggregate sum of a customer's balances in all accounts held in the same institution (e.g., Nigeria, Rwanda), directly or indirectly through float accounts, or should it apply separately to an e-money account irrespectively of other accounts held by a customer in the same institution (e.g., Jamaica, Kenya)? Aggregating all customer balances in one DTI to apply a single coverage limit increases complexity and may not be the best option for the pass-through approach when a single DTI holds float accounts of several EMIs.

4.4.2 IMPACT OF ADDING E-MONEY TO AN EXISTING DEPOSIT INSURANCE SYSTEM

Insuring e-money also leads to the question of whether the existing deposit insurance fund and the deposit insurer's target fund size would need to be adjusted to account for greater responsibilities and potential liabilities. This is particularly important for countries where e-money has reached a significant scale and the deposit insurance system has been established only recently because e-money could lead to a sudden substantial additional coverage. Adjusting the deposit insurance fund may require a plan that, for instance, raises premiums or puts in place a special premium assessment for e-money. These measures could affect the impact of costs on existing member institutions and may require legal reforms.²² Alternatively, the direct approach to deposit insurance may enable the creation of a separate fund

for nonbank EMIs and payment banks, with customized rules (see Section 4.2.2). In any case, adequate technical capacity will be needed for deposit insurers to estimate probabilities of failures, correlation of failures, exposure at failures, loss rates per failure, and other factors to determine the adequacy of the target fund size.

4.4.3 CRISIS MANAGEMENT AND RESOLUTION FRAMEWORK

It is not enough to establish deposit insurance coverage in the law and regulations. Regardless of the approach to deposit insurance, there needs to be a clear framework for dealing with the two crisis scenarios. Deposit insurers and other relevant authorities such as the supervisors of EMIs need to envision, in a coordinated manner, effective mechanisms for immediate insurance payout when needed. Simulations of crises, liquidation and resolution procedures, and insurance payouts may be useful exercises to identify potential operational challenges and envision mitigation measures.

4.4.4 ADEQUATE REIMBURSEMENT METHODS AND TOOLS

Reimbursement of insured funds should not be limited to paying out directly to customers, particularly for the pass-through approach. The deposit insurer should have powers to, for instance, transfer the funds from a float account at a failing DTI to another DTI and pay insurance directly from the deposit insurance fund to a viable EMI or to the trustee. The deposit insurer should also have the power and ability to quickly gain access to accurate, up-to-date e-money account and transaction records in both approaches.²³ This may require establishing requirements for record keeping and information sharing for EMIs, trustees, and DTIs, which may lead to investments in IT systems by all parties.

22 For example, the Philippine Deposit Insurance Corporation Charter, Section 6, establishes the assessment rate it may charge insured banks, thereby limiting the option for an increase or differentiation in rates without a legal reform.

23 See IADI Core Principle 15, Essential Criterion 4 (IADI 2014, p. 39).

SECTION 5

CONCLUSIONS

IN EMDES E-MONEY PLAYS A KEY financial inclusion role and serves a large number of customers who may be unable to weather the loss of their e-money balances. However, e-money is not covered by deposit insurance in most jurisdictions. Typically, prudential regulation and supervision is the financial safety net component that is prioritized. Examples include minimum initial and ongoing capital requirements on the EMI that would act as a cushion against the losses associated with the failure of the DTI, among other losses, and fund safeguarding requirements that aim to ensure that EMIs have set aside sufficient liquid funds to cover all e-money liabilities at all times. Even more important are fund segregation and ring-fencing requirements that aim to ensure that the e-float be held in a special type of account that isolates it from claims by creditors of the EMI and keeps it separate from other assets of the EMI and the trustee or custodian of the float account. If such rules are enforced through supervision, and if DTIs holding float accounts are also supervised and healthy, the residual risks for customers if an EMI fails would be very low. Thus, regulation and supervision, not deposit insurance, constitute the first and main line of defense in protecting e-money customers.

The level of residual risks in a country would depend on the effectiveness of its regulatory and supervisory framework for EMIs and DTIs. For example, the risk of authorities not being able to access e-money customer funds in a timely way if an EMI fails may remain. Deposit insurance may be considered to be a last line of defense to protect e-money customers from residual risks. This Note provides an initial analysis of the two potential approaches to extending deposit insurance to e-money, as an aid to

policy makers that have decided or are considering taking such a step. Neither approach has been tested in EMDEs. Both involve complex policy choices and present important implementation challenges that may, depending on the country context, outweigh the potential benefits. Also, it is worth considering whether a combination of the direct and the indirect approaches is possible and desirable.

The direct approach aims at addressing residual risks stemming from the failure of the EMI and requires that e-money accounts be defined as eligible deposits and that EMIs become members of a deposit insurance system. Its main advantage is that its effectiveness does not depend on how the float accounts are structured or the risk of failure of a DTI holding float accounts. The main disadvantage is that it does not protect against the failure of such DTIs. In a context where fund safeguarding is effectively implemented and enforced, there is no apparent reason to insure e-money accounts in this manner, as the safety of customer funds depends on the risk of the DTI, not the nonbank EMI or payment bank. The costs of setting up deposit insurance could impact EMIs and their ability to reach low-income customers, thus outweighing the potential benefits of insurance.

The pass-through approach aims at protecting against the risk of loss if a DTI holding a float account fails. Its effectiveness depends on whether the legal framework allows for trust or similar types of accounts with key features that ensure the protection of each float account held at each DTI. The application of this approach may lead to consumer confusion or distrust if the failure of a DTI leads to only a subset of customers of an EMI being paid out and others not being affected at all. The framework

could be adapted in different ways to address such problem (e.g., having all customers “mapped” to all float accounts, allowing insurance payout to the trustee). There are legal and operational challenges involved in this approach whose cost and complexity could outweigh the potential benefits of insurance. Also, in this approach the failure of a single DTI holding several float accounts would trigger insurance procedures for customers of various EMIs at the same time, thus increasing complexity of crisis resolution procedures.

Several areas around the protection of e-money customer funds would benefit from in-depth country-level research. They include research on the legal and regulatory framework on trusts and how they may protect customers if a DTI fails, additional civil law legal requirements and formalities needed to implement the pass-through approach with alternative types of custodial accounts, and implementation challenges in the use of trust or other types of custodial accounts to segregate and ring-fence the e-float. It will also be insightful to carry out and share findings on crisis simulation exercises or real-life case studies from EMDE deposit insurers that have extended and tested coverage to e-money, and consumer research on e-money customers’ understanding of and value given to deposit insurance and fund safeguarding measures. These areas of research would help policy makers be more aware and better informed of relevant challenges of and potential solutions for implementing first and last lines of defense to protect e-money customers.

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