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Competition in Mobile Financial Services: Lessons from Kenya and Tanzania[1]

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Abstract
Mobile financial services (MFS) are the main drivers of financial inclusion in many developing countries, where they provide low-income consumers with access to transfers, payments, and increasingly more complex products including credit, savings, and insurance. MFS channels can provide the advantages of convenient, secure, and cost-efficient product offerings to consumers. In several markets, MFS have helped to significantly increase the portion of the population with access to formal financial services. To promote both quality and diversity in MFS products, and in turn financial inclusion, it is important to ensure a competitive ecosystem that facilitates entry into the market, the development of innovative MFS products, and high-quality, value-for-money services. This article aims to provide insights into the role that effective competition and competition policy play in developing MFS, and in promoting financial inclusion, using Kenya and Tanzania as case countries.

Keywords
mobile financial services, competition, Kenya, Tanzania

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1 This article is revised for publication from a working paper written for CGAP, https://www.cgap.org/sites/default/files/Working-Paper-Competition-in-MFS-Kenya-Tanzania-Jan-2016.pdf

1. Introduction

In this discussion, mobile financial services (MFS) refers to mobile money and digital platform accounts services that are primarily accessed via mobile channels and agent networks that are serving a significant portion of previously un-served and underserved financial consumers in emerging markets. Mobile money is now available in most developing and emerging markets, with 219 mobile money services in 84 countries at the end of 2013 (Almazán & Sitbon, 2014; GSMA, 2014a). Indeed by the end of 2013, nine markets had more mobile money accounts than bank accounts. This paper uses the experiences of two of the leading MFS markets in the world—Kenya and Tanzania—to identify priority competition issues in MFS for policymakers to consider and, where relevant, act upon.

In the mobile financial services (MFS) market, effective competition can improve financial inclusion in a number of ways:

- *Price:* Effective competition among providers drives them to operate more efficiently and price their products competitively to attract consumers. This can lead to lower costs passed on to consumers and businesses, which can make financial services more affordable to low-income, underserved populations (Balasubramanian & Drake, 2015; Economides & Jeziorski, 2016).
- *Quality of products:* Effective competition incentivises providers (i) to ensure that the products they provide are high quality and (ii) to retain consumers, helping adopters of products remain active users—all the more pertinent given high dormancy rates experienced by some providers of MFS (Di Castri, 2013; Mas, 2014).
- *Variety and diversity of products:* Effective competition also incentivises providers to introduce new and innovative MFS products and services, which promotes increased uptake and use of financial services among the poor (G20, 2016; Hanouch & Chen, 2015).
- *Quality of service:* Where consumers have a wider range of options for products and services, service quality is often promoted, as firms compete on service to mitigate against consumers switching providers. In MFS markets, service can impact product quality in multiple ways, including the quality of the financial product, but also the quality of the telecommunications channels and agent networks through which these services may be accessed (Bourreau & Valletti, 2015; McKee, Kaffenberger & Zimmerman, 2015).

The research methodologies for the MFS study included a review of literature on innovation and expansion of MFS markets and related policies; a review of relevant laws and regulations in Kenya and Tanzania pertaining to the banking and telecommunications sectors; stakeholder interviews and data collection from MFS providers, policymakers, researchers and consumer advocates in Kenya and Tanzania conducted between July and December 2014; and, consumer research with MFS users on digital credit usage and price awareness and sensitivity, in July 2014 and November 2014 respectively.

2. Key competition issues for mobile financial services in Kenya and Tanzania

Access to the channel for delivering MFS

Access channels are a critical dimension in ensuring a competitive MFS market. Here, we consider the importance of the main channels and their pricing in Kenya and Tanzania, as well as how this can undermine competition. Important implications for regulation are explored. In the market for MFS, financial institutions are customers of, and competitors to, mobile network operators (MNOs). This creates a fundamental conflict of interest, because MNOs control access to the mobile network and have sufficient incentive to restrict access to competitors. There are several potential adverse consequences for competition that may arise from restrictions in channel access (Hanouch & Chen, 2015; Mas & Staley, 2014; Mazer & Rowan, 2015), including potential foreclosure of the market to providers competing in the same space as the MNOs, constituting a barrier to entry; product range in the market may consequently be limited; there is limited scope for innovation by firms with potentially high-value and high-demand products and services, who cannot use prevailing access channels to serve potential customers; high costs may be passed through to consumers in the form of increased prices, due to the cost of channel access.

In Kenya and Tanzania, the dominant front-end technology used in the deployment of mobile banking services is unstructured supplementary service data (USSD) technology. USSD, a communications service controlled by MNOs, is believed to be a critical piece of technology used to provide MFS on nearly any phone, at low cost, and without requiring access to the user's SIM card. USSD enables customers to send instructions to the MFS provider along with their personal identification number (PIN) for authentication, while enabling the MFS provider to send responses to clients and confirm transactions (Hanouch & Chen, 2015).

The price of USSD channel access

The price of USSD channel access is critical in determining how effective competition will be in a market, since it will determine whether, and how easily, providers can enter and compete in the market. In the interviews, a number of stakeholders identified that the cost to MNOs of providing USSD channel access amounted to fractions of one Kenyan shilling (KES). However, Table 1 shows that the prices MNOs charge banks and other third parties are much higher, sometimes considerably higher.

Table 1: Survey of costs of USSD access paid by MFS providers to MNOs in Kenya (August 2014)

	MNO1		MNO2		MNO3		MNO4	
	Cost (KES)	**Duration (seconds)**	**Cost (KES)**	**Duration (seconds)**	**Cost (KES)**	**Duration (seconds)**	**Cost (KES)**	**Duration (seconds)**
Bank 1	5	180	Monthly access fee		Monthly access fee		Monthly access fee	
Bank 2	4	120	1	180	Not used		No charge	
Bank 3	5	180	No charge		Not used		Not used	
Bank 4	5	180	3	180	Not used		Not used	
Bank 5	5	180	Not used		Not used		Not used	
Bank 6	5	180	Not used		Not used		Not used	
3rd Party 1	5	180	3	180	3	180	2	180
3rd Party 2	10	180						
3rd Party 3 Pre-paid	10	180	3	180	3	180	2	180
3rd Party 3 Post-paid	0.5–1.5	180	3	180	3	180	2	180
Set-Up Costs (where assessed)	100,000		75,000		30,000		50,000	
Monthly Costs (where assessed)	100,000		50,000		10,000		20,000	
KES = Kenyan Shillings. Exchange rate of 101.9 Shillings to the U.S. dollar, as of 2 November 2015.								

Source: Mazer and Rowan data, 2015

Table 1 also highlights how competition issues in USSD access can be magnified where there is an MNO with a very large market share, identified as MNO1 in the table. The presence of a dominant MNO leaves third-party providers with no other option to reach the majority of the market than to go through this MNO, resulting in little incentive for the MNO to drive down the price of USSD sessions. Furthermore, this positions the dominant MNO with considerable power to set prices in the market and control competition by providing or restricting access.

Accessing the USSD channel

To offer USSD access, providers must be licensed to do so by the telecommunications regulatory authority. It is therefore important that an appropriate licensing framework is in place, such that there is fair access to the USSD channel, regardless of firm size, or type, or the content firms offer. When MNOs, which may be direct competitors, in financial services, to the bank or third party requesting USSD codes, are the ones actually issuing the codes, those seeking codes could be at a disadvantage when negotiating with MNOs for the codes on commercial terms, since MNOs have

significant leverage in negotiating terms for channel access.

Regulatory options for channel access

The extent to which an MFS provider will be affected by the pricing and/or denial of USSD access by an MNO depends, at least in part, on the MNO's telecommunications market share. An MNO with a greater market share will likely be able to charge higher prices, which may have the effect of foreclosure of the USSD access channel. Regulatory intervention is therefore important, where such competition issues related to USSD channel access occur. However, we would caution that regulation should be implemented appropriately, and only after detailed inquiries into the specifics of USSD pricing, quality, and access, as well as broad consultation with all stakeholders who provide and make use of USSD channels. This is an area where coordination among regulators is likely to be necessary, given overlapping jurisdictions and differing preferences in regulatory approach. Mas (2014) asserts that

> banking and telco regulators must work out an integrated regulatory regime for mobile operators that offer mobile money services […] MNOs who are engaged in MFS should be obliged to offer mobile communications services to any other financial institution that requests access, on non-discriminatory and cost-oriented terms. (Mas, 2014, p. 205)

Mas highlights that Peru has spearheaded this approach and that it let the market determine pricing in the first instance. In an alternative approach, India is prescribing a price for USSD (Hanouch & Chen, 2015).

Transparency in MFS products

Price transparency is important in enabling consumers to understand the available products and to make informed choices. This, in turn, is crucial for competitive pressure, as rivals seek to attract consumers with their offerings. It is an important area where regulatory measures can be taken. While traditionally considered an issue relevant to consumer protection and market conduct for financial services globally, lack of pricing transparency can hinder effective competition in at least two important ways (Gabaix & Laibson, 2006; Stango & Zinman, 2011):

- *Increased search costs:* When customers face significant impediments or costs in their search for alternatives, sellers may be able to set prices (or quality of service) with only limited regard to competition.
- *Reduced product comparability:* Where consumers have difficulty accessing information, they may be restricted in their ability to compare the offers available in the market across the various providers.

One or both of these scenarios may result in a lack of competitive pressures on providers to offer value for money and innovative products and services. Transparency is therefore important for ensuring effective competition and financial inclusion. A

number of transparency-related issues were identified in Kenya and Tanzania, the most pertinent of which are described below.

Transparency of mobile money person-to-person (P2P) payment costs
In both Kenya and Tanzania, there is a degree of price transparency at the point of cashing in and cashing out, as agents display tariff boards. However, disclosure of the cost of P2P payments appears to be less prominent. Many MNOs do not disclose the price of a transfer, either before or after a transaction is completed, either in the USSD session, or in the confirmation SMS messages. This lack of price transparency makes it difficult to compare the total cost of sending and receiving money across MNOs, especially when multi-step transactions are involved, for example, cashing in, sending money, and then cashing out. This makes it difficult for consumers to determine which MFS provider represents best value for money, and exerts lower competitive pressures on providers. Regulators are therefore encouraged to set market-wide transparency rules for MFS.

Transparency of USSD costs on consumer-to-business (C2B) payments
MFS are increasingly used by consumers in Kenya and Tanzania as a convenient and low-cost way to pay for services, such as electricity, water and consumer goods. However, here, too, there is poor transparency of the costing and pricing of payments. This is due to the limited disclosure of (i) the charges paid by the third-party aggregators and by the financial service providers to the MNOs for access to the MNO's USSD infrastructure and (ii) the costs they subsequently pass on to consumers for these C2B payments.

Transparency of terms and conditions—second generation MFS
As MFS markets develop and progress from simple mobile payments towards products like credit, savings and insurance, new issues around transparency will develop. In Kenya and Tanzania, several partnerships between MNOs and financial service providers now offer savings and credit products directly through mobile money services. The nature of these loan products illustrates the transparency issues that can emerge when financial products are delivered via MFS, without considering the implications for proper disclosure of product characteristics, costs, and terms and conditions. For example, upon enrolling for a loan via their MFS provider, many consumers are not informed of the interest rates and rollover charges of the loan, via the mobile interface, before being asked to accept the terms and conditions. Instead, the consumer is often directed to review the terms and conditions on the providers' websites, as is the case for the M-Shwari loan product in Kenya (McCaffrey et al., 2013). Aside from the effort that must be made to view these terms and conditions, this information will not be accessible to consumers without Internet/data access or a smartphone, resulting in many consumers failing to understand the terms of their savings or loan product.

Transparency and switching behaviour

To promote an effective demand-side, which exerts competitive pressures on providers, there must be the real, or perceived, threat of the consumer switching to another provider. Switching MFS providers may not be technically difficult, given the prevalence of multiple SIMs usage amongst consumers in markets such as Tanzania. However, switching in response to attractive competing offers may be made difficult for customers due to costs of time, price, or ease of switching. Furthermore, in a market without interoperability, consumers may be constrained in their ability to switch to another MFS provider since they will not be able to send or receive money across providers.

Towards a transparent MFS ecosystem

Transparency in MFS can be enhanced by provider improvements of messaging and formats, as well as by improved standards of price disclosure for MFS. For example, in Tanzania, the Electronic and Postal Communications (Consumer Protection) Regulations, 2011[2] state that "A licensee shall not charge consumers for bills or billing related information" (TCRA, 2011a, sect. 9(3)). However, it also lists a number of exceptions, such as where there is a separate agreement (which might include terms and conditions). Exceptions to disclosure of costs, as well as lack of enforcement, can result in insufficient transparency of pricing. In Tanzania, a review of MFS products by the authors revealed inconsistent practices for disclosure of costs to consumers prior to a transaction, with some products such as Tigo Pesa disclosing costs clearly prior to a mobile money person-to-person payment, while M-Pesa did not include such disclosures of cost prior to a mobile money person-to-person payment in user testing by the authors.

Relevant authorities should set market-wide transparency rules, which (i) ensure product terms are fair, clear and not misleading, (ii) increase comparability between products and promote more effective competition. There is already scope for the regulatory authorities in Kenya and Tanzania to enforce existing legislation on this point, hence it is necessary to signal obligations to providers, monitor market practice and address noncompliance. In Kenya, the National Payment System Act (2011) and the Central Bank of Kenya's Prudential Guidelines (2013) put forth standards and obligations for disclosure of costs and terms for traditional financial services and for mobile money. Kenya has also mandated that financial services providers that offer services via digital channels must now present consumers with full information on the costs, before they use the service, on the same screen on which the consumer is transacting (Mazer, 2016). For Tanzania, the Postal Communications (Tariffs) Regulations (TCRA, 2011b, sect. 4(3)) state that charges should be transparent and that tariffs "shall be sufficiently clear as to enable the end-user to determine the description of the service, the details relating to the nature of the service, amounts

2 See also legislation at www.tcra.go.tz/images/documents/regulations/consumerProtection.pdf

and charges payable for such service." The regulations also state that "a licensee shall provide accurate billing information on tariffs and usage in order for customers to verify whether or not they are billed correctly." Similarly the Electronic and Postal Communications (Consumer Protection) Regulations (TCRA, 2011a, sect. 7(3)) state that "when promoting a product or service, a licensee shall indicate clearly the total charge for the package and terms and conditions that are applicable."

Interoperability of mobile money services

Interoperability can broadly be described as the interconnection of mobile money services either between providers or with external parties. It is well recognised that it reduces network effects, however, it can also reduce the incentives of individual networks to invest in their expansion. In this discussion interoperability refers to the technological interoperability of MFS using common standards and protocols, and not to access to facilities and services, as is sometimes referred to in discussions regarding interconnection. It brings benefits to consumers, mobile money providers and agents through increased convenience, cost savings, a greater choice of providers and better liquidity management for agents. Interoperability is also relevant to some of the most important competition issues in MFS:

- *Reduction in network effects that restrict consumers' freedom to switch:* Without interoperability, it is possible that consumers will remain with an MFS provider they do not prefer, simply because of the size of that network and so are not able to freely choose based on quality of service and price (Bourreau & Valletti, 2015; Di Castri, 2013).
- *Improved user experience and ease of account usage:* Instead of interoperability, some MFS providers offer off-net "voucher" systems, wherein consumers can send off-network, but the recipient must cash out at the sending MFS provider's agents, often at a higher charge than an on-net P2P transaction, and cannot store this value on their mobile wallet. With fully interoperable systems, these types of inferior workaround solutions for across-provider transfers become irrelevant (Benson & Loftesness, 2013; Mas, 2014).
- *Reduction in agent exclusivity:* With interoperability, agents may be more easily able to function as agents for multiple MFS providers, increasing diversity of MFS options for consumers, in particular for rural consumers with limited agent network access (Kumar & Tarazi, 2012).
- *Access to MFS channels by third-parties:* With interoperability, a transaction originating on one MFS network does not prevent landing on another MFS network. This makes it possible for a firm facing high channel access costs from one provider, to use the channel of another provider with more favourable channel access pricing, to originate an MFS transaction and still allow the customer to send the funds to a user of the MFS network that charges the higher channel access costs. This could exert pressure on providers that previously restricted or priced channel access in an anti-competitive manner to reduce their rates.

Despite the potential benefits to fair competition and increased financial access, full interoperability has not yet come to fruition in most MFS markets. Tanzania, where a multi-firm interoperability agreement was adopted, is a notable exception to this, while Kenya shows no sign of interoperability being achieved soon. This difference is most likely explained by the relative market shares of MFS providers in the two markets, see Table 2 below. As Benson and Loftesness (2013, p. 6) note, "early dominance by one provider can slow or stop interoperability."

Table 2: Selected MFS market shares of MNOs in Kenya and Tanzania (number of subscribers)

	Vodacom	**Airtel**	**Tigo**	**Combination of two or more providers' services**
Tanzania MFS customer market share	53%	13%	18%	16%
	Safaricom	**Airtel**	**Equitel**	**Other providers**
Kenya MFS customer market share	76.8%	11.5%	2.5%	9.2%

Source: GSMA (2014b), Communications Authority of Kenya (2015)

In Kenya, the concentrated market share across MFS providers may create (i) less demand for interoperability from consumers, since most of their peers will use the same provider; and (ii) less willingness on the part of the dominant MNO to extend interoperability, since they may have more to gain by protecting their share of the pie rather than by expanding the size of it. This may explain why, despite articulation of interoperability as a goal for the market in the National Payment System Act of 2011, there has been no noticeable progress towards this goal by the industry. In fact, it is quite reasonable to expect that, with such a dominant MFS provider as Safaricom in Kenya, interoperability would have to be forced on the market by the authorities for it to take effect.

By contrast, the less concentrated mobile money market share in Tanzania, across MFS providers, makes interoperability more appealing for both consumers and providers alike. This difference in market share is likely the primary reason why Airtel, Tigo and Zantel, together accounting for 74% of mobile subscribers and 47% of mobile money subscribers, were able to successfully reach a mobile money interoperability agreement in 2014, and why Vodacom subsequently joined the interoperability agreement in 2015.[3] An important caveat here is that market concentration is significantly higher in rural versus urban Tanzania, as the dominant provider Vodacom's agent network market share is 60% outside of Dar es Salaam, as

3 For a detailed analysis of the interoperability agreement in Tanzania, and the process to achieve this agreement, refer to IFC (2015).

compared to 41% in Dar es Salaam, where the other two leading MNOs have a more balanced market share (McCaffrey & Schiff, 2014).

While forcing interoperability in the early stages of mobile money market formation may hinder market growth by discouraging first-movers (McKay & Zetterli, 2013), who must invest significantly in building out their product line, marketing, agent networks, platform and other up-front costs, there is a role for regulation, to create an environment that is conducive to interoperability in the long run. This stance is advocated, in particular, by the Centre for Global Development (Bourreau & Valletti, 2015, p. 21): "…*ex ante* regulation should focus on ensuring that firms do not take actions that increase the barriers to achieving interoperability."

From a competition perspective, there are several areas where it may be appropriate and beneficial for policymakers and competition authorities to take steps to facilitate interoperability in the market, notably with respect to restrictions on agent exclusivity, interconnection rates for MFS interoperability, and requiring potential technological interoperability.

Agent exclusivity

Agent exclusivity restrictions allow MFS providers to stipulate that a mobile money agent should remain exclusive to them and not offer competitors' services in their location. Such agreements tend to reinforce network effects,[4] since consumers will wish to use a MFS provider with a large agent network, and these network effects, in turn, reinforce the choice of an agent to remain exclusive to a dominant provider, in order to maintain access to a large number of potential customers. The elimination of agent exclusivity can promote a shift towards interoperability, by reducing these particular network effects and by reducing barriers to entry into the market, and making it easier for consumers in areas with low agent density to choose amongst providers, based on factors besides the presence of agent infrastructure nearby (Mazer, Pillai & Staschen, 2016). With a larger number of non-exclusive agents, the dominance of only one or two firms may be reduced, making technological interoperability more desirable.

In Tanzania, the regulatory authorities mandated non-exclusivity early on, to allow the various MNOs to compete more effectively. Subsequent research found that agents in Tanzania were more likely to be non-exclusive than in Kenya, although non-exclusivity in Tanzania applied to 84% of agents in urban Dar es Salaam, compared

4 The network effect refers to a situation where there is a sufficiently large number of users of a service that consumers choose to use the service, even if they prefer the service of a competitor, because of their need to use the same network as their peers. This effect is particularly significant when there is a large network that is closed off to transactions incoming from or outbound to other similar networks.

to 38% in rural areas (McCaffrey & Schiff, 2014). In July 2014, the Competition Authority of Kenya mandated the removal of agent exclusivity for all providers, which is considered to have improved the availability of non-exclusive agents, as noted by the reduction in exclusive agents from 96% in 2013 to 87% in 2014 (Khan, Mehrotra, Anthony & Kuijpers, 2014). However, CGAP interviews with agents in Nairobi in 2016 revealed that some agents were being intimidated or coerced to remain exclusive and were being told by representatives of some MFS providers to display their signs more prominently than rival MFS providers at agents' outlets. This highlights the challenge of shifting a market built on exclusivity to nonexclusive arrangements in a short time period, as well as the need for regulatory monitoring and enforcement on competition grounds, where breaches of such regulations are identified.

Interconnection rates and technological interconnectivity

Interconnection rates are important for effective competition for several reasons. First, a high interconnection rate may result in non-interoperability in practice. This would occur if the rates were so much in excess of within-network transactions that it would create a significant enough additional cost to discourage consumers from transacting across networks. For example, the average off-net mobile money transfer charge is around three times higher than on-net in Kenya (Murithi & McCaffrey, 2015). This would result in a reinforcement of the network effect. Furthermore, a high interconnection rate can act as a barrier to entry for MFS providers, since a new entrant will, by definition, have few customers that can be sent mobile money within their network, resulting in expensive transfers for their customers and/or high costs for the MNO, since the MNO initiating the across-network call or transaction has to compensate the receiving MNO under current industry arrangements. A less forceful regulatory approach is to require *potential* technological interconnectivity. This ensures that once providers agree on the principle of interoperability and the commercial terms, the technical elements are already in place to allow for MFS interoperability.

In Tanzania, the Tanzania Communications Regulatory Authority (TCRA) ensured from the outset that the MNOs' systems had the capacity to be interoperable and adhered to international standards. Similarly, the National Payment System Act 2013 in Kenya requires that "[a] payment service provider shall use systems capable of becoming interoperable with other payment systems in the country and internationally" (Government of Kenya, 2013, sect. 13.1).

Supporting competitive drivers toward interoperability

In Tanzania, the government supported, but did not lead, the efforts headed by the International Financial Corporation (IFC) and MFS providers that led to MFS interoperability (Musa, Niehaus, & Warioba, 2015). Nor did it mandate interoperability at the early stages. The Electronic and Postal Communications Act

(Government of Tanzania, 2010, sect. 28) states that

> every license holder has the right to negotiate an agreement for access to electronic communications networks and services of another license holder for the purposes of enabling the provision of electronic communications services to the public. Similarly every license holder has the obligation to negotiate such an agreement.

The Bank of Tanzania's Electronic Payment Schemes Guidelines (2007, Part 3, sect. 9.2) state that "a bank or financial institutions electronic payment schemes should be open systems capable of becoming interoperable with other payment systems in the country and should comply with the minimum international acceptable standards provided." The Guidelines also state that "the pricing policies should take into account affordability of the services to a wider market reach and that the access criteria for participating in the electronic payment scheme is transparent."

Instead, the Tanzanian government chose to subsequently formalise any agreements made by industry, through rules issued by the authorities afterwards, to ensure that interoperability, once in place, is consistent and permanent. This is also the approach advocated by the Center for Global Development (Bourreau & Valletti, 2015), who recommend

> that regulation should generally follow an ex-post approach: regulators should allow maximum scope for market development to be guided by competition between networks, while reserving a credible option for ex-post regulatory intervention should this become necessary at some point in the future in the light of market developments. The case of Tanzania illustrates how interoperability can be the result of a market solution rather than an imposed regulation. (Bourreau & Valletti, 2015, p. 1)

Similarly Nyaga (2014) asserts that

> the timing and cost-effectiveness of any regulatory intervention [on interoperability] must be appraised carefully, and market-led solutions should be the preferred option. This means that any mobile-payment platform established by a mobile provider should be open to other account holders within an agreed-upon time and that a fair basis is established for new entrants to use existing payment infrastructure. (Nyaga, 2014, p. 290)

However, experiences in similar sectors, such as telecommunications and bank payments, and lessons from concentrated MFS markets, such as Kenya, mean a supportive approach may not be sufficient to overcome barriers to MFS interoperability in all markets. Therefore, in heavily concentrated MFS markets, such as Kenya, it may be important for authorities to take a more direct approach to

encouraging interoperability than was required in Tanzania. In this way, the ruling prohibiting agent exclusivity issued by the Competition Authority of Kenya in July 2014 may be a helpful step in the push toward full interoperability of mobile money in Kenya in the future.

Given the importance of the local market context, it is prudent for policy makers to begin, not with policy actions, but instead with an analysis of the actual competitive environment. Such analysis could be conducted by a competition authority, financial sector regulator, and/or telecommunications sector regulator, and could include analysis of the following aspects of interoperability:

- Potential benefits to consumers and market development of interoperability, to determine if these benefits merit more interventionist policies to bring about interoperability.
- Comparative analysis of interoperability arrangements in analogous high- and low-concentration MFS markets.
- The relationship between removal of agent exclusivity and interoperability, including monitoring compliance with agent non-exclusivity provisions.
- Changes in market behaviour post-interoperability, including changes in off-net and total mobile money transactions, channel access and pricing for third-parties, stored value on mobile money wallets, use of value-added services, and the number of active SIM cards across providers.
- Evaluating the scope for regulatory intervention on interconnection rates in mobile money, if needed.
- Interoperability issues for non-payment MFS, such as savings accounts tied to mobile wallets, or credit history built via borrowing on MFS channels.
- The importance of a switch between banks, between MNOs and ideally, between all providers offering financial services via mobile channels.

Data sharing in MFS

Data sharing can promote effective competition in MFS markets through reducing barriers to entry, barriers to switching and promoting innovation. Regulators can play a role through mandating and improving the standards for data sharing. New credit, savings, and insurance products are emerging in the mature MFS markets of Kenya and Tanzania. Key to the provision of these services is access to information and data on the risks that consumers represent. This makes data on consumers' voice, SMS, data, and mobile money activities incredibly important to MFS providers' ability to offer such services, and compete with each other. As these data become increasingly useful for providing these financial services, their monetary value to providers and financial inclusion potential for consumers will increase. However, current practices in many MFS markets regarding consumers' financial information restrict consumers' access to their own information, and their ability to use this information to receive competing offers in the open market. From a competition perspective, the most important elements of discussions on data sharing and data ownership in MFS

include the following:[5]

- *Information asymmetries:* The increased availability of credit information, through credit sharing, can mitigate the problem of adverse selection, whereby lenders are unable to differentiate between borrowers of different risk. Reducing adverse selection can lead to more informed credit decisions and more effective competition in the credit market, and in turn lower lending rates and a greater availability of credit (Gine & Mazer, 2016; Mullainathan, Noeth & Schoar, 2012).
- *Barriers to entry:* When credit data are not shared between lenders, it can create a barrier to new entrants, because they will lack the richness of data that incumbent providers enjoy due to being a first mover with a portfolio of customers' data already acquired that they can credit score against (Elkhoury, 2008).
- *Barriers to switching*: A lack of credit information sharing can restrict a consumer's ability to switch providers, because rival providers are unable to assess the creditworthiness of those who are not currently their customers, restricting competition. If their provider chooses not to lend to them, or to exit the market, while failing to share credit information, the consumer may lose any future ability to borrow with another provider (FCA, 2015).
- *Innovation:* The wider availability of credit data could bring about further innovation in dynamic MFS markets (Chen & Faz, 2015; Costa, Deb & Kubzansky, 2015).

Lending through MFS is likely to grow significantly in the near future, therefore data sharing will become increasingly important for all of the reasons set out above. There is a strong rationale for regulatory action in this space at the early stage of market development, including considering the extent to which such data may be a public good that consumers can use to increase their financial access and enforcement of credit reporting rules in the MFS space.

Kenya is the leading global market for credit delivered via mobile money. It is a market where competition and financial inclusion issues related to MFS data sharing are emerging that may require policy action. For example, CGAP interviews with lenders, credit bureaus and supervisory bodies revealed that Commercial Bank of Africa was not reporting M-Shwari borrowers' positive information to the Kenyan credit bureaus for digital loans from November 2012 until May 2016, despite this being required by law, thereby precluding millions of consumers from having accurate risk assessments by other lenders and tying them closely to the incumbent lender that controls their positive borrowing history (Mazer, 2016). Similarly, terms and conditions that restrict consumers' ability to share their own MFS data, such as Safaricom restricting consumers from sharing their own transactional data accessed via its online transactional record-keeping services of Selfcare for commercial purposes,[6] are present in the market, restricting competition and consumers' abilities

5 For more information, see Bank of England (2014).

6 See, for example, Safaricom (n.d.) Clause 10.2.

to switch lenders. These practices should be identified and prohibited by regulatory authorities. Finally, the lack of rules on sharing of MFS data may open up consumers to data risks as they seek to access a greater diversity of credit offers. For example, Branch, a digital lender in Kenya, in their terms and conditions for borrowers, requires potential borrowers to let it access all the information on the core Android operating system, which includes text messages such as the transaction receipts from mobile money providers.

Given the evidence of anti-competitive practices and consumer data security risks emerging in leading MFS markets, such as Kenya, improved standards for permitted and non-permitted use of consumers' transactional data in mobile and MFS should be a priority for competition, financial and telecommunications regulatory authorities, who will likely need to coordinate with one another in setting new standards for how data in the MFS space are owned, accessed and shared.

3. MFS regulatory authorities and competition

Given that the operators providing MFS fall under a number of regulators, how these regulators do, or do not, coordinate is very important for the effectiveness of the regulatory regime as a whole. Though countries differ, there are generally three different regulators operating in the MFS space, namely the competition regulator, the financial regulator (often a central bank), and the telecommunications regulator. Each of these regulators will differ in mandate, capacity, areas of focus, and crucially, jurisdiction. However, irrespective of jurisdictional questions, there are several important regulatory issues that authorities should focus on to ensure effective competition for MFS in their market.[7]

Issues of regulatory arbitrage across provider types and product lines

One of the identifiable barriers to competition is where providers in the same market are subjected to different regulations. The increasing number of electronic money and payment service provider regulations globally is an important step towards an open MFS ecosystem that is provider-neutral. In Kenya, the National Payment System Act (2011) takes "a functional (rather than an institutional) approach to regulation where banks and nonbanks—including Mobile Network Operators—are permitted to provide mobile money services" (Almazán & Sitbon, 2014). Similarly, the National Payment Systems Act (2015) in Tanzania provides for both banks and non-banks to be licensed and approved as issuers of electronic money, ensuring the regulations do not favour one provider type over another and reducing regulatory arbitrage.

However, neither of these Acts addresses issues of regulatory arbitrage that exist for non-payment products delivered via mobile money channels. For example, loan products can be offered by unregulated entities such as lending-only institutions in

7 For more on the appropriate regulatory setup, see Bourreau and Valletti (2015).

both Kenya and Tanzania, as is the case in many emerging markets. This has led to regulated and unregulated providers offering similar low-value, instant loans via MFS, but with different know-your-customer (KYC) requirements, market conduct requirements (in particular pricing transparency), account opening requirements, and differing levels of supervisory oversight.

Regulatory coordination among financial, telecommunications, and competition authorities

If different provider types, who are regulated by different regulatory authorities, compete in the same market, then the various authorities will need to work closely together. Nyaga (2014) notes:

> as is the case in most other developing regions, national regulations have not kept pace with developments in the field. It is therefore imperative that regional and national authorities identify and address the gaps and potential overlaps between their existing legislative and regulatory frameworks. (Nyaga, 2014, p. 280)

This will be important so as to avoid forum-shopping and coordinate on licensing issues, supervision, and enforcement. In Kenya, memorandums of understanding have been established by the Competition Authority of Kenya with the Central Bank of Kenya and with the Communications Authority to facilitate collaboration on competition-relevant issues. This coordination will be all the more important, following the Kenyan Parliament's passing of a law that removed the Communications Authority's ability to independently declare market dominance in the telecommunications sector, and requires them to consult with the Competition Authority before making a declaration of market dominance (Okuttah, 2016).

4. Conclusion

Promoting and ensuring effective competition in MFS markets is central to promoting financial inclusion. Effective competition helps ensure that consumers will have access to high-quality, innovative, value-for-money products and services, which, in turn, will promote increased uptake and use of MFS and creates sufficient space for new innovators to enter the market and further expand the range of products offered via mobile money channels.

Competition authorities can play an important role in ensuring the development of diverse and open MFS ecosystems. As the research from Kenya and Tanzania demonstrates, there are numerous issues in MFS, where competition authorities' jurisdiction will be highly relevant. Furthermore, as these MFS ecosystems become more diverse, bringing in a wider range of industries and product types, competition authorities' market-wide jurisdiction can facilitate a fair application or rules and requirements on fair play across banks, MNOs, and other provider types. This research

has identified several priority action areas for competition authorities in two leading MFS markets and we would advise competition authorities in other fast-growing MFS markets to conduct a similar initial analysis, to identify barriers to competition that may be hindering the development of an open, diverse, and competitive sector, that will continue to expand the horizons of financial inclusion.

Financial sector regulators can also play a role in promoting effective competition in MFS markets. They can ensure the transparency of MFS products, for example through requiring effective interest rates to be stated alongside savings and lending products. They can also promote open data, such as through mandating that both positive and negative information be shared with credit reference agencies. Financial regulators may also be well placed to ensure that consumers can easily switch MFS providers, should they wish to do so.

Finally, there is an obvious role for telecoms regulators in promoting effective competition. The current access channel of choice (USSD) sits on the telecommunications rails and therefore commonly sits in the telecoms regulator's domain. Given that MFS products are currently tied to traditional telco products, the telecoms regulator may also have a role to play in ensuring that consumers can easily switch MFS providers.

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