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MOBILE MONEY, FINANCIAL INCLUSION AND POLICY CHALLENGES¹

1. INTRODUCTION

For the purpose of this note, financial inclusion is defined as a state in which all working age adults have effective access to credit, savings, payments, and insurance from legitimate service providers². As a result, promoting universal access to a wide range of financial products to everyone, including small and medium enterprises is a key development objective for many developing countries³.

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² See also the White Paper prepared by CGAP, Global Standard-Setting Bodies and Financial Inclusion for the Poor, Toward Proportionate Standards and Guidance, p.1, 2011.

³ Financial inclusion is broader than just payments: it encompasses notably access to credit and insurance products. However, for the purpose of this article, the author will focus on payments only.

Extending the reach of the financial sector to sections of the society and/or to geographic areas that were neglected in the past, however, is a challenging objective. There are many barriers to accessing financial services, ranging from limited literacy, to lack of awareness about financial services and products, to high transaction costs and inadequate infrastructures.

Lack of access to banking services is currently forcing many people in emerging markets to rely on a cash-based economy that is relatively inefficient and often unsecure. Given this context, the G20 has recently encouraged the development of new modes of financial services delivery capable of reaching the poor. The rapid development of mobile banking⁴ and mobile money is creating unprecedented opportunities for poor people in developing countries to more actively participate in the economy. With more than 80% of the world's population now within mobile coverage, burgeoning efforts to enable people to send, receive, and store money using their mobile phones have the potential to greatly improve people's lives and leapfrog more conventional banking models to safer, more affordable alternatives (Christen, 2011)⁵.

The expansion of mobile money raises, however, multiple policy challenges. In particular, concerns have been expressed about funds protection and the need to explore funds safeguarding of some sort for m-money users in case a non-bank mobile banking provider goes bankrupt⁶.

This note is arranged in introduction and four sections. They analyse the functioning of mobile money and describes the interactions between different players; next outlines the impact of mobile money solutions on financial inclusion while following section explains why they are a powerful tool for inclusive finance. In the last one, the author discusses policy challenges from a deposit insurer perspective.

2. HOW DOES MOBILE MONEY WORK?

The beauty of mobile money is that it allows users to perform through their handsets a wide range of operations such as purchase of goods, money transfers (including overseas), bill payment, cash deposit and withdrawal. To function, mobile money usually involves three main players, a client, a bank and an agent⁷.

⁴ In this article, mobile banking is defined as banking services which a retail customers of a financial institution can access using a mobile phone. Mobile money is defined as an electronic money product where the record of funds is stored on the mobile phone or a central computer system and which can be draw-down through specific payment instructions from the bearers of mobile phones.

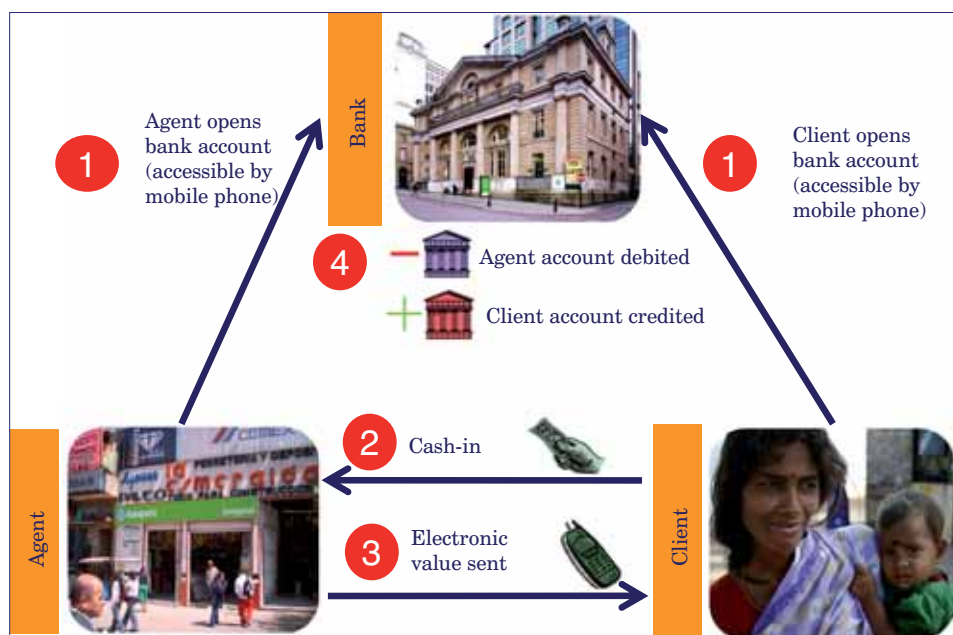
⁵ Bob Christen, see Foreword, xi, in *Protecting Mobile Money against Financial Crimes*, Global Policy Challenges and Solutions, The World Bank, 2011.

⁶ Other issues like interoperability between operators and overall efficiency are also legitimate concerns.

⁷ Agents are typically small retailers –“mom-and pop-”shops.

The chart below provides an example of basic – yet very popular – *cash in* operation. Both the customer and the agent hold a special bank account accessible remotely by mobile phone. In order to deposit money on its mobile account, the customer goes to an accredited agent. Then, the merchant converts the cash received into electronic value. As a result, on the bank's books, the agent's account is debited and the customer's account is credited. For cash out transactions, it is the other way around. The customer can redeem cash from his mobile account at an agent store who will transform electronic value into cash.

Chart 1. An Example of Basic Cash in Operation



Source: Michael Tarazi, CGAP, 2011.

At first glance, the system looks simple; however, there are multiple business models operating around the world. These systems can be grouped in two categories; the bank-led model on the one hand, the non-bank-based model on the other. It is noteworthy that Governments have increasingly found this distinction inadequate to describe and categorize the plethora of models that have emerged over the last years. But for the sake of simplicity, we will use this binary approach in this article. To find appropriate ways to regulate mobile money, it is indeed important to understand how the money moves through the systems and how the different players interact with each other.

Under the bank-based model, customers have a direct contractual relationship with a bank or similar prudentially regulated and supervised institution and it is this institution that is licensed to provide the service. An example of this is the Smart Money system in the Philippines. Smart Money is a re-loadable payment card issued by Banco de Oro that may either be accessed through a Smart mobile phone or a MasterCard powered card, similar to a debit/cash card. The *Bangko Sentral Ng Pilipinas* approved the service in 2004 as an electronic banking product of the Banco de Oro, subject to existing circulars governing electronic banking.

In the case of a non-bank-based model (also called Telco-led model), customers have direct contractual relationship with a non-bank service providers (e.g. a mobile network operator – MNO – or an issuer of stored-value payment instruments) and it is this non-bank that is licensed to provide the service. In Kenya for example, Safaricom (a subsidiary of the UK based telecom company Vodafone) has created M-Pesa, an innovative mobile transfer solution that enables customers to transfer money from peer-to-peer, from individual to businesses and redeem cash at designated outlets. Kenyans can also pay for their goods at supermarkets using the M-Pesa service. Another example of Telco-led model is G-Cash in the Philippines, created by Global Telecom. G-Cash is a method of transforming a mobile phone into a virtual wallet⁸.

3. WHAT IS THE IMPACT OF MOBILE MONEY ON FINANCIAL INCLUSION?

Mobile phones hold great potential to become a common way of conducting financial transactions on a global scale. People around the world use mobile phones to communicate, and the technology has even become accessible to low income and remote populations in recent years. For the billions of people who currently do not have access to formal financial services, mobile technology offers new means for them to access financial services⁹.

Indeed, more than 80% of the world's population is now within mobile coverage. In 2009, the Groupe Speciale Mobile Association (GSMA) reported that there were more than 4 billion mobile subscriptions globally, with 80% percent of new connections in

⁸ GX Change, a subsidiary of Globe Telecom, holds the relationship with the bank. GX Change is the one who is regulated by BSP as a dedicated e-money issuers and is registered with BSP as a "remittance agent".

⁹ As observed by the Payments System Development Group (PSDG) of the World Bank, "in terms of usage, innovative payment products are still much lower in comparison to traditional retail payment products however they are important for financial inclusion in over 10% of the countries"; see for a complete analysis the outcomes of the Global Payment Systems Survey 2010, available at www.worldbank.org/paymentsystems.

emerging markets and mostly for lower-income consumers¹⁰. At the same time, there are enormous discrepancies between mobile coverage and access to formal financial services. An early-2009 study by CGAP, the GSMA, and the McKinsey Group (CGAP 2009) shows that almost 4 billion people worldwide remain without access to formal financial services. Of this number, 1 billion do not have a bank account, but do possess a mobile phone – a number expected to grow to 1.7 billion by 2012.

Therefore, mobile phones can be leveraged to provide formal financial services to unbanked population. In this regard, the case of Kenya is a good illustration of the potential of m-money. In only a few years, M-Pesa has acquired more than 13 millions of users, which accounts for about 40% of Kenya's population and an estimated 50% of these users are unbanked; 98% of users report being happy with the service and 84% claim that losing M-Pesa would have a large, negative effect (Svenssen, 2011)¹¹. M-PESA provides a range of other payment services like remittances and bill payment and, with the introduction of M-Kesho in tie-up with Equity bank, it also offers traditional banking products structured to meet the needs of hitherto unbanked¹².

In the Philippines, over \$100M flows through the GCASH system daily. GCASH and rival Smartmoney are accepted in establishments that take credit cards, giving the unbanked the ability to conduct cashless transactions, a benefit previously limited to credit card customers. In India, the government has understood the potential of mobile phones in financial inclusion and is working aggressively towards enabling this system as penetrative as possible. In Haiti, research has already demonstrated the capacity of mobile banking to reach more previously unbanked and low-income people than the largest micro finance institution in the country in a shorter period of time¹³. In Rwanda, 30% of the population now pays for their electricity using a new mobile phone payment system.

Of course, it could be argued that the success story of M-Pesa in Kenya is not necessarily replicable everywhere. Whatever it might be, it is commonly admitted that mobile banking and m-money services have a multiplier impact on the lives of people drawn into the formal financial system. When the poor get access to financial services, their cash flow management gets better, their financial planning

¹⁰ The source of those data (Wireless Intelligence, GSMA's marketing information unit) is available at <https://www.wirelessintelligence.com/>

¹¹ Pål Svenssen, M-Pesa: Financial Inclusion through Mobile Payments, PaymentsFrontier, 5 January 2011.

¹² Yet usage of M-PESA currently is primarily for remittances. As per a survey cited in a recent report, 88% of the time incoming funds into an M-Pesa account were withdrawn the same day, a further 5% within one day and in only 3% of the instances incoming funds were retained in the account for a period longer than 1 week. Guy Stuart and Monique Cohen: Cash in Cash Out Kenya: The Role of M-PESA in lives of low-income people, September 2011.

¹³ Center For Financial Inclusion, Publication 12, 2011, Opportunities and Obstacles to Financial Inclusion.

is enhanced and their savings are increased with increased options for providing for themselves for their old age (Agrawal, 2010)¹⁴.

4. WHY MOBILE MONEY IS A POWERFUL TOOL FOR FINANCIAL INCLUSION?

Mobile money products offer many features that make it a powerful instrument for inclusive finance¹⁵. They can be grouped in 3 main categories. They are simple to use, they are usually cheaper than other methods of payment and they are effective tools for operating financial transactions.

Simplicity is certainly the most distinctive attribute of m-money. It is user-friendly and can be easily understood by the masses. For example, in the Philippines with Smartmoney, users can purchase items by simply sending an SMS message containing the seller's merchant number and payment amount. In Kenya, to enable an M-Pesa account, a customer gets credit towards his virtual account by paying cash to a registered agent. To transfer funds, customers access a menu-driven application, built into their SIM card that allows them to send money to other mobile phone users. If the receiver is another M-Pesa user, the funds get added to his account. Otherwise, the virtual money can be cashed in with any registered agent¹⁶. Simplicity also dominates the account opening process. There is minimum paper work required since subscribers can register for the service by filling up a simple form. In South Africa, a face-to-face account origination is not needed under certain conditions. Moreover, in certain countries, users are required to submit only the identity proof to get the service started, making the "know-Your-Customer" process easier for prospective clients¹⁷.

Affordability is another key aspect of m-money. Most of the providers keep the pricing of the product very transparent and lower than other alternatives. Free registration, no monthly fee (often but not always), no minimum balance makes m-money products very attractive, particularly for the poor¹⁸. The user is only

¹⁴ Mohit Agrawal, Socio-Economic Benefits of Mobile Money Transfer, Telecom Circle, 1/27/10 available at: <http://www.telecomcircle.com/2010/01/benefits-of-mobile-money-transfer/>

¹⁵ For more details, see Ignacio Mas and Amolo Ng'weno, Bill & Melinda Gates Foundation, Three keys to M-PESA's success: Branding, channel management and pricing at: http://mmublog.org/wp-content/files_mf/keystompesassuccess4jan.pdf

¹⁶ using a secret code and an I.D. See Ben Loric, *Mobiles and Money in the Developing World*, O'Reilly Radar, April 2009.

¹⁷ For undocumented people in particular, national regulations in some countries allow applicants to produce alternative forms of ID, e.g. a certificate issued by the village master, (Tanzania), voter card (Uganda), birth certificate (Malaysia).

¹⁸ It is noteworthy that mobile banking is cheaper than other solutions if both direct and indirect costs are considered all together. Regarding policy fees, readers can find a comparative analysis of practices in the Global Payment Systems Survey 2010.

charged a flat fee for available services. For cross-border operations in particular, migrant workers are now resorting to mobile money to send money to their home country because it offers a competitive advantage over wire transfers and informal finance channels. According to CGAP, m-money services are 26% cheaper than traditional banks. From a provider standpoint also, offering these types of products can reduce the costs of doing business, because they use existing technologies (phones) and existing infrastructures (agents)¹⁹.

Effectiveness also characterizes m-money solutions. The service automates transactions that are done manually on paper in many jurisdictions. Electronic transactions are automatically stored and quickly traced. Password protection and other personal identification systems contribute to the overall effectiveness as well. M-money transactions are also real-time transactions because customers use instant messaging. In a matter of seconds, money can be transferred or cash withdrawn. Effectiveness can also be achieved through the use of multiple agents like groceries stores, pharmacy, gas stations, increasing people outreach and coverage. Mobile technology also facilitates transfer of funds of various government schemes like social security pensions and wages paid to a mobile linked account, like in Mexico or India. It is also noteworthy that when a good payment system infrastructure is in place, other channels, including using mobile phones for accessing the service, are more efficient.

5. POLICY CHALLENGES: HOW TO PROTECT CUSTOMERS' FUNDS?

In most countries where m-money is growing, policy makers are facing multiple challenges to regulate these types of services, including, but not limited to, competition, integrity and consumer protection. In this last regard, the issue of funds protection for m-money solutions is one of the most complicated to address in the non-bank led model. Under this configuration, taking money from the public, even for the purpose of making payments rather than for saving, is close to accepting public deposits, something that has almost been always reserved for prudentially regulated finance institutions (Tarazi and Breloff, 2010)²⁰.

Besides, unlike banks and other financial entities, mobile network operators are neither prudentially regulated nor supervised by financial oversight bodies

¹⁹ CGAP's experiments with providers show that using branches could cost 30 times more to set-up than using third-party agents equipped with point-of-sale. Replacing the point-of-sale device with a cell phone will have further cut cost in half.

²⁰ See Michael Tarazi and Paul Breloff, published by CGAP (Consultative Group to Assist the Poor), Focus Note 63, July 2010, 12 pages, available at: <http://www.cgap.org/p/site/c/template.rc/1.9.45715/>

and as such not subject to strict liquidity and capital requirements. Therefore, concerns have been expressed about the safety of customer's funds and the protection mechanisms that can be put in place in case an m-money service provider goes bankrupt²¹. In practice, policy responses seem to converge towards funds safeguarding of some sort. Whoever the service provider is, customer's funds need to be protected, liquidity must be ensured, traceability must be granted and ownership of the funds in the bank account must be guaranteed (Malaguti, 2011)²². There are two lines of defense that can be distinguished.

In the first line of defense two options, Fund Safeguarding on the one hand and Fund Isolation on the other have been considered and applied. In countries where MNOs are legally allowed to provide mobile money services, issuers are required to maintain liquid assets equivalent to the total value of the customer's funds collected. Other measures consist in prohibiting the MNO from using the funds to finance operating expenses or for lending purposes. Fund safeguarding can also consist in requiring electronic money providers to keep funds in bank accounts or invested in Government securities. All these practices aim to ensure availability of funds when redeemed by customers against electronic value (e.g. Indonesia, the Philippines, Cambodia, Malaysia, India and Kenya)²³.

The second option called Fund Isolation is designed to ensure that in case the MNO goes bankrupt, electronic funds cannot be captured by MNO's creditors. Indeed, funds may still be at risk if the customer's ownership of the funds is unclear. While funds can be safeguarded in accounts of prudentially regulated institutions, such funds are often pooled and held in the name of the issuer, not in the name of the customers. Thus, the non-bank issuer is the legal owner of the accounts, thereby making the underlying funds vulnerable to claims by the issuer's creditors in case of bankruptcy (Tarazi and Breloff). As shown in the diagram below, M-Pesa customers in Kenya are isolated from creditor claims by the use of a trust account that is administered by a third party trustee and held in different banks for the benefit of M-Pesa customers.

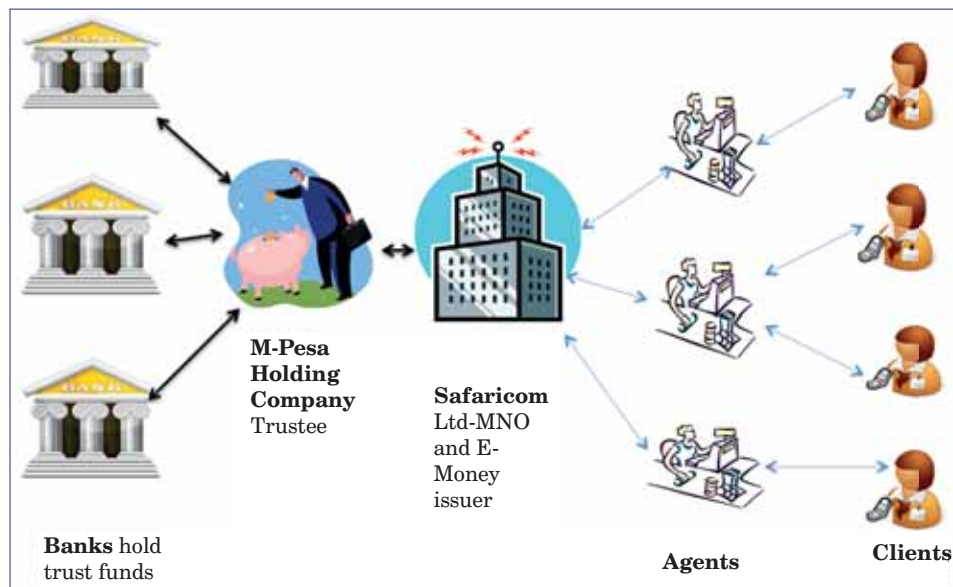
The second line of defense may be conceived as a response to a more serious situation where not only an MNO but also a bank could go bankrupt. To the extent that underlying customer funds are kept in bank accounts, such funds are exposed

²¹ For mobile banking, this discussion is not relevant since the mobile banking service is attached to a traditional bank account.

²² For further details, see Maria Chiara Malaguti, *Regulating Mobile Payments, Key Issues: Financial Infrastructure Week, 2011, Rio de Janeiro, 14–17 March 2011*, also in Massimo Cirasino and Malaguti, *From remittances to m-payments: understanding "alternative" means of payment within the common framework of retail payment system regulation*, World Bank, forthcoming. ftp://ftp.worldbank.org/pub/FIWEEK2011/15_17MARPayment_Systems/17_March/PS_Legal2_MALAGUTI_17032011.pdf

²³ See Michael Tarazi and Paul Breloff for a complete analysis.

Chart 2. Found Isolation Scheme



Source: Author's slide no 14 of the presentation at the Conference session.

to the risks of bank failure and the 2008 crisis has precisely shown that funds held in prudentially regulated institutions are not risk-free. In this context, how e-money customers can retrieve their funds and should the funds be covered by a deposit insurance mechanism are legitimate concerns. In practice however, there is no consensus about what needs to be insured and whether or not e-money funds are eligible for safety net²⁴.

There is indeed diverging views as to whether electronic money is a deposit. In many countries, e-money is not a deposit and thus not eligible to a safety net mechanism (e.g. in the Philippines or in Afghanistan). In sharp contrast, some are advocating in favor of extending deposit insurance protection to e-money users under certain conditions²⁵ because e-money products are increasingly being used as saving vehicles²⁶.

²⁴ For an extensive discussion, see Tilman Ehrbeck and Michael Tarazi, Putting the Banking in Branchless Banking: Regulation and the Case for Interest-Bearing and Insured E-money Saving Accounts, The Mobile Financial Services Development Report, 2011.

²⁵ In the US, funds underlying stored-value cards are considered as deposit and thus covered by deposit insurance scheme as long as such funds are held in an insured institution, a mechanism called "pass through" deposit insurance.

²⁶ In this regard it is important to highlight one risk – the risk of loss of record of individual e-money accounts from the e-money system of the service provider. While the funds could be

Also, before opting for a safety net system for e-money, national authorities will have to consider other aspects, in particular the financial implications of such mechanisms. Deposits insurance is funded by premiums paid by participating financial institutions, which typically pass these cost along their customers. Thus, putting e-money under a deposit insurance umbrella may make it more expensive, especially in developing countries where, as discussed in section 4 above, affordability has been a determining factor for success. This could, in turn, negatively affect financial inclusion. Also, a safety net will require a sound regulatory and supervisory regime, conditions that are not always met in developing countries.

safe, if there is a loss of record, how would one decide who has how much in his/her e-money account? In the case of a bank, the risk might be limited since they are subject to strong operational reliability requirements. In the case of an MNO, the issue might be more relevant.