Competition and regulation in Zimbabwe’s emerging mobile payments markets

Genna Robb, Isaac Tausha and Thando Vilakazi

Introduction

Mobile money has attracted global attention because of its ability to bring people from the cash-based, ‘unbanked’ economy into modern systems of ‘book-entry money’. This process is commonly referred to in the industry as ‘banking the unbanked’ (Klein and Mayer, 2011). It involves the use of mobile phone technology to make financial transactions. Generally, this allows users to engage in transactions ranging from buying and transferring airtime, to transferring funds and making payments from their mobile devices (ITU, 2011). A ‘traditional’ form of this is where banks have mobile phone applications which allow their customers to interact with their bank accounts on their phones.

As a subset of mobile banking, and of particular interest to this chapter, is the ability to transfer money in person-to-person (P2P) transactions, that is, from the bank account or mobile operator ‘wallet’ of one person, to the mobile number or mobile operator wallet of another. These services allow customers to use their mobile device to send and receive monetary value – to transfer money using their phone, which in some cases includes international, cross-border and/or domestic remittance transfers. Importantly, these services can be provided even when the sender and/or recipient does not have a bank account. In Zimbabwe, this led to rapid adoption by users since NetOne and Telecel both launched their mobile money transfer (MMT) services in January 2011, followed by Econet in September 2011. Users include customers in rural areas where access to banking services has been limited and remittance transfers from large cities and abroad are an important source of income (Dermish, Hundermark and Sanford, 2012). This is especially relevant given the withdrawal of the majority of Zimbabweans from formal banking services during the prolonged period of economic distress over the past decade, leading to a largely cash-based economy and the use of direct, informal cash transfer mechanisms, such as through minibus taxi services and travelling relatives or friends (Dermish, Hundermark and Sanford, 2012).

These aspects of mobile money have important implications in terms of competition and economic development. The ability to draw in subscribers that are unbanked and marginalised by formal financial services through simple,
affordable, convenient and safe platforms contributes to greater financial inclusion (Klein and Mayer, 2011), and facilitates transactions between individuals (e.g., remittances) as well as between enterprises. However, the gains in welfare can easily be undermined where markets are concentrated and dominant incumbents are able to unfairly abuse their strength in adjacent markets, such as mobile money services, to bolster their market power in primary markets (mobile telecommunication services). This is especially the case where rival operators face high barriers to entry related to network effects in particular, which makes it difficult for as-efficient rivals to effectively compete for customers. In the case of the Zimbabwean market, where Econet is the dominant player in traditional services and MMTs, customers have a strong incentive to use the mobile money services of the largest network (primarily due to lower costs and convenience), which requires them to also subscribe to Econet’s traditional mobile services offering through purchasing a sim card. This relationship between the two markets makes it especially difficult for rivals to encourage customers to switch, which has important implications for competition between operators in the Zimbabwean market (discussed later).

This chapter takes a broad look at the competition and regulatory environment related to mobile money in Zimbabwe. It explores the nature of the mobile payments market in Zimbabwe and theory and literature around network effects and possible competition problems which can arise in this type of market, including through international comparisons with the Zimbabwean market. It also deals with the issue of interoperability and the conditions where it is likely to develop versus situations where regulatory intervention is likely to be required. This is then all related to the Zimbabwean context in order to present possible ways forward for regulators.

In the remainder of the chapter we provide a background to the market for MMT services in Zimbabwe and its development in recent years before reviewing the literature on competition and regulatory issues in network industries and mobile money markets in particular. Thereafter we assess competition and regulatory issues specific to the Zimbabwean market and draw comparisons with developments in other countries in South and East Africa. After concluding, we provide recommendations for policy making and enforcement through agencies such as competition authorities and sector regulators.

The Zimbabwean mobile money market

The provision of mobile banking – relying on mobile network operator (MNO) infrastructure – by banks, and the provision of MMTs by MNOs, relies on the use of the Unstructured Supplementary Service Data (USSD) codes held by MNOs, which are issued and licensed by the Postal and Telecommunications Regulatory Authority of Zimbabwe (Potraz). This refers to a short code such as ‘*200#’, which, when dialled, presents the customer with a menu of functions, including the option to conduct a P2P transaction. We include the process outlined for Econet customers as an example (box 9.1).
Customers are generally required to register at an outlet of the chosen network provider in order to have access to a mobile wallet and the MMT service, by simply producing proof of identity, filling in an application form and being in possession of an active sim card for that network. Across all MNOs in Zimbabwe, recipients of funds are then required to go to an agent of the sender’s network operator to collect any transferred funds, unless the recipient is a registered wallet customer on the same network, in which case they have the option of retaining the funds received in their mobile wallet. For example, an EcoCash customer who is a recipient of funds transferred from another EcoCash customer can go to an EcoCash agent to collect the funds in cash (‘cash-out’) or can retain the funds in their EcoCash wallet. Recipients on a different network to the sender need to present confirmation of the funds transferred to them (the message received contains a unique reference number) to an agent of the sender’s network, who will then cash-out to the recipient. As of 2016, Potraz expects MNOs to implement interoperability between mobile wallets across networks as well, so that subscribers to other mobile money services can send money directly to an EcoCash wallet and vice versa.
Agents have therefore been a critical part of the value chain for providing MMT services. These agents effectively act as the equivalent of bank branches for sending and receiving money transfers. Most MNOs operate agent networks that include the owners, operators or employees of small retailers or postal outlets (USAID, 2010). Some agents are contracted as exclusive or non-exclusive agents of an MNO, whereas others, such as postal service branches and large grocery retailers, in most cases can be contracted by several MNOs. The Reserve Bank of Zimbabwe (RBZ) issued a directive in 2014 prohibiting agent exclusivity unless the operator could demonstrate the need to have exclusivity over a particular agent. Currently, Econet has by far the largest network of agents in Zimbabwe, based on data from Potraz (table 9.1).

Table 9.1 Agents by mobile network operator

<table>
<thead>
<tr>
<th>MNO</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Telecel</td>
<td>–</td>
<td>–</td>
<td>4 586</td>
<td>6 984</td>
</tr>
<tr>
<td>NetOne</td>
<td>32</td>
<td>61</td>
<td>1 612</td>
<td>2 262</td>
</tr>
<tr>
<td>Econet</td>
<td>2 301</td>
<td>9 108</td>
<td>17 181</td>
<td>24 013</td>
</tr>
<tr>
<td>Total</td>
<td>2 333</td>
<td>9 169</td>
<td>23 379</td>
<td>33 259</td>
</tr>
</tbody>
</table>


Note: For 2014 and 2015, totals for the fourth quarter are used.

The growth of Econet’s EcoCash facility into the leading mobile banking platform in Zimbabwe, well ahead of its rivals, was fuelled by the ability to attract previously unbanked customers. Although a significant proportion of Zimbabwe’s population of 13.7 million people do not have bank accounts (around 30% are banked), many have access to a mobile phone and are subscribers of one of the three MNOs. The total number of mobile network subscribers in Zimbabwe at the beginning of 2014 was just under 14 million, according to Potraz, which includes multi-simming by customers. This had grown to more than 19 million by the end of 2015. In addition, Econet’s growth in this area is at least partly due to its established position and brand presence in traditional mobile services.

Based on data from Potraz, the largest share of the market among the three players in mobile services (by number of subscribers) (table 9.2) and in MMT service provision is held by Econet (table 9.3). Rivals to Econet gained market share in 2014 and 2015, which may be attributable to their growth in MMT services, among other factors.

As these services grow in popularity in Zimbabwe, banks are looking to broaden their offering to enable their clients to not only use traditional banking services, including mobile banking, but also to execute MMTs to unbanked people directly from their bank accounts. This presents a dynamic growth area in the sector. Banks may also perceive a competitive threat from MNOs providing MMT services, particularly because a proportion of their traditional customers also use MMT services due to their convenience and lower price, for instance. We discuss the interactions between banks and MNOs below.
Competition and regulation in Zimbabwe’s emerging mobile payments markets

In terms of the supply of MMT services, MNOs have back-office links to the payments system through host banks. In Zimbabwe, it is a requirement of the RBZ that MMT service providers have to partner with a bank which ‘hosts’ them, at least partly because RBZ is not empowered by the National Payments System Act (No. 21 of 2001) to supervise MNOs.

Following the introduction of NetOne’s OneWallet (with FBC Bank) and Telecel’s Skwama product (with Kingdom Bank) in January 2011, Econet introduced EcoCash in September of that year. The early growth of OneWallet and Skwama was much slower relative to that of EcoCash. Telecel subsequently withdrew its product, which required users to also be clients of the host bank, on the grounds that partnering with a single bank limited the potential market size for the product as many of its subscribers were also clients of other banks (Kabweza, 2012). Telecel apparently made a strategic decision to connect its mobile platform to more banks by partnering with the ZimSwitch Mobile platform. NetOne has also partnered with ZimSwitch, although Econet has not.

ZimSwitch is a financial switching company which was formed in 1994 through a partnership between six financial institutions to connect nineteen of Zimbabwe’s banks. The company processes domestic card-based automated teller machine and point of sale transactions among member financial institutions in real time online. The ZimSwitch Mobile platform enables all financial institutions connected to ZimSwitch to offer mobile banking services through USSD technology (mobile) via the internet, and also integrates with service providers such as utility companies (Kabweza, 2011). The platform enables users to transfer money through ZimSwitch Instant Payment Interchange Technology,

### Table 9.2 Market shares by number of mobile money subscribers, 2012–2015

<table>
<thead>
<tr>
<th></th>
<th>2012 (%)</th>
<th>2013 (%)</th>
<th>2014 (%)</th>
<th>2015 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecel*</td>
<td></td>
<td></td>
<td>13.3</td>
<td>14.3</td>
</tr>
<tr>
<td>NetOne</td>
<td>0.1</td>
<td>0.5</td>
<td>9.9</td>
<td>11.4</td>
</tr>
<tr>
<td>Econet</td>
<td>99.9</td>
<td>99.5</td>
<td>76.8</td>
<td>74.3</td>
</tr>
</tbody>
</table>

* Source: Potraz quarterly reports

Note: * Telecel discontinued its MMT platform and relaunched it as Telecash in 2014.

### Table 9.3 MNO market shares by number of registered subscribers, 2010–2015

<table>
<thead>
<tr>
<th></th>
<th>2010 (%)</th>
<th>2011 (%)</th>
<th>2012 (%)</th>
<th>2013 (%)</th>
<th>2014 (%)</th>
<th>2015 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecel</td>
<td>18</td>
<td>17</td>
<td>20</td>
<td>19</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>NetOne</td>
<td>17</td>
<td>18</td>
<td>16</td>
<td>17</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>Econet</td>
<td>65</td>
<td>65</td>
<td>64</td>
<td>64</td>
<td>55</td>
<td>48</td>
</tr>
</tbody>
</table>

* Source: Potraz quarterly reports
which acts as an aggregator that facilitates transactions when customers look to move money to and from their bank accounts for mobile payments.

By connecting via the ZimSwitch platform, MNOs obviate the need to contract with individual banks or service providers in terms of providing mobile financial services (and gaining access to the national payments system) as they did before. The fact that both Telecel and NetOne partnered with the ZimSwitch platform allowed customers of different banks two options in terms of which network to use to access the mobile financial services. In this way, interoperability created benefits for customers, although, as noted, the largest MNO, Econet, has not partnered with ZimSwitch for P2P transactions. In fact, the subject of complaints by various banks in Zimbabwe relates primarily to Econet’s initial refusal to partner with ZimSwitch and its insistence that banks should instead integrate with its own EcoCash platform (for which a fee of $0.30 would be levied per transaction) should they want their customers to be able to link their accounts to EcoCash and send money using this method (Kabweza, 2014; Makichi, 2014).

Econet followed a different strategy in implementing its mobile money services. It acquired shareholding in TN Bank in November 2012 in a transaction which was conditionally approved by the competition authority. The condition required Econet to ensure that it continues to avail mobile connectivity to other competing financial institutions. TN Bank later rebranded to Steward Bank in 2013. TN Bank served as Econet’s implementing partner or host bank for the growth of its EcoCash platform.

The provision of MMTs has evolved significantly over a short period in Zimbabwe. This dynamic in the sector seems to have a great deal to do with the model followed by the MNOs in delivering this service. For instance, Econet applies what is termed an ‘MNO-led’ model, which means that the MNO is in control of the full process of facilitating an MMT, including running the mobile network, performing cash-ins or cash-outs, transferring funds and settling (USAID, 2010). This is in contrast to bank-led models wherein MNOs are only involved at the level of providing the primary network infrastructure for facilitating transactions. Importantly, although MNOs still require banks to ‘host’ them with regard to accessing the payments system, there has been an evolution in the sector in so far as customers are not required to hold an account with a specific bank in order to access these services. Furthermore, the ability of Econet to introduce its own rival platform and not partner with banks initially is likely to have influenced the patterns of growth in the sector by allowing Econet to directly leverage its strength in the mobile services market into the MMT environment.

Econet’s ability to control interoperability with and access to its own platform, which is by far the largest, also places it in a position to drive the growth of ‘on-network’ transactions in the context of significant network externalities (discussed below). Until recently, there were difficulties in the market relating to the ability to send money to recipients on other networks, although Potraz sought to address this. In the first phase, the regulator required operators to ensure the ability to send money to the sim or number of a recipient on
another network, and in the second phase transfers will be enabled between mobile wallets. Technical and contractual issues need to be resolved between the operators, including linking of trust accounts, before full implementation can take place.

Competition and regulatory issues in mobile money markets: Literature and theory

Network effects, also referred to as network externalities or demand-side economies of scale, are the effects that one user of a good or service has on the value of that product to other users. In products or industries characterised by network effects, the value of a product or service is dependent on the number of others using it (Shapiro and Varian, 1999). A number of industries exhibit network effects, including telecommunications, where users benefit directly from the size of a network as it dictates the number of others with whom they can communicate (Economides, 2010; Srinivasan, Lilien and Rangaswamy, 2004).

Network effects can be classified into two types: direct (or same side) network effects and indirect (or cross-side) network effects. Direct network effects present when adoption by different users is complementary, so that each user’s adoption payoff and incentive to adopt increases as more people adopt based on horizontal compatibility (Farrell and Klemperer, 2007). In the case of mobile money solutions in Zimbabwe such as Econet’s EcoCash, Telecel’s Telecash and NetOne’s OneWallet, the more that consumers use the mobile money solution on one side of the network the greater the utility the consumers on the same side of the network attain. This is typically through being able to more conveniently and cheaply connect with or send money to users that are on the same network and mobile money platform versus those that are subscribers to different platforms.

Indirect network effects arise if adoption of the product improves opportunities to trade with another side of the market. Markets that exhibit indirect network effects are commonly known as two-sided markets. A two-sided platform refers to products and services that bring together different groups of users in two-sided networks. Indirect network effects imply that customer utility from the primary product increases as more customers or suppliers exist on the other side of the market. For example, in transaction markets the adoption of MasterCard by consumers depends on the number of merchants who accept it for transacting. On the other hand, the merchants can adopt the card on condition that it has many subscribers using it. Similar indirect network effects manifest in the mobile money sector in that the adoption of a particular mobile money system may be dependent on the number of merchants or billers who accept it. Mobile money agents and merchants are more willing to adopt a mobile money system with a higher subscriber base (Anderson, 2009).

Network effects can significantly affect competition among firms by creating a barrier to entry for new firms that may find it difficult to compete with the incumbent’s much larger network. When network effects are present, the firm’s installed customer base can be considered a key asset to gain supra-competitive returns (Economides, 2010). Network industries are prone to dominance and therefore
often associated with the existence of monopolies (Motta, 2004). Due to network
effects, a firm with a larger number of users will become increasingly attractive
to existing users and this will attract new users. Network effects may thus create
winner-takes-all outcomes (Arthur, 1996). Market tipping off may occur, where a
dominant firm manages to gain advantage in consumer preference, thus becoming
more and more popular and eventually becoming the dominant solution in the
market. Network effects can also be deliberately leveraged by a dominant firm wishing
to maintain its position in the market and make life difficult for smaller rivals.

What makes mobile money markets particularly prone to high barriers to
tip is their close connection to the market for traditional mobile services
(voice, sms and data), where network effects are also present. Indeed, one motiva-
tion for MNOs’ provision of mobile money services is to retain and grow
market share in the market for traditional mobile services. In this way, a high
market share in the market for traditional MNO services tends to give an MNO
an advantage in the roll-out of mobile money services, which can lead to a domi-
nant position in the mobile money market, further strengthening the firm’s
market position in the original market. This is borne out in practice in a number
of markets where large MNOs have achieved dominant positions in developing
mobile money markets.

Economists from the Chicago School have argued that a dominant firm has
no incentive to leverage its market power into adjacent vertical or horizontal
markets. This is explained using the One Monopoly Profit theory, which states
that a firm which has a monopoly in one market can extract all the possible rents
from its original monopoly position, and will not gain anything from extending
that monopoly power into related markets (O’Donoghue and Padilla, 2006). This
theory rests on strong assumptions, however, including that the adjacent market
is perfectly competitive and the monopolist can credibly commit to charging the
monopoly price to all customers.

Post-Chicago economists have since pointed out a number of situations
where these assumptions are not met and where, consequently, it is possible
for anticompetitive foreclosure to occur. One such case is where a dominant
firm is concerned that through allowing entry into a complementary market,
it may in future face greater competition in its primary market, through entry
or expansion of the competitor into this market (Carlton and Waldman, 2002).
Carlton and Waldman’s theory relies on entry into the complementary market
being costly. However, O’Donoghue and Padilla (2006) note that the incumbent
may have an incentive to monopolise the complementary good market even
when entry is costless, provided there are network externalities. In fact, both
factors are present in the Zimbabwean markets for mobile payments and mobile
services, as a substantial upfront investment in infrastructure is required to enter
the market and, as discussed above, network effects are substantial.

The defensive leveraging theory is particularly strong in industries with net-
work externalities, as the possibility of market tipping in the complementary
product market (e.g., mobile payments) provides a threat to the incumbent
monopolist’s position in the primary market (e.g., mobile services), because a
successful entrant in the complementary product market would then be in a
much stronger position to grow in the primary market. To remove the threat to its monopoly position in the primary market, the incumbent then attempts to exclude competitors in the market for the complementary product so as to ensure that its product becomes the dominant standard.

One way that a dominant firm in one side of a network market can do this is to make its products partially or fully incompatible with components produced by other firms. This can be done through actual product incompatibility or explicit exclusion or refusal to interconnect with other firms, particularly competitors. If a firm is dominant in one of the markets it has no incentive to allow full compatibility of its products with those of its competitors. Compatibility is dependent on the intensity of the network effect, that is, the more intense the network effect, the stronger the incentive for a firm to make its products incompatible with substitutes (Economides, 2010). The decision to choose to remain incompatible with the rival ensures that the dominant firm can keep all the network effects it creates to itself. As in the example above, the dominant MNO has higher chances of attracting more subscribers to its mobile network services if it chooses incompatibility on its mobile payment system.

If, on the other hand, there are a range of smaller firms in the market, interoperability is more likely to develop naturally as each player has more to gain and less to lose from ‘pooling’ the network effects. In this scenario, interoperability should result in a larger overall market as a linked network is more attractive and hence attracts larger demand. Therefore, there are gains to all from interoperability, but if there is one very large player, its losses due to weakening the network effects may outweigh these gains, and hence interoperability is not in its interest.

Mobile money markets are prone to all these features, and in Zimbabwe the market structure is particularly skewed, with one firm, Econet, having very high market shares in both the mobile services and the mobile money markets until recently. This creates concern that barriers to entry and expansion for smaller rivals may be difficult to surmount. In most countries, including Zimbabwe, interconnection in the mobile network services and compatibility at the level of voice and low-capacity data transmission are mandated by law (Nyaga, 2014). However, in most developing countries, mobile money is a relatively new development which is very dynamic and interoperability has not advanced in most markets. Until recently, simple aspects of interoperability, such as the ability of mobile wallets to connect across networks, had not been implemented although regulators have now instituted measures to address this.

Emerging competition and regulatory issues in the Zimbabwean market

How does the theory apply to Zimbabwe?
As the largest MNO in Zimbabwe and by far the largest provider of mobile payments services, Econet is in a very strong position. As noted, markets for traditional mobile telecommunications services and those for mobile payments are
strongly interlinked and the provision of mobile payments services can provide a way for MNOs to induce customer loyalty and prevent customer switching. In this case, part of Econet’s strategy with regard to EcoCash may be to provide such a ubiquitous service that most consumers want to use EcoCash, thereby locking them in as Econet subscribers. The network effects inherent in both markets will tend to reinforce this, as the more subscribers EcoCash and Econet have, the more attractive they become to customers (and the less attractive competitors become). Econet’s annual report describes EcoCash as ‘a key value driver, subscriber retention and loyalty product’ (Econet, 2014, p. 23). This indicates that part of the value of EcoCash is derived from its ability to help Econet retain subscribers in the mobile services market and to reduce subscriber switching.

If Econet perceives a threat from Telecel and NetOne to its market power in the mobile services market, it may have a further incentive to strengthen EcoCash in order to ensure that subscribers stick with Econet in the market for mobile services.

Furthermore, to the extent that Econet expects a dominant standard to emerge in the mobile payments market, it may have a further incentive to ensure that this is EcoCash, to protect its position in the mobile services market. The banks, on the other hand, present a potential threat to the position of EcoCash, which is important in itself but also because this could reduce the value of EcoCash as a means of retaining and attracting subscribers in the traditional mobile services market. With a 65% share in the MNO market and a share of over 90% in the mobile payments market, Econet has been in a strong position for many years to exploit these network externalities. Subscribers may be reluctant to switch away from Econet to a smaller network, although it does appear that rival operators have increasingly been able to compete with Econet in traditional services as well as in mobile money services through aggressive marketing and pricing in recent years. Telecel’s Telecash platform, for example, has grown significantly since its relaunch in 2014, which suggests that the operator has been able to draw in Econet and EcoCash customers, and, importantly, to draw in new demand as the total number of subscribers grows. Multi-simming in the market may also mean that customers are increasingly registering as subscribers of mobile money and mobile telephony services across different networks.

A competition complaint
In 2014, a competition complaint was laid against Econet by the Bankers’ Association of Zimbabwe, which submitted a complaint to the Zimbabwe Competition and Tariff Commission (ZCTC) relating to Econet’s conduct with regard to its EcoCash platform. The complaint raised a number of concerns. Of particular interest are the concerns relating to the provision of USSD services whereby Econet allowed banks to use the USSD service for the provision of other mobile banking services (balance checks, bill payment, bank account to bank account transactions, etc.) to banked clients, but not for P2P transactions requiring a link between mobile wallets and bank accounts.

Econet initially refused to allow the banks access to its EcoCash platform for P2P transactions, meaning that it was not possible for bank customers using
Econet to draw money from their bank account to send money via EcoCash in a P2P transaction. In February 2014, Econet finally agreed to grant the banks access to the platform. However, this was subject to a number of terms which the banks argued to be unfair. The most important of these was the cost for P2P transactions, which would be charged at a rate of 30c per session compared to 5c or zero for all other mobile banking transactions. This was a key aspect of the complaint. In contrast, Telecel and NetOne charged the banks a much lower amount or zero for using the same USSD facility on their mobile payments platforms. There were also requirements that EcoCash imposed on the banks and their clients in terms of the way that the USSD service was to be used, such as on session times and supplementary codes, which made the service increasingly inconvenient for bank clients.

The ZCTC did not publish a decision on the matter although certain regulatory solutions were sought to resolve the concerns based on cooperation between the ZCTC, RBZ and Potraz.

Interoperability in the Zimbabwean market

Until around 2015 there was no interoperability between EcoCash and the other mobile money platforms in Zimbabwe. EcoCash customers could not send money to the mobile wallet of a NetOne or a Telecel customer, although money could be sent to the mobile number (sim) of a recipient on another network. Similarly, Telecel customers could not send money to an Econet sim or EcoCash wallet. It is therefore significant in terms of the development of the market that value can be sent to recipients across networks, albeit not to their wallets.

A lack of interoperability implied that if customers wanted to be able to be sent money by EcoCash customers, which was highly likely given that EcoCash held 90% of mobile payment subscribers, they had no option but to also be with EcoCash. If they wanted to be able to send money to EcoCash customers, also very likely, they could not be with Telecash. Given the network effects in the industry, this put EcoCash in a very strong position in the market.

Even if EcoCash customers could send money to the other MNO sim cards at the time, customers would still have to cash-out the money at an EcoCash agent. If they then wanted to transfer the money to their Telecash wallet or OneWallet, they would have to go to a Telecash or NetOne agent and pay the money back in. Thus, while this would provide interoperability of a kind, there are transaction costs as it would be inconvenient and costly to customers.

As noted, interoperability is usually beneficial for smaller firms that struggle to combat the market power and network effects enjoyed by larger incumbents. Incumbents may, however, have the incentive to resist interoperability to the extent that it will enable them to preserve their dominance. In a situation where there are a number of firms of similar size, interoperability is more likely to evolve naturally than where there is one dominant firm and other smaller players (Andes, 2012). The Zimbabwean market structure obviously reflects the latter example quite closely, which suggests that there was a need for regulatory intervention to ensure a level playing field for smaller mobile money providers. In this regard, the question for policy makers is how best
to balance the need to promote competition against the need to preserve the incentives to invest.

While Telecel’s fast growth in terms of subscriber numbers suggests that entry into the mobile payments market is possible without interoperability, its relative size is much smaller than Econet’s and its growth may be constrained in future as the market growth slows. To avoid this, the operator would need to develop strategies to entice customers away from Econet – unless there was full interoperability in the market. This suggests that it is indeed difficult to grow in the market without interoperability.

On the other hand, there is an argument that multi-homing or multi-simming is common in Zimbabwe and that this effectively means that interoperability is not important as customers can simply switch between sims to send money to customers of different mobile money platforms. We do not have data on the prevalence of multi-homing in this market so it is hard to test this. We note, however, that even to the extent that customers have more than one sim, there is still inconvenience and cost attached to having to register for more than one platform and transfer balances into and out of each wallet.

The lack of interoperability may be restricting the growth of this new market. As discussed above, there is substantial latent demand for mobile financial services in Zimbabwe. To the extent that the lack of interoperability limits competition, it will lead to higher prices and less innovative products for consumers, which will in turn limit uptake.

Contrast with other countries in the region

In order to understand why the Zimbabwean mobile money market has evolved as it has, we present a comparison with other countries in the region. What is striking is that the markets in all countries are highly concentrated and, in all countries except Rwanda and Tanzania, the leading firm has more than 50% market share (figure 9.1).

The Kenyan market is particularly concentrated, with the leading firm, Safaricom, having a market share of 80%. Zimbabwe also has a highly concentrated market, with Econet enjoying a 75% market share. In Zambia there is a duopoly: MTN with a 59% market share and Airtel with 41%. In Uganda, MTN is also the largest player with 58% of the market, but there are three additional competitors, one of whom (Airtel) has a 27% market share. The most competitive markets appear to be Rwanda and Tanzania, where there are three and four significant players, respectively: Vodacom (38%), Tigo (33%), Airtel (27%) and Zantel (2%) in Tanzania, and MTN (49%), Tigo (35%) and Airtel (16%) in Rwanda. These market shares translate into high HHI\(^{10}\) figures in all six countries, again with the HHI figures for Kenya being the highest at 6,486 (table 9.5).

In a market with network effects, one would expect that where there is one very large player, interoperability is unlikely to develop naturally. In the case of the six countries considered here, only one has implemented interoperability. In Tanzania, interoperability developed as an industry-led process. In 2014, Airtel, Tigo and Zantel agreed to allow their platforms to interoperate. Subsequently, the industry worked on a set of standards governing P2P payments across the
various networks, and finally, in 2016, it appeared that all four operators, including Vodacom, would implement interoperability between their systems. It is unsurprising that this development arose in Tanzania, since it has one of the least concentrated markets of the countries in the sample and has three significant players in the mobile money market.

As shown in table 9.4, Tanzania also has the least concentrated market for traditional mobile services (measured in terms of subscriber numbers). By contrast,
Table 9.4 MNO market shares by mobile network subscribers, 2015

<table>
<thead>
<tr>
<th>Kenya (%)</th>
<th>Zimbabwe (%)</th>
<th>Uganda (%)</th>
<th>Zambia (%)</th>
<th>Rwanda (%)</th>
<th>Tanzania (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safaricom 67</td>
<td>Econet 54</td>
<td>MTN 51</td>
<td>MTN 51</td>
<td>MTN 47</td>
<td>Vodacom 35</td>
</tr>
<tr>
<td>Airtel 19</td>
<td>Telecel 15</td>
<td>Airtel 37</td>
<td>Airtel 34</td>
<td>Tigo 35</td>
<td>Airtel 30</td>
</tr>
<tr>
<td>Telkom 11</td>
<td>NetOne 31</td>
<td>Uganda Telecom 10</td>
<td>Zantel 15</td>
<td>Airtel 18</td>
<td>Tigo 30</td>
</tr>
<tr>
<td>Equitel 2</td>
<td></td>
<td>Africell 3</td>
<td></td>
<td></td>
<td>Zantel 4</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td>TTCL 1</td>
</tr>
</tbody>
</table>

Sources: Various online sources including telecommunications regulators of the various countries, company websites and publicly available data.

Note: Shares do not always add up to 100% due to rounding.
Kenya and Zimbabwe both have one firm with a much higher market share than the others in the MNO market as well as the mobile money market. In both cases, the dominant player in the MNO market has been able to establish a similarly strong position in the mobile payments market. As discussed, the large incumbent firm may have the ability and incentive to protect its position in the MNO market through maintaining its dominance in mobile payments, particularly if it feels threatened by growing competitors in the MNO market. This presents it with an incentive to resist interoperability.

Another way that firms can enhance rather than reduce the network effects in mobile payments is to charge a higher price for transfers to unregistered recipients than to registered recipients. This means that to send money to another customer of the same mobile money platform is cheaper than to send money to someone who is not a customer and may be a customer of a competing platform. Thus customers can send money more cheaply to customers of the same network, creating incentives for subscribers to stick with the platform with the most users. This is similar to the effect of high interconnection charges between MNOs in the market for traditional mobile services.

In order to see how different market structures influence the rates charged to send money to unregistered recipients, we calculated the average price to send $20 to registered and unregistered recipients in the six countries, for the largest player in each country. We then calculated the percentage difference between what is charged for transfers to registered and unregistered recipients. As shown in table 9.5, there is a substantial difference in cost in all countries, with the exception of Tanzania. Transfers to unregistered recipients in Zimbabwe and Kenya are 29% and 83% more expensive, respectively, than transfers to registered recipients. Tanzanian transfers to unregistered recipients are the same price as to registered recipients. This reflects the difference in market dynamics in the two countries, where there is an incentive for Econet, the largest player in Zimbabwe, to try to make other networks seem unattractive.

<table>
<thead>
<tr>
<th>Table 9.5 Features of mobile money markets in six countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kenya</strong></td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Number of players</td>
</tr>
<tr>
<td>Market share of largest firm (%)</td>
</tr>
<tr>
<td>Industry HHI</td>
</tr>
<tr>
<td>Interoperability</td>
</tr>
<tr>
<td>% difference between registered and unregistered (largest player)</td>
</tr>
</tbody>
</table>

*Sources: Market shares and HHI (see figure 9.1); price differential, websites of MMT providers listed in figure 9.1*
The brief country comparison set out above has illustrated that other countries face similar challenges to those faced by Zimbabwe in regulating the fast-growing mobile payments market. Where there is asymmetry already in the MNO market in terms of one player that is much larger than the rest, this seems to lend itself to an even more unbalanced market for mobile payments, where the network effects in both markets are mutually reinforcing. Zimbabwe, however, appears to be an extreme case. At the other extreme, Tanzania, where the MNOs have more even shares of the market, seems to be developing a more competitive mobile payments market and even moving naturally towards interoperability between the different mobile payments platforms. This suggests that in the more asymmetric markets such as Zimbabwe and Kenya, attention needs to be given to possible regulatory solutions that will prevent the dominance of the main player becoming entrenched and difficult to undermine. In these cases, the pressure for interoperability may need to come from the regulator rather than the market.

Conclusion and possible policy implications for Zimbabwe

The growth of MMTs in Zimbabwe is directly linked to developmental objectives in terms of increasing the access of all individuals in the society to a safe, secure and affordable means of transacting. This is consistent with the increased emphasis globally on inclusive economic growth which speaks largely to participation and the ability of people to play a part in the process of growth as well as sharing in its benefits. However, the benefits derived from MMTs to poor customers in particular can be eroded over time where MNOs in dominant positions can leverage that dominance to make it difficult for rival operators to compete. This can take place through various mechanisms, including defensive leveraging, which is enhanced where there are market tipping and network effects, where the product of the incumbent firm becomes the dominant standard, and when it can use its pricing and strategies in both sides of a market to protect its position.

In this regard, the Zimbabwean market is particularly interesting when considering the strong position of Econet in the primary market for traditional mobile telecommunications services, as well as its strong position in the adjacent market for MMTs. The comparisons above of EcoCash with the platforms of other providers in the region suggest that as in Kenya, the incumbent firm is able to leverage its strong position in the market to charge prices (to unregistered users, for instance) that enhance the network benefits of customers switching to its platform. Furthermore, through limited interoperability with rival MNO platforms, customers face an incentive to join the MMT platform, which they perceive to have the largest subscriber base, thus requiring the customer to purchase the sim of that network as well. In contrast, the market in Tanzania has tended towards interoperability to the benefit of consumers, as reflected in the pricing comparisons.
This scenario presents some interesting challenges for regulation. In most cases, competition law enforcement cannot, on its own, mandate interoperability between providers of mobile services generally. Additionally, competition law cases tend to be drawn out and litigious, which is a resource-intensive process. Instead, there may be a direct role for other regulatory agencies in changing the set of rules in the market to encourage greater rivalry, including through interoperability. This is through the ability of sector regulators to facilitate and stipulate arrangements between players that support smaller operators while also encouraging and rewarding investment by large incumbents. One example of this is the use of asymmetric call termination rates in the South African telecommunications sector (see Paelo, 2015).

In a 2014 effort to increase competition and facilitate the growth of smaller operators in the market, given the strong position of South Africa’s major operators Vodacom and MTN, the Independent Communications Authority of South Africa (Icasa) introduced lower, asymmetric call termination rates. These asymmetric rates allowed the smaller operators to charge their larger competitors a higher price for termination while the small operators pay a lesser fee. Despite the mobile operators’ concerns about Icasa’s intervention in setting asymmetric call termination rates, the regulation does not appear to have had a damaging effect on the market. Instead, consumers have benefited from the lower rates, while subscriber numbers and operator profitability have also increased.

In Zimbabwe, recent developments suggest that a regulatory solution is being pursued, correctly in our view, to address some of the concerns raised in the complaint discussed above. The ZCTC has recently been able to facilitate interactions between the RBZ and the sector regulator for telecommunications, Potraz, in addressing competition concerns regarding pricing and access in MMT services (see The Herald, 2015). The ZCTC identified potential competition concerns as well as issues that could best be resolved by sector regulators. RBZ and Potraz have been responsive to this approach and regulatory solutions have been arrived at in an expedient manner, suggesting that regulatory coordination is important for dealing with restrictions on participation and competition where there are likely to also be significant efficiency gains to consumers through the strategies and investment of large incumbents. This approach is important in the discussion about interoperability, where the authorities need to balance sanctions for abuses of a dominant position in a market against the pro-competitive benefits of firm strategies. For instance, regulators need to consider the right of firms to benefit from their investments in infrastructure and technology, which tend to be substantial in telecommunications markets. If the authority wishes to encourage greater interoperability, for instance, then terms need to be reached that still reward the innovation and investment of the incumbent firms, such as Econet. This may involve some form of compensation being paid by rival operators to the dominant player.

Further to this, where there are network effects, consumers do benefit from lower fees, for instance, for transacting over the same network as the person they are sending money to. This is an important efficiency which accrues to
customers that would need to be weighed against the likely medium- and long-term effects of reduced rivalry in the sector. Other things being equal, regulating for a fairer and more competitive environment in the short term is more likely to result in sustainable efficiencies, innovation, variety and favourable prices in the future.

Notes

1 Mobile wallets are broadly defined as digital or virtual applications that allow mobile device users to store money and credit on their phones (see Andes, 2012).

2 Throughout this chapter, we refer to mobile payments, P2P or mobile money transfer (MMT) services interchangeably.

3 The latter takes place through person-to-business payments, business-to-business payments or government-to-person payments made via mobile phone, although these are not the focus of the chapter.


5 Where customers use sim cards from more than one MNO.

6 Potraz cautioned that the estimates are based on the submissions of the operators themselves and Potraz currently does not have a mechanism for validating these estimates. See information from Econet’s website stating that the firm holds over 65.3% of the mobile telecommunications market (http://ewzinvestor.co.zw/).

7 See http://www.zimswitch.co.zw/.

8 Econet’s loss of market share in recent years may be related to these effects.

9 This section is based on information from Kabweza (2014) and Makichi (2014).

10 The Herfindahl-Hirschman Index (HHI) is a commonly accepted measure of market concentration (http://www.investopedia.com/terms/h/hhi.asp).

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EcoCash. n.d. ‘How to Transact’ (online document).


