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COMPETITION & DFS WORKING PAPERS

01 **Modularization of DFS and Competition Issues**

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1. Introduction

Traditionally, financial services have been vertically integrated. The main providers (e.g., banks and insurance providers) each controlled the entire value chain for a specific product, from back-office functions to the final customer relationship.

Today, financial services are increasingly “modularized”,¹ both from a demand perspective (as new technology helps users compare services from multiple product providers) and from a supply perspective (as third-party suppliers participate in discrete parts of the value chain, such as back-office processes and risk capital). The main forces towards modularization are the rise of digital e-commerce superplatforms² – which allow users to easily compare and purchase products from many providers – and the ascent of fintech firms—which leverage technology to provide targeted financial services and specialized expertise.

Digital financial services (DFS) in emerging markets embody this trend toward modularization: multiple players are involved (see Annex 2), technology is used at various levels, and mobile-enabled financial services (which make up the majority of DFS in emerging markets) often include partnerships³ between a financial institution and a mobile network operator (MNO) or another non-bank entity.

Modularization leads to specific competition issues and regulatory distortions. The intrinsic modular nature of DFS allows us to analyze competition in the industry via individual sections of the of the mobile payment and mobile credit value chains.^{4, 5} To this end, we have broken the mobile payments and mobile credit value chains into individual sections (as per the process flowchart in Annex 1), to identify the relevant stakeholders (both from a service provider and customer perspective) and the potential competition issues and regulatory distortions for each section. We grouped

¹ Oliver Wyman. 2016. [Modular Financial Services, the New Shape of the Industry](#).

² See e.g. David Porteous and Olga Morawczynski. 2017. [Inclusive Digital Ecosystems of the Future](#).

³ The partnership can take various forms, from one entity simply providing certain services to the main service provider (such as mobile communication channel access or safe storage of e-money float) to a full-fledged joint venture between the two parties.

⁴ Relevant market definition is the cornerstone of any such analysis, as it dictates the analytical framework. The relevant market is used to determine market dominance, which is intrinsic to a finding of abuse of dominance or Significant Market Power (SMP).

⁵ The modularization of DFS requires a specific approach to relevant market definition because the individual market segments of the value chain may qualify as relevant product markets alongside the final retail markets. Relevant market definition is usually defined in regard to the dynamics of a specific product market in a specific geography; as this paper looks at competition aspects of DFS on an abstract level, we will use the market segments of the value chain as our guiding framework.

the 28 sections of the value chain into 13 primary market segments (see Annex 2) and further grouped those market segments with similar characteristics into eight different focus areas.

This paper considers each of these eight areas in turn, identifying issues and distortions using past evidence from DFS markets and what we know about the dynamics of each market segment based on the competition infringements that have been identified in mature competition law frameworks. The eight sections are:

Mobile Payments

1. E-money issuance and provision of e-wallet
2. Mobile communication channel
3. Account-to-account interoperability
4. Cash-in/cash-out services
5. Mobile person-to-person payments
6. Mobile merchant, bill and loan payments

Mobile credit

1. Granting mobile credit
2. Using data to determine creditworthiness

We start by outlining competition issues in general terms, before considering each of the value chain segments in more depth.

2. Competition issues⁶

The majority of competition issues in mobile payments and mobile credit can be characterized as abuses of dominant position or significant market power (SMP). Classical competition policy imposes special obligations on firms that have dominant positions or SMP due to their disproportionate market size or influence. Furthermore, certain commercial behavior by such firms is deemed as abusive, even though the equivalent behavior would be permitted by non-dominant firms. Such behaviors include: (i) excessive or discriminatory pricing, (ii) unfair trading terms, (iii) refusal to supply or deal, (iv) tying of products and services, (v) loyalty rebates, (vi) predatory pricing, and (vii) margin squeeze.

To determine if a firm is dominant in a particular market, regulators consider the market shares of the entity and its competitors, as well as barriers to entry (e.g., intellectual property, regulatory, monopoly, licensing), economic advantages (e.g., economies of scale), cost and network effects, and countervailing buying power⁷. For example, under EU law, dominance is assumed if the entity has more than 50% of market share, though such presumptions vary between jurisdictions. The determination of dominance by the regulator is critical, but there must be an abuse for an entity to have engaged in anticompetitive conduct.

Beyond dominant positions issues, there are also areas of potential horizontal cartel activity (i.e., the collusion of firms on the same level of the value chain), and some vertical restrictions, which may or may not be deemed anti-competitive depending on the legal regime and the market power in question.⁸ Vertical restrictions can be imposed on contractual vertical relationships in the value chain through agent exclusivity, resale price maintenance (i.e., manufacturers or distributors forcing all retailers to offer a good or service at an identical fixed price), and/or market partitioning (i.e., a manufacturer gives exclusivity to certain distributors/retailers in

⁶ The information concerning classical competition policy in this section is taken from Ariadne Plaitakis, 2017. Annex A of [ITU-T Focus Group Digital Financial Services: Competition aspects of digital financial services](#).

⁷ Countervailing buyer power arises when competitive constraints can be exerted by customers on a dominant firm due to sufficient bargaining strength; such power may result from a customer's size or its commercial significance for a dominant firm. See Richard Whish and David Bailey. 2018. [Competition Law](#).

⁸ These restrictions will only have an effect on competition when the entity imposing restraint has some market power, although this does not have to be a dominant firm/ one with SMP. Even if the restrictions have an effect on competition, whether or not there is an actual offence is very dependent on national legislation.

specific geographic areas or vis-a-vis certain types of users, thereby effectively splitting the market among distributors/retailers).

Finally, licensing regimes and government regulations, which are usually justified by public policy, can have both positive and negative effects on the level of competition, so regulatory interventions must be analyzed on a case-by-case basis to determine whether they constitute a negative regulatory distortion. Regulatory interventions such as licensing regimes, government regulations, and regulatory mandates in mobile payments and mobile credit can affect the level of competition in various levels of the value chain since they explicitly outline the contours of the relevant markets and can dictate which players can compete and in what ways. Regulatory interventions and resulting distortions are not surprising given the highly-regulated nature of both the financial services and telecommunications industries, which DFS straddles.

3. Mobile payments⁹

In the following section, we detail the potential competition issues and regulatory distortions in the different market segments or levels of the mobile payments value chain. Since mobile payments serve as the foundation for all other DFS uses cases, including mobile credit, the issues identified in this section may also be relevant for other DFS.

a. E-money issuance and provision of e-wallet

In this retail market segment, the main service providers are e-money issuers -- which can include both traditional financial institutions and others licensed under special purpose vehicles, such as MNOs and other independent issuers -- and the users are individual e-money users.

Theoretically, e-money issuers could collude to segment users between them or artificially fix the contractual terms of the customer relationship. Equally, this market may be susceptible to abuse of dominant position if a dominant e-money issuer unilaterally imposes unfair contract terms or refuses to provide services to specific types of e-money users.¹⁰ Although there are jurisdictions where e-money issuers can be considered dominant (e.g., Kenya, Bangladesh, Zimbabwe), we are not aware of any specific complaints or investigations of abusive behavior of either type.

In contrast, this market segment features significant possibilities for regulatory distortion since licenses/authorizations determine the main players in the value chain. There are four main licensing models for e-money issuance:¹¹

- (i) bank-led,¹² in which e-money is provided only by licensed commercial banks or their subsidiaries;
- (ii) narrow bank-led,¹³ in which e-money is provided by banks, including banks with lower prudential requirements;

⁹ Although in the Market Segment Matrix (Annex 2) we identified the receipt in an e-wallet of P2P transfer, salary, or government subsidy from a mobile money sender or bank sender as a relevant market segment of the mobile payment value chain, as the receipt of funds from a transaction is not a relevant market/activity (given it is just the consequence of an actual payment transaction), we will not discuss this market segment in the text of this brief.

¹⁰ It should be noted that the pricing of specific end-services such as P2P and bill payment will be dealt with in the sections relating to these services.

¹¹ BFA methodology.

¹² For example, in Mongolia and South Africa.

¹³ For example, India and Pakistan.

- (iii) bank-based but nonbank-led,¹⁴ in which nonbanks are permitted to provide e-money services in partnership with a bank that holds the license; and
- (iv) nonbank-led,¹⁵ in which both banks and nonbanks may be licensed or authorized to provide e-money services.

The first three approaches are examples of institution-focused regulation, which authorizes issuance based on the type of entity, while the fourth approach is an example of functional-focused regulation, which authorizes a particular type of activity irrespective of the entities involved.

From a competition perspective, an institution-focused licensing regime can either clearly prohibit certain entities (i.e., nonbanks) from being primary market actors or obligate certain entities (i.e., MNOs) to partner with other actors (i.e., banks), thus prohibiting them from acting independently. In both cases, the licensing regime limits the scope of potential competitors in the market and increases the barriers to entry. As argued by the GSMA, referencing the Bank for International Settlements:

*"Regulating solely by type of entity may reduce the effectiveness of regulations and create market distortion, and any regulation intervention should aim to create a level playing field between equivalent services rather than between different providers."*¹⁶

A functional-focused licensing regime, on the other hand, expands the universe of potential market competitors as long as the authorization criteria are non-discriminatory.

It should also be noted that regulations that apply the same requirements to all types of authorized providers regardless of their risk profile can result in de facto market barriers for certain providers, such as capital requirements that do not take into account risk profiles (e.g., Malaysia's e-money framework establishes an 8% ongoing capital adequacy ratio (CAR) for e-money despite the much lower prudential risk vis-à-vis financial intermediation.)¹⁷ These can increase the compliance burden on certain players, and thus augment their barriers to entry. Lastly, other regulations, such as taxes, can put e-money at a disadvantage relative to other payment channels, thereby

¹⁴ For example, Uganda.

¹⁵ For example, Kenya, Tanzania and Ghana.

¹⁶ di Castri, Simone. 2013. [GSMA. Mobile Money: Enabling Regulatory Solutions.](#)

¹⁷ Bank Negara Malaysia. 2016. [Guidelines on Electronic Money.](#)

affecting competition between two payment channels and reinforcing that they are not substitutable from a user's perspective.¹⁸

b. Mobile communication channel

In the wholesale market segment of mobile communications, the main service providers are MNOs as well as other mobile communication providers – such as mobile virtual network operators¹⁹ – and users are e-money issuers, including banks and other financial institutions, licensed or authorized e-money subsidiaries of MNOs,²⁰ and third-party e-money issuers. In DFS in most emerging markets, this segment mainly refers to access by e-money issuers to USSD and STK gateways and short codes, since feature phones are currently the main instruments for mobile payment. However, it also includes access of e-money issuers to mobile broadband and other technology required for smartphones to have a data connection.²¹

In theory, given the highly concentrated nature of the telecommunications market in most DFS countries, an oligopoly of providers could collude to fix prices and other access terms to this wholesale input.²² However, in practice, the main competition issues revolve around the unilateral abuse by one or two dominant MNOs of their market position.²³ Such providers could abuse their dominant position through:

- (i) excessive pricing for access or margin squeeze of the e-money issuer;
- (ii) unfair contract terms for access, including payment terms;
- (iii) quality issues including delayed or dropped communications, or lack of quality of service provisions in access contract;
- (iv) refusal to supply access; or

¹⁸ For example, the payment of micro-insurance via mobile money airtime is subject to a communication service tax in Ghana, while the payment of micro-insurance via other channels is not.

¹⁹ Mobile virtual network operators (MVNOs) are wireless communication service providers that do not own the wireless network infrastructure over which they provide services to their customers. MVNOs enter into a supply contract with an MNO to obtain bulk access to network services at wholesale rates, then they set retail prices independently. Allan Rasmussen. 2007. "[MVNO Definition](#)".

²⁰ The issues analyzed in this section do not apply to MNOs that offer mobile payment who are entirely vertically integrated.

²¹ For a more detailed discussion of these various technologies, and their specific competition issues, please see ITU-T Focus Group Digital Financial Services. 2017. [Competition Aspects of Digital Financial Services](#).

²² Price fixing can also happen transparently, such as through an industry-proposed pricing model for USSD, as was the case recently in [Bangladesh](#).

²³ This is often because, in many of these countries, there was only one state-owned telecom operator prior to liberalization in the 1990s, and this operator managed to retain significant market share due to high entry costs for new entrants such as capital expenditure for infrastructure.

- (v) forced bundling of access with other services (i.e., both USSD and mobile broadband).

For instance, a recent study conducted for the Uganda Communications Commission²⁴ found that MTN and Airtel had abused their joint dominant position (aka duopoly) by imposing excessive pricing for wholesale USSD and SMS and other exclusionary behavior (delayed activation of short codes and payment, the lack of zero-rating²⁵, and enforcement of blanket opt-outs of third-party services²⁶), which together amounted to a constructive refusal to supply.

Regulatory interventions such as a price cap for USSD access, a national pricing policy for access,²⁷ or mandates for non-discriminatory access²⁸ are often a reaction to the above abuses, though they themselves can create regulatory distortions. Specifically, if the regulatory interventions impose provision at commercially unviable levels for MNOs, they may discourage MNOs from offering these services at all, or from investing in the necessary infrastructure in the long term.

c. Account-to-account interoperability

This market segment focuses on various mechanisms for rendering mobile payments interoperable both (i) between e- money accounts and (ii) between e-money accounts and bank accounts. As described by CGAP,²⁹ there are three types of interoperability arrangements: (i) multilateral arrangements (agreements between three or more DFS providers), (ii) bilateral arrangements (agreements between two DFS providers), and

²⁴ Macmillan Keck and Acacia Economics. 2017. [Public Consultation Document: Support to the Uganda Communications Commission on USSD and SMS Services](#).

²⁵ Zero-rating is a USSD billing model where retail customers are not charged for the USSD sessions that enable any e-money services provided by MNOs, but rather the third-party mobile financial service providers are charged. Without zero-rating, the customers of third-party mobile financial service providers are charged for USSD sessions, potentially placing these third-party providers at a competitive disadvantage. Zero-rating therefore eliminates a potential barrier to adoption of or switching to these third-party services.

²⁶ With blanket opt-outs, if retail customers wish to opt out of third-party services, they are required to opt out of all third-party services. In contrast, with service-specific opt-outs, retail customers have the option of only opting out of a particular third-party service rather than all third-party services. The over-inclusive nature of blanket opt-outs prevents retail customers from receiving SMS messages relating to third party services that the customer wishes to receive, which creates the perception of poor quality with consumers.

²⁷ As is being expected to be implemented in [Bangladesh](#).

²⁸ As per Colombia's new [electronic money regulation](#).

²⁹ Pablo Garcia Arabehty, Gregory Chen, William Cook and Claudia MacKay. 2016. CGAP. [Digital Finance Interoperability & Financial Inclusion: A 20-Country Scan](#).

(iii) third-party solutions (agreements between a DFS provider and a solution provider such as a switch or aggregator).

Service providers in multilateral and bilateral agreements include financial institutions and other licensed e-money issuers (both MNO subsidiaries and independent e-money providers) that are on the receiving end of payment instructions. These providers usually determine how they receive fund transfers if there is no mandated infrastructure / third-party solution. In regard to switches and third-party solutions, the service provider is the entity that owns/controls the switch/third-party solution (i.e., aggregator/processor). In all cases, since this is a wholesale market segment, the users are the sending or initiating financial institutions and the e-money providers, although the ultimate beneficiary is, of course, the e-money user.

In all arrangements (except for government-owned switches),³⁰ abuse of dominant position by the service provider (either a single corporate entity or a group of private shareholders acting in unison in a payments corporation) is the main competition issue.³¹ Problematic behaviors include: (i) excessive pricing for interconnection, (ii) refusal to allow access, (iii) other unfair terms concerning access, and (iv) forced bundling with other services to provide access.

In all interoperability arrangements except industry-owned switches, if a dominant entity with significant market power exists, it takes the form of a single firm (e.g., Safaricom in Kenya).³² In the context of industry-owned switches, however, the group of shareholders behind the switch, although legally separate entities, can also be imputed to be acting as a single entity. For example, in India, the National Payments Corporation of India (NPCI) is a non-profit company with 56 bank shareholders that operates the Immediate Payments Service, the Aadhaar Enabled Payments Service, and the Unified Payments Interface. A recent report by CUTS International found that the bank shareholders were abusing their power: “the control which traditional universal banks exercise on payments systems through their shareholding in NPCI is being unfairly exercised to exclude the access of payment systems to nonbanks.”³³

³⁰ For example, Jordan’s national payment switch [JoMoPay](#) is owned by the Central Bank of Jordan. Government-owned switches may result in regulatory distortions, as set out in Annex 2.

³¹ Abuse of dominant position is not technically possible if a switch has been mandated by the state to create interoperability, as this is a regulatory intervention. However, this can be considered to create a regulatory distortion.

³² Michira, Moses. 2015. “[Safaricom Hits Banks With New M-PESA Fees](#)”.

³³ CUTS International. 2016. [Competition and Regulatory Concerns in Payment Systems Ecosystem in India: Brief Note Based on Initial Literature Review](#).

Multilateral arrangements among the most important service providers in a market can also result in collusion to the detriment of smaller entities that must accept the terms dictated to them. Bilateral interoperability, in particular, can erect a significant barrier to entry for new entrants, which exacerbates the network effects that DFS exhibits.

From a regulatory perspective, both multilateral and bilateral interoperability may be mandated by the regulator. This may cause regulatory distortion if the implementation of the mandate goes against commercial considerations, e.g., if it dictates operating terms that are non-commercial or if there is a perceived conflict of interest in the resulting ownership structure. For example, Rwanda mandated multilateral interoperability in 2014, but when Millicom International SA, which owns Tigo Rwanda, acquired an 88% stake in RSwitch in June 2014, MTN Rwanda, the market leader, decided not to connect to RSwitch because it was majority-owned by a competitor's parent company.³⁴

There are similar competition concerns and regulatory distortions in the context of settling and clearing financial obligations between the sending and receiving financial institutions involved in specific mobile payments. If the settlement bank is privately owned, then certain behavior by the shareholders could amount to an abuse of their combined position, while in the context of a publicly owned settlement bank, the rules of the settlement bank may limit usage to specific entities or apply discriminatory rules (see Annex 2 for more details).

d. Cash in/cash out services

Banking agents and e-money agents are the main service providers of cash in/cash out services, while the customer is a consumer (either a e-money or retail bank customer).

The main competition issues may arise in the restrictions that e-money issuers impose on these agents. Often known as "vertical restraints", these are restrictions that independent agents are required to accept in their agency contracts with the e-money issuer, whether it is an MNO subsidiary, an independent e-money provider, or a bank. Such restrictions can include agent exclusivity as well as other restrictions in regard to

³⁴ Roland Amoah, Rajesh Bansal, Aneth Kasebele and Ariadne Plaitakis. 2017. BTCA. [Ghana: Building an Inclusive Digital Payments Ecosystem: The Way Forward](#). Page 74.

the agent's geographical placement and its usage of branding and other communications material.

Even if the entity does not have a dominant position per se, such vertical restrictions can create barriers to entry for new entrants. Whether such restrictions are legally considered to be anticompetitive behavior depends on the relevant national legislation. As noted above, these types of vertical restrictions are commonly found to be pro-competitive in certain jurisdictions (e.g., United States) due to their positive impact on investment incentives,³⁵ while in other jurisdictions such as the European Union, they are considered to have negative effects if imposed by entities with some degree of market power and the agreement contributes to the creation, maintenance or strengthening of that market power.³⁶

There has been significant discussion on the regulation of agents in the context of DFS and the consequences of agent exclusivity on financial inclusion.³⁷ In the earlier stages of DFS market development, agent exclusivity agreements were common. Over time, however, regulatory authorities in many countries have outlawed such agreements. For example, in response to competitor complaints, in June 2014, the Competition Authority of Kenya (CAK) ordered Safaricom to remove all restrictive clauses in its agency contracts with M-PESA agents.³⁸ This has also been an area where financial authorities have been proactive in both mandating agent non-exclusivity (e.g., Uganda,³⁹ Ghana, and Tanzania) or, occasionally, mandating agent exclusivity (e.g., India⁴⁰).

Licensing regimes for agents may also create regulatory distortions. These regimes often (i) dictate who is eligible to be an e-money and/or banking agent; (ii) distinguish between the types of the services each agent can provide; and (iii) may place different compliance obligations on different types of agents, even if they provide the same services. For example, in Bangladesh there are separate guidelines for mobile financial service (MFS) agents and banking agents.⁴¹ Although many of the provisions are

³⁵ FTC. 1997. [Vertical restraints and vertical aspects of mergers](#).

³⁶ [Guidelines on the application of Article 101\(2\) TFEU \(formerly Article 81\(2\) TEC\)](#). 2004.

³⁷ See, for example, Michael Tarazi and Kabir Kumar's blog on [Branchless Banking Interoperability and Agent Exclusivity](#) (CGAP, 2012) and the 2011 CGAP Focus Note on [Regulating Banking Agents](#).

³⁸ Ochieng, Lilian, 2014. "[CAK Orders Safaricom to Open Up M-PESA](#)". Daily Nation.

³⁹ See section 7(3)(b)(i) of the [Bank of Uganda Mobile Money Guidelines 2013](#).

⁴⁰ See section 3 of [RBI Guidelines for Engaging of Business Correspondents 2010](#).

⁴¹ [The Mobile Financial Services Guidelines 2011](#) and the [Guidelines on Agent Banking for the Banks 2013](#).

similar, there is a requirement that MFS agents be part of a country-wide network, which does not apply to banking agents.⁴² Similarly, in Kenya prior to the issuance of the National Payment Systems Act⁴³ in August 2014, bank agents could not be exclusive, while there was no such restriction for e-money agents.⁴⁴ In Uganda, e-money providers have been offering services through agents since the introduction of e-money by the Bank of Uganda in 2009, while agent banking regulations,⁴⁵ which authorized the use of agents by banks, were only issued in July 2017. Such regimes may also result in asymmetric compliance requirements for agent approval, Know Your Customer processes, insurance, capital requirements, cash handling processes, and physical security requirements.

These distortions create barriers to entry and an uneven playing field for the delivery of similar financial services. In both cases, this can limit the services that e-money providers can provide via agents vis à vis banks (and vice-versa, in certain contexts such as Uganda), ultimately reducing competition.

e. Mobile person-to-person payments

One of the main use cases for mobile payments is mobile person-to-person (P2P) payments, which we define as the transfer of funds from an e-wallet to another e-wallet or to a bank account. The service providers are the sending financial institutions and e-money providers, while the customer is the e-money sender.

If the service provider has a dominant position, this can result in abusive behavior such as excessively high prices for transactions, unfair contract terms for executing transactions, forced bundling of this service with other services from the provider, and/or cross-subsidization of the costs of transactions with fees from other types of products, to the detriment of competitors in this market segment.

We are not aware of any official complaints or investigations into anti-competitive behavior in P2P markets in DFS countries. This may be due to the lack of transparency in pricing and other contract terms, as was described in a recent CGAP report on Kenya

⁴² Ariadne Plaitakis, Thomas Kirk Wills and Bryan Church. 2016. ADB. [Digital Payment Systems, Mobile Money Services and Agent Banking: Bangladesh, Nepal and Sri Lanka](#). Page 68.

⁴³ [National Payment Systems Act 2014](#).

⁴⁴ [Guideline on Agent Banking – CBK/PG/15.2010](#).

⁴⁵ [Financial Institutions \(Agent Banking\) Regulations, 2017 \[No.39 of 2017\]](#).

and Tanzania.⁴⁶ It is worth noting that the CAK has tried to address the lack of transparency in Kenya by ordering banks and e-money providers to ensure that all fees related to mobile transactions were disclosed via the mobile channel in advance of each transaction by end of 2016.⁴⁷ Several larger providers received an extension until June 2017,⁴⁸ but in practice, some providers were still noncompliant on some of their channels as of February 2018.

Cartel activity also may be a problem in this market segment. For example, competitors could collude to fix prices for transactions or even allocate among themselves the types of users/geographic segments each will serve, effectively partitioning the market. The prices for P2P transactions charged since 2015 by the duopoly of MTN and Airtel in Uganda (which a Uganda Communications Commission report⁴⁹ found abused their dominant position in USSD by imposing excessive pricing for wholesale USSD and SMS) may be evidence of tacit collusion.⁵⁰

Lastly, the potential regulatory distortions created by the licensing regimes for e-money issuers can limit potential competitors that can provide this service, thereby decreasing overall competition in this segment. Whether such a regulatory intervention is nonetheless justified on public policy grounds needs to be determined on a case-by-case basis.

f. Mobile merchant, bill and loan payment

These types of retail payments – i.e., the use of e-money to pay a merchant, a bill and/or a loan⁵¹ – are less common than P2P, although they are likely to strengthen the case for adoption of mobile payments and thus DFS. Each type of payment is a separate market segment, but we will treat them together in this section due to their similarities from a competition perspective.

The service providers can be either the sending or receiving financial institutions and e-money providers (depending upon whether it is a push or a pull transaction), while

⁴⁶Rafe Mazer and Philip Rowan. CGAP. 2016. [Competition in Mobile Financial Services: Lessons from Kenya and Tanzania.](#)

⁴⁷ Mugambi Mutegi. 2016. ["Competition watchdog orders mobile cash firms to reveal fees."](#)

⁴⁸ Mugambi Mutegi. 2016. ["Big banks, telcos slow to heed order on fees disclosures."](#)

⁴⁹ Macmillan Keck and Acacia Economics. 2017. [Public Consultation Document: Support to the Uganda Communications Commission on USSD and SMS Services.](#)

⁵⁰ Confidential document prepared by CCRED and Macmillan Keck in May 2016.

⁵¹ Although used for merchant payments, credit and debit card payments are not within the scope of this brief. Issues concerning interchange fees will be dealt with in a separate research brief.

the users include the e-money customer, and in regard to merchant and bill payment, the merchants and bill payees as well (See Figure 3.1).

Figure 3.1. Mobile Merchant, Bill and Loan Payment



As with the issues raised with mobile P2P, potential competition issues include abuse of dominant position by the service provider (excessive pricing, unfair contract terms, cross-subsidization, forced bundling, and/or refusal to supply the service, either to the merchant or the retail customer) as well as collusion (fixing of pricing, segmentation of users). For example, Vodafone Idea, India’s largest MNO by subscriber base,⁵² has

⁵² Telecom Regulatory Authority of India. [“Highlights of Telecom Subscription Data as of 31st January 2019”](#). 2019

reportedly⁵³ required users of its My Vodafone app (which allows bill payments through multiple instruments, including the Vodafone-owned M-Pesa service) to open an M-Pesa wallet. If Vodafone were a dominant player in the retail mobile telecommunications market in India, such forced bundling would allow it to leverage its position in the mobile telecoms market to create a competitive advantage in the e-money market and would be considered anti-competitive behavior.

A lack of transparency in the pricing of these services has also been observed in the past in Kenya.⁵⁴ This opacity makes it difficult to conclude if there are any issues with consumer pricing and abuse of dominance. That said, in August 2015, the CAK tried to tackle this lack of transparency by requiring Safaricom to disclose all point-of-sale charges at merchants that charge consumers a surcharge when using the Lipa na M-Pesa merchant payment service (since this surcharge was applied at the discretion of the individual merchant).⁵⁵

Lastly, as stated in the mobile P2P section, licensing regimes for e-money issuance can result in potential regulatory distortions by limiting the potential competitors that can provide these services, thereby decreasing overall competition in the segment (though such a regulatory intervention may nonetheless be justified on public policy grounds).

⁵³ Shashidhar KJ. ["My Vodafone App is Forcing Customers to Create An M-Pesa Wallet"](#). 2017.

⁵⁴ This is due to the lack of disclosure of both (i) the charges paid by the third-party aggregators and financial service providers to the MNOs for access to the MNOs' USSD infrastructure as well as (ii) the costs they subsequently pass on to consumers for these consumer-to-business payments. See Rafe Mazer and Philip Rowan. [Competition in Mobile Financial Services: Lessons from Kenya and Tanzania](#). 2016.

⁵⁵ Mazer, Rafe. [Fixing Hidden Charges in Lipa na M-Pesa](#). 2015. CGAP.

4. Mobile credit

Although any mobile credit product includes mobile payments (both to receive a loan and to repay that loan), this use case has several unique characteristics, including the use of data in assessing creditworthiness and the specific licensing regimes for credit products, which are addressed below.

a. Granting mobile credit

Depending on the regulatory regime, mobile credit is offered to retail users either by licensed lenders, including banks and other non-bank financial institutions,⁵⁶ or by lenders that are unregulated (or the licensing regimes are not enforced)⁵⁷. In the former case, the loan may be offered to the e-money customer through a partnership between a e-money provider and a licensed lender,⁵⁸ but ultimately the licensed lender is the legally responsible party that enters into the loan agreement with the customer. Thus, when there exists a licensing regime for loans, this can create an a priori regulatory distortion in the market segment, even if there may be a good public policy justification behind such distortion. As with the traditional lending industry, collusion may occur concerning interest rates and contract terms (as has been under investigation in the EU⁵⁹). Dominant service providers can dictate terms to users (e.g., excessively high interest rates, unfair contract terms, forced bundling) and use their market power in a related market segment to compete unfairly (i.e., offering loans at very low interest rates by cross-subsidizing from other products where they have a dominant position). As mobile credit is in its infancy in most DFS markets, we have not yet observed any competition complaints at this level of the value chain.

b. Using data to determine creditworthiness⁶⁰

Mobile credit lenders require two key inputs to provide this service: (i) a mobile communication link, as discussed above, and (ii) data to determine the creditworthiness of potential borrowers. The mobile communication link is usually procured wholesale from MNOs, while the data may be proprietary to the lender (e.g., alternative credit data). For first-time borrowers, lenders have to rely on credit bureau searches and, if they have access, alternative credit data such as e-money, telecommunications, and social media data.

⁵⁶ As is the case in Ghana.

⁵⁷ As is the case in Kenya and Tanzania.

⁵⁸ For example, Jumo, AFB and MTN's offering of [QwikLoan](#) in Ghana.

⁵⁹ See [Syndicated Lending Under Scrutiny by the European Commission](#). 2017. Lexology Blog.

⁶⁰ Access to data for the provision of other over-the-top (OTT) services is outside the scope of this brief, but relevant competition issues have been highlighted in Annex 2.

Two main issues can arise with access to this credit data. First, dominant players in one market segment (such as mobile telecommunications) can leverage the customer data they possess in that segment to gain an unfair advantage in the mobile credit market.⁶¹ Second, in breach of reporting obligations, lenders may fail to provide complete data sets to the credit bureaus (i.e., they may only report negative data), or may selectively provide only certain data to preferred parties. For example, after receiving complaints that lenders were only providing negative reports to the credit bureaus, the CAK began a market inquiry in 2016 to:

“Assess the level of equal compliance with Credit Bureau reporting by digital credit providers and if they report both positive and negative borrower data as required by law and if there exist disparate treatments that gives them anti-competitive advantage and inhibits consumers’ ability to take advantage of their own data for financial access.”⁶²

Regulation often mandates that certain customer data be provided to the credit bureaus (which is the case in Kenya⁶³), though some regulation either makes it easy to avoid providing positive credit data (as in Ghana,⁶⁴ where positive credit information can only be provided if the customer consents, and lenders can easily neglect requesting for consent) or only mandates the provision of negative data (e.g., Hong Kong).⁶⁵

Beyond mandating positive credit data reporting and strengthening enforcement of credit bureau reporting obligations, regulators could also consider mandating access to all necessary customer data through a data-sharing scheme (as per the EU Second Payment Systems Directive⁶⁶) or some sort of data portability (as per the EU General

⁶¹ There have been [examples](#) in the EU where a dominant operator in one regulated industry (such as regulated gas) uses its customer data to its advantage in a complementary, liberalized market (such as [market-based gas contracts](#)).

⁶² Competition Authority of Kenya. 2016. [Gazette Notice No. 678, Proposed Market Inquiry and Sector Study on the Kenya Banking Sector -Phase II](#).

⁶³ See [Credit Reference Bureau Regulations 2013](#).

⁶⁴ See [Credit Reporting Act, 2007 \(Act 726\)](#).

⁶⁵ According to an IFC report, in 2006 32% of consumer credit bureaus provided only negative information, while 68% provided both positive and negative information. See [Credit Bureau Knowledge Guide](#). 2006. IFC.

⁶⁶ See [Directive 2015/2366/EU of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation \(EU\) No 1093/2010, and repealing Directive 2007/.](#)

Data Protection Regulation⁶⁷). Although both regulatory interventions may ensure fairer access to data and thus lower barriers to entry into the mobile credit segment – as well as other over-the-top (OTT) segments – these interventions can also create specific regulatory distortions (e.g., disincentivizing data collectors in the long term, as new entrants may free-ride on their investment to a certain extent), which should be considered even if the result is apparently pro-consumer in the short term.

⁶⁷ See [Regulation \(EU\) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.](#)

5. Recommendations

National laws and regulations determine whether specific behaviors are anticompetitive, and regulators decide whether intervention is required. Further, the dynamics of a particular market context and its regulatory framework determine whether certain regulatory interventions result in negative regulatory distortions. Although this report has identified potential competition issues and regulatory distortions in mobile payments and mobile credit from past evidence in DFS markets and mature markets, to fully understand the complexity of these issues and develop actionable recommendations a country-by-country survey of competition issues in DFS should be undertaken.

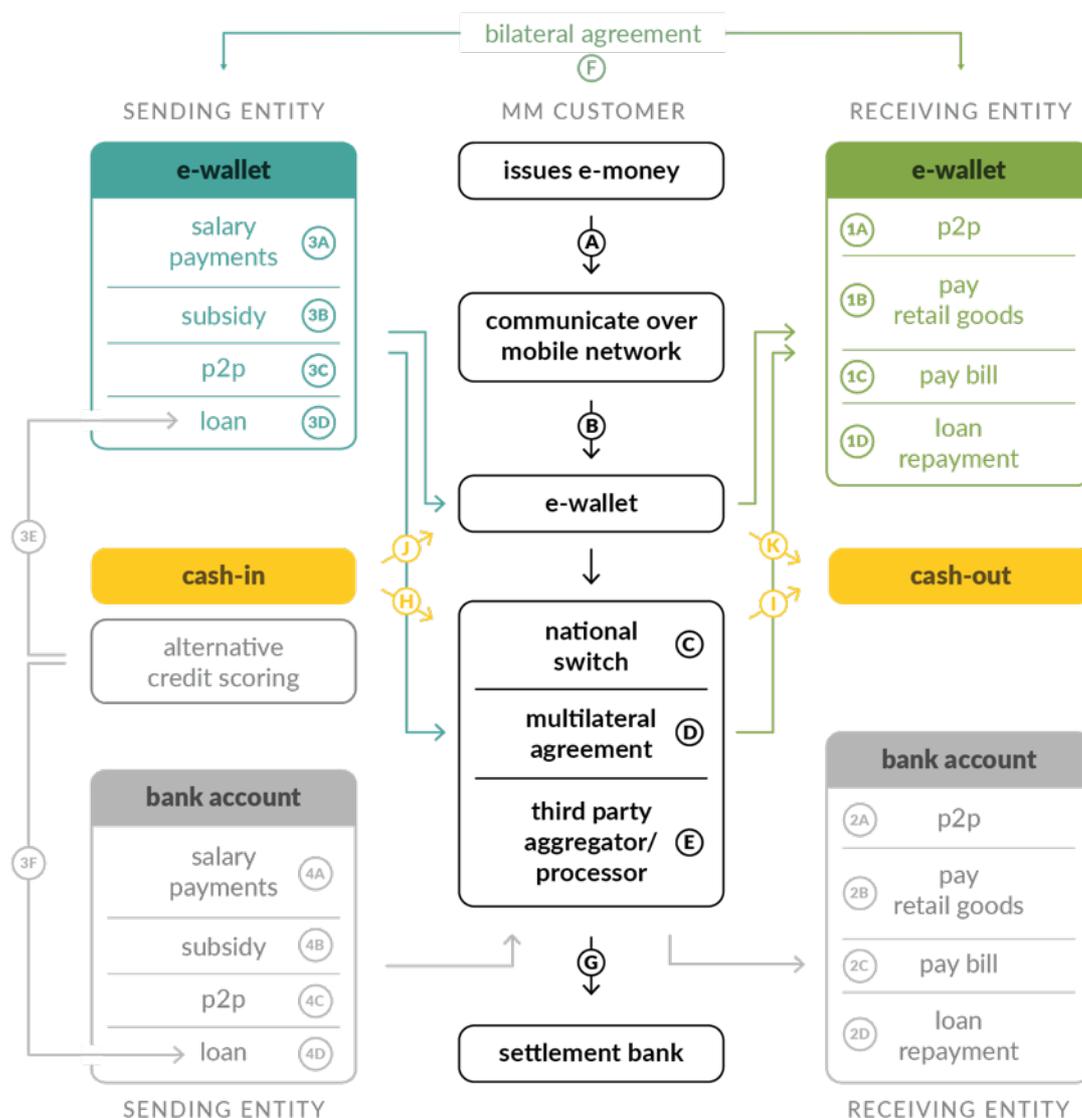
To facilitate this, the insights articulated in this brief can be used to develop a straw-man country questionnaire, building on the competition-related questions in the CGAP Branchless Banking Diagnostic Template, which was devised in 2010.⁶⁸

In addition, given the particular importance of abuse of dominant positions in DFS, a regulator's knowledge of which entities could be characterized as dominant is critical to its ability to effectively monitor those markets. Traditionally, dominance is determined either during a market investigation (often triggered by complaints) or through commissioned market studies, both of which require significant resources and time and thus are not an option on an ongoing basis.

Adoption of regulatory technology (RegTech) solutions could allow for regular reporting and analysis of market shares in specific predetermined markets, using data that regulated institutions are already required to provide to regulators for compliance purposes. Although market shares are not solely determinative of dominance (and the specific relevant markets as well as their contours may change over time), regular reporting of market shares can be a useful risk indicator for regulators and help prioritize allocation of resources in the area of competition law enforcement and market conduct supervision.

⁶⁸ See CGAP. [Branchless Banking Diagnostic Template](#). 2010

6. Annex 1: Mobile Payments and Credit Value Chain



In the above process flow chart, the e-money customer is in the center of the value chain. He/she makes payments to entities/individuals with e-money accounts (as represented by sending entity/ e-wallet) and/ or entities/individuals with bank accounts (as represented by sending entity/bank account) and receives payments from entities/ individuals with e-money accounts (as represented by receiving entity/ e-wallet) and/or entities/ individuals with bank accounts (as represented by receiving entity/bank account).

We have broken the mobile payments and mobile credit value chains into 28 individual sections of the value chain that are identified by letters as follows, and which correspond to the specific segments in the process flow chart:

	Activity	Value chain category	Section of mobile money value chain
1	Issuing e-money and provision of e-wallet	Retail	A
2	Mobile communication link	Wholesale	B
3	Interoperability of payment instruction using a switch	Wholesale	C
4	Interoperability of payment instruction using a multilateral agreement	Wholesale	D
5	Interoperability of payment instruction using a third-party aggregator/ processor	Wholesale	E
6	Interoperability of payment instruction using a bilateral agreement	Wholesale	F
7	Settlement of payment instruction	Wholesale	G
8	Cash-in (via switch/aggregator or through closed-loop solution)	Retail	H/J
9	Cash- out (via switch/aggregator or through closed-loop solution)	Retail	I/K
10	P2P transfer from e-money customer to another e-wallet	Retail	1A
11	P2P transfer from e-money customer to bank account	Retail	2A
12	P2P transfer from e-wallet to e-money customer	Retail	3A
13	P2P transfer from bank account to e-money customer	Retail	4C
14	Payment by e-money to merchant with a e-money account	Retail	1B
15	Payment by e-money for bills to payee that has a e-money account	Retail	1C
16	Repayment of loan by e-money to a lender that has a e-money account	Retail	1D
17	Payment by e-money to merchant with a bank account	Retail	2B
18	Payment by e-money for bills to payee that has a bank account	Retail	2C
19	Repayment of loan by e- money to a lender that has a e-money account	Retail	2D

	Activity	Value chain category	Section of Mobile Money Value Chain
20	Receipt in e-wallet of salary from a sender with e-money	Retail	3A
21	Receipt in e-wallet of government subsidy from a sender with e-money	Retail	3B
22	Receipt in e-wallet of a P2P transfer from a sender with e-money	Retail	3C
23	Receipt in e-wallet of a loan from a sender with e-money	Retail	3D
24	Receipt in e-wallet of salary from a sender with bank account	Retail	4A
25	Receipt in e-wallet of government subsidy from a sender with bank account	Retail	4B
26	Receipt in e-wallet of a P2P transfer from a sender with bank account	Retail	4C
27	Receipt in e-wallet of a loan from a sender with bank account	Retail	4D
28	Determination of creditworthiness of e-money customer (by lender with e-money or bank account)	Wholesale	3E

We have then grouped the 28 sections of the value chain into 13 primary market segments:

	Market segment	Value chain
1	Issuing e-money and provision of e-wallet	Retail
2	Mobile communication link	Wholesale
3	Interoperability of payment instruction using a switch	Wholesale
4	Interoperability of payment instruction using a multilateral agreement	Wholesale
5	Interoperability of payment instruction using a third-party aggregator/processor	Wholesale
6	Interoperability of payment instruction using a bilateral agreement	Wholesale
7	Settlement of payment instruction	Wholesale
8	Cash-in and cash-out	Retail

	Market segment	Value chain
9	P2P transfer from e-wallet/bank account to another e-wallet or bank account	Retail
10	E-money merchant payment / e-bill payment / e-loan repayment / retail (to e-money or bank account) and wholesale	Wholesale
11	Receipt in e-wallet of P2P transfer, salary, or government subsidy from e-money or bank sender	Retail
12	Granting of mobile credit	Retail
13	Determination of creditworthiness of e-money customer (by lender with e-money or bank account) and other additional value add (OTT) services to e-money	Wholesale

We have further grouped, for simplicity, market segments with similar characteristics to create eight different focus areas that are addressed in the body of the report:

Mobile Payments

1. E-money issuance and provision of e-wallet
2. Mobile communication channel
3. Account-to-account interoperability
4. Cash-in/cash-out services
5. Mobile person-to-person payments
6. Mobile merchant, bill and loan payments

Mobile Credit

7. Granting mobile credit
8. Using data to determine creditworthiness.

7. Annex 2: Market Segment Matrix

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Issuing e-money and provision of e-wallet/ retail	A	Traditional financial institutions, others licensed under special purpose vehicles, such as MNO subsidiaries and other independent issuers	E-money consumers	<p>Abuse of dominant position of service provider:</p> <ul style="list-style-type: none"> • Unfair contract terms that discriminate between e-money users in terms of interest rate for e-float, pricing for on/off net transactions, etc. • Refusal to supply to specific e-money users <p>Cartel:</p> <ul style="list-style-type: none"> • Fixing customer contract terms • Segmenting users based on geography/ socioeconomic class/ other 	<p>Licensing regime can limit market to certain types of entities or services only, require partnerships for certain entities such as MNOs/ non-banks, require MNOs to provide special access conditions to USSD within the licensing authorization, or designate a state monopoly (Ethiopia).</p> <p>Also, such regime may result in unequal tax treatment for e-money transactions and unequal treatment of capital requirements required for licensing.</p>

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Mobile communication link/ wholesale	B	MNOs, Mobile virtual network operators	E-money issuers: traditional financial institutions, and others licensed under special purpose vehicles, such as MNO subsidiaries and other independent issuers	<p>Abuse of dominant position of service provider:</p> <ul style="list-style-type: none"> • Excessive pricing, margin squeeze (Uganda and Kenya) or unfair contract terms for mobile communication • Quality issues in mobile communication • Refusal to supply • Forced bundling with other services to provide access <p>Issues relate mainly to USSD (Uganda) and STK access and short codes</p> <p>Cartel (duopoly/ oligopoly):</p> <ul style="list-style-type: none"> • Excessive pricing for connection • Unfair contract terms • Refusal to supply 	Licensing regime can limit which entities can offer these services, as well as the services they can provide. Also, regulator may impose mandated pricing for channel access (e.g., impose access to bearer channel at price below cost), mandate access or mandate fair access . Some regulators may mandate certain quality of service (QoS) requirements .
Interoperability of payment instruction using a switch/ wholesale	C	National public switch or industry- led switch	Sending financial institutions, other e-money issuers	<p>If industry-led/owned switch, then certain behavior by the shareholders could amount to an abuse of their combined position:</p> <ul style="list-style-type: none"> • Excessive pricing for interconnection • Refusal to supply • Other unfair terms concerning access • Forced bundling with other services to provide access 	The rules of the national switch may either limit usage to specific entities, or disincentive certain entities (e.g., pricing) Regulator may impose mandated pricing caps for channel access.

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Interoperability of payment instruction using a multilateral agreement / wholesale	D	Receiving financial institutions, other e-money issuers	Sending financial institutions, other e-money issuers	Abuse of dominant position of service provider: <ul style="list-style-type: none"> • Excessive pricing for interconnection • Refusal to supply • Other unfair terms concerning access • Forced bundling with other services to provide access Cartel (if several stakeholders agree to collude to the disadvantage of other stakeholders): <ul style="list-style-type: none"> • Excessive pricing for interconnection • Refusal to supply 	Multilateral interoperability may be mandated .
Interoperability of payment instruction using a third-party aggregator/ processor / wholesale	E	Third-party aggregator/ processor	Sending financial institutions, other e-money issuers	Abuse of dominant position of service provider: <ul style="list-style-type: none"> • Excessive pricing for interconnection • Refusal to supply • Other unfair terms concerning access • Forced bundling with other services to provide access 	

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Interoperability of payment instruction using a bilateral agreement / wholesale	F	Receiving financial institutions, other e-money issuers	Sending financial institutions, other e-money issuers	<p>Abuse of dominant position of service provider:</p> <ul style="list-style-type: none"> • Excessive pricing for interconnection • Refusal to supply • Other unfair terms concerning access • Forced bundling with other services to provide access <p>Also, bilateral interoperability may erect a significant barrier to entry to new entrants, exacerbate network effects.</p>	
Settlement of payment instruction/ wholesale	G	Settlement bank	Financial institutions, other e-money issuers	<p>If privately-owned settlement bank, then certain behavior by the shareholders could amount to an abuse of their combined position:</p> <ul style="list-style-type: none"> • Excessive pricing for settlement • Refusal to supply • Other unfair terms concerning access to settlement 	<p>If publicly owned, the rules of the settlement bank may limit usage to specific entities or apply different rules to different entities. Regulator may impose mandated pricing caps for channel access.</p>

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Cash-in and cash-out/ retail	H, I, J, K	Agent	E-money or bank customer	<p>Vertical restraint (imposed by sending financial institutions, other e-money issuers, only if agent is independent):</p> <ul style="list-style-type: none"> • Agent exclusivity • Other restrictions in regard to geographic placement, usage of branding, communications <p>This type of vertical restriction is commonly found to be pro-competitive in certain jurisdictions due to its positive impact on investment incentives.</p>	<p>Licensing regime may dictate who can be a mobile money and/ or banking agent. There may also be different compliance obligations on agents (and their principals) based on type of entity, even for similar services as well as a limitation on types of services certain agents can provide (this could include asymmetric compliance requirements for agent approval, KYC, insurance, capital requirements, cash handling and physical security). Regulator may mandate agent non-exclusivity or exclusivity. Bank branches may equally have different compliance obligations and be able to provide a wider range of services.</p>

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
P2P transfer from e-wallet/bank account to another e-wallet or bank account/ retail	1A, 2A,	Sending financial institutions, other e-money issuers	E-money sender	Abuse of dominant position of sending service provider: <ul style="list-style-type: none"> • Excessive pricing for the transaction • Unfair contract terms that discriminate between e-money users in terms of pricing for on/off-net transactions, timing, etc. • Cross-platform subsidization or forced bundling • Fidelity rebates and on-net discounts Cartel <ul style="list-style-type: none"> • Fixing prices for e-money transfer (e.g., Uganda) • Segmenting users 	Licensing regime can limit use case to certain types of entities.

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
E-money merchant payment / e-money bill payment / e-money loan repayment / retail (to e-money or bank account) and wholesale	1B, 1C, 1D, 2B, 2C, 2D,	Originating and receiving financial institutions, other e-money issuers	E-money user and merchant	Abuse of dominant position of service provider: <ul style="list-style-type: none"> • Excessive pricing for the transaction • Unfair contract terms that discriminate between e-money users / merchants in terms of pricing of e-money as a payment instrument • Refusal to supply to specific e- money users/ merchants • Cross-platform subsidization or forced bundling Cartel <ul style="list-style-type: none"> • Fixing prices of e-money as a payment instrument • Segmenting users based on geography/ socioeconomic class/ other 	Licensing regime can limit use cases to certain types of entities.
Receipt in e-wallet of P2P transfer, salary, or government subsidy from e-money or bank sender/ retail	3A, 3B, 3C, 4A, 4B, 4C	N/A as receiving end of a P2P or other G2P or B2P transaction	N/A as receiving end of a P2P or other G2P or B2P transaction	N/A as receiving end of a P2P or other G2P or B2P transaction	N/A as receiving end of a P2P or other G2P or B2P transaction

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Granting of mobile credit/retail	3D, 4D	Lender (bank, financial institution)	E-money user	Abuse of dominant position of service provider: <ul style="list-style-type: none"> • Excessive interest rates • Unfair contract terms that discriminate between credit users • Refusal to supply to specific users without justification • Cross-platform subsidization or forced bundling • Fixing interest rates and contract terms • Segmenting users based on geography/socioeconomic class/etc 	Licensing regime can limit use cases to certain types of entities or require partnerships.

Activity/market segment	Section of EM value chain	Service provider	Customer	Potential competition issue	Potential regulatory distortion
Determination of credit-worthiness of e- money customer (by lender with e- money or bank account) and other additional value add (OTT) services to e- money / wholesale	<p style="text-align: center;">3E</p>	MNOs, financial lenders, banks, social media companies	Alternative credit scorers, other entities that provide value-added services to e- money	<p>Abuse of dominant position by service provider:</p> <ul style="list-style-type: none"> • Leveraging data collected and customer relationships from one activity it is dominant in (e.g., telecommunications) to its advantage in lending and other value-add markets <p>Breach of reporting obligations:</p> <ul style="list-style-type: none"> • <u>Not providing the complete data sets</u> as required to credit bureaus, and/or selectively providing the data only to preferred parties. <p>For other OTT services:</p> <ul style="list-style-type: none"> • Refusal to <u>supply API integration</u>⁶⁹ (although by allowing development of an “app” ecosystem, this can reinforce a dominant position) • Requiring exclusive partnerships for third parties who integrate 	

⁶⁹ Based on classical competition theory, dominant service providers are not required to provide access to their proprietary platform through APIs, but if their platform can be construed as a market of its own (e.g., M-Pesa ecosystem is the relevant market), then refusal to supply could be an abuse of dominance.

