# Thematic Overview: Economic Regulation and the Development of Telecoms, Mobile Money and Banking

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**Abstract**
This thematic overview for *AJIC* Issue 17 discusses the lessons emerging from studies of electronic communications access, innovation and regulation in a selection of African countries including Kenya, Nigeria, South Africa, Uganda, Tanzania and Zimbabwe, with particular emphasis on digital financial services.

**Keywords**
economic regulation, telecoms, mobile financial services, complexity in policy and regulation, Southern Africa, East Africa, Nigeria, United States, China

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## 1. Introduction

This thematic issue of *The African Journal of Information and Communication* (*AJIC* Issue 17) brings together scholarly contributions on a range of topics relating to access to telecommunications, the regulation of telecommunications and the development of digital financial services. It includes a particular focus on the development of mobile money in Southern and East Africa. East Africa has led in the adoption of mobile money transfer services, where mobile network operators enable the transfer of funds between individuals. The services have extended to merchant payments and bill payments, such as for utilities. More recently, since around 2013, arrangements have enabled mobile banking to take off in some countries, as part of the broader range of digital financial services. This raises questions about the extent of access and service provision. While the range of services can provide enormous opportunities to communities for economic activity and market linkages, as well as to facilitate the delivery of health and education services, this depends on whether the telecommunications infrastructure is in place, whether fixed or mobile.

The policy and regulatory issues cut across telecommunications and finance, meaning that they straddle the areas of responsibility of different regulators and government departments. There are also questions of consumer protection and competition. Building a common understanding of the issues is an important process in grappling with the regulatory challenges, especially given the complex and dynamic nature of these markets.

## 2. Market structure, competition dynamics and pricing

In this thematic issue, Robb and Vilakazi compare developments in three countries where mobile money transfer has taken off, namely Kenya, Tanzania and Zimbabwe. The comparison of the market structure, competition dynamics and pricing in mobile payments markets in the three African countries shows that where there is a dominant incumbent, as in Kenya and Zimbabwe, tariffs for mobile payments tend to be higher and there is a wider gap between the charges for registered and unregistered customers. This is consistent with the predictions of economic theory in network industries and the incentives of incumbent operators to capture or tip the market in their favour. By attracting customers to the dominant network and making switching unattractive, the pricing bolsters the incumbent's market power. All three countries have competition authorities and action has been taken by the authorities in Zimbabwe and Kenya. Tanzania, by comparison, has seen the Central Bank nurturing the development of the services using a soft touch and moral suasion, backed by its considerable powers. The competition issues have been minimised by the regulatory actions, which have ensured that three vigorous rivals have been maintained in the market and no one company has unilateral market power.

## 3. Regulatory issues in mobile financial services

Two articles, one by Mazer and Rowan and the other by Blechman, narrow in on

Kenya and Tanzania and offer comparative insights. Mazer and Rowan consider the access channel for mobile financial services, transparency in the pricing and terms of the services, interoperability and the sharing of credit data. Blechman undertakes an in-depth analysis of the specific challenges of mobile credit. Mazer and Rowan find that channel access through unstructured supplementary service data (USSD) is especially important for competitive rivalry in mobile financial services. By using USSD, a range of providers can offer services over mobile channels. However, the mobile network operators (MNOs) control USSD. With rivalry between the MNOs, they are incentivised to offer reasonable terms to attract customers, as in Tanzania. With unilateral market power on the part of one provider, as in Kenya, then USSD access can be charged at high prices and those offering services, which do or may compete with the MNOs mobile financial services offering, can effectively be blocked. Enforcement action, whether by the competition authority or the regulator, is likely to be required. There are similar issues relating to transparency. Mazer and Rowan find that a lack of transparency hinders competition, through increasing search costs and making comparability more difficult. This warrants action under the consumer protection provisions of national laws and regulation.

Interoperability is a crucial step in smaller competitors being able to attract subscribers, as these subscribers are then able to link with subscribers on the larger networks. However, starting with interoperability from the outset reduces the incentives for the first mover to invest in the network, as followers will be able to access the network without making their own investments. As the networks mature, the market power of the dominant network becomes an important concern and interoperability needs to be achieved. Mazer and Rowan describe how Tanzania has achieved interoperability through negotiations between the main providers, under the guidance of the Central Bank. Tanzania also issued guidance against agents being signed up on an exclusive basis. In each of these areas, Tanzania differs from Kenya and provides an important example for other countries. In Kenya, agent exclusivity was only achieved as a result of a settlement with the Competition Authority of Kenya.

Of course, interoperability, or interconnection, when we consider telecommunications networks, needs to pay attention to off-net or call termination charges. Substantial charges mean there is a differential charged for calling or transferring to someone on another network and can mean that, while there may be technical interoperability, the penalty on consumers is such that it changes their behaviour in practice. The thematic report by Hawthorne analyses the effects of the decision to reduce mobile call termination rates (MTRs) in South Africa. While the incumbents had claimed little would result from the change in MTRs, the outcome was very substantial, since the more effective rivalry from the smaller networks, as a result of lower MTRs, forced the two large MNOs to compete, through lowering headline call charges (especially on pre-paid calls) to the advantage of consumers. Thus, regulation is important to support competitive rivalry.

Blechman undertakes an in-depth analysis of the specific challenges of mobile credit in Kenya and Tanzania, where mobile money transfer services are ubiquitous. Mobile credit allows consumers to apply for loans over mobile devices and enables the extension of financial services to otherwise unbanked populations, such as smallholder farmers and informal traders. As mobile credit grows it raises a number of regulatory challenges, especially as it cuts across different regulatory frameworks. Blechman identifies challenges in prudential regulation of the financial system, economic regulation to address market failures and consumer protection regulation to ensure consumers are informed, especially with a view to the potential for vulnerable consumers to rack up debt.

**4. Further considerations in formulating policy and regulation**

It is important that policymakers and regulators ensure an enabling environment that incentivises innovation and investments in these new products and the underlying technologies that drive them. A critical consideration in the mobile credit offering is ability to evaluate risk. Blechman considers the importance of information from money transfers as an important source of data on subscribers' behaviour, which can be used in credit extension, as it enables an individual's track record to be built up from mobile credit data. However, the credit record is controlled by the mobile money service provider. As of 2016, there is a regulatory patchwork in Kenya and Tanzania, with many gaps with respect to this data. In particular, according to Blechman, mobile credit data needs to be included in credit reporting systems, in a way which furthers the policy goals, without exploding the costs of mobile credit or unfairly punishing the financially uneducated for mistakes.

The article on Uganda, by Macmillan, Paelo and Paremoer, complements the studies on Tanzania and Kenya, by considering the development in a country, which is rapidly catching up with its neighbours in adoption of mobile money. Macmillan et al. assess the effect of "light touch" regulation on the competitive dynamics of Uganda and contrast this with the experience in Tanzania, where regulation evolved from light touch regulation to a fuller framework as the sector grew. In Uganda, one firm has established a substantial lead position in mobile money and Uganda is certainly an example of mobile money take-off under an MNO led model. Light touch regulation incentivised the rapid expansion in services by the lead firm, as it could reap the rewards of its investments, with its market power practically unchecked. However, the dominant player in such a situation has the incentive to foreclose any rivals and maintain relatively high prices, both of which actions can stifle the growth of the services. Macmillan et al. identify a number of potential competition issues, which require attention. While Uganda has not had a competition authority, the Communications Act gives the Uganda Communications Commission the authority to regulate an extensive range of competition issues in the telecommunication sector. The Central Bank also issued non-binding mobile money guidelines in 2013. In addition, under private litigation, the dominant firm has been found to have unlawfully blocked a smaller rival, although as at December 2016 this was still under appeal.

The Uganda case thus provides a good example of the regulatory challenges and of the benefits from mobile money. The recent proliferation of mobile financial services in developing countries has increased access to financial services among underserved rural and low-income populations. While these new services have the potential to further promote financial inclusion, they also raise novel regulatory issues and do not fit neatly into pre-existing regulatory categories. This is due to the novel nature of mobile credit and the variety of entities and regulatory frameworks implicated in the business models found in these two markets. Policymakers and regulators will need to make choices about how to regulate mobile credit, with respect to consumer protection, credit reporting and the availability of mobile and mobile money services transactional data, a key input for credit evaluation decisions. These choices will need to take into account promotion of financial inclusion and protection of consumers, without creating disincentives for innovation and investment.

By comparison with the three East African countries, South Africa has not seen mobile money take off, and financial services, such as credit, remain dominated by traditional banks. Makhaya and Nhundu consider the barriers to entry in banking through the eyes of a successful entrant in South Africa, Capitec Bank. The experience highlights the range of obstacles to effective rivalry. These obstacles range from the considerable time required to build the customer base, brand awareness, a branch network (in the absence of mobile money and branchless banking) to regulatory hurdles. The article also highlights the benefits of entry and the resultant competition in the retail banking sector, which had been dominated by four major retail banks. Significantly lower bank charges resulted, and Capitec's entry sparked competition in low cost bank accounts and facilitated better services for low-income clients and enhanced financial inclusion. Makhaya and Nhundu identify a number of aspects that can still be improved in the regulatory framework, such as to facilitate switching and to support innovation, while, of course, effective bank supervision is essential for prudential reasons.

The contribution by Bello, Opadiji, Faruk and Adediran highlights the challenges and opportunities on the ground for rural and remote communities in Nigeria. Their survey of 15 rural communities emphasises the importance of improving access. Four of the communities have no access to telecommunications services, while the remaining 11 have access, but it is relatively poor in terms of the quality of reception. Bello et al. highlight the substantial benefits, which would be realised from improved access, drawing from literature and the survey of the 15 communities. The benefits include farmers having better information about markets and being able to link with customers, as the Agric Mobile Phone Xchange in Nigeria is doing. There are also future benefits in education and community healthcare service delivery, where rural healthcare centres can be linked to central facilities to obtain information and primary healthcare support, and provide data to monitor disease incidence. The survey identified perceptions of where improved telecommunications services would bring benefits with relationships with friends, family support networks and better neighbourhood security topping the list. This was followed by better education opportunities and health. Interestingly household income, business opportunities and the quality of government services were rated much lower.

The differing approaches to telecommunications policy and regulation are starkly illustrated by Sutherland's comparison of the Washington consensus policies of privatisation and liberalisation promoted in Africa, against the alternative approach of China. African countries largely have tight private oligopolies or a single dominant firm. By comparison, China has maintained state-ownership in telecommunications, while encouraging competition amongst a number of market participants. Sutherland notes that China is becoming more engaged in African countries, through supporting network upgrading and other operations. This raises the question whether African countries can and should "look east" for different models of telecommunications policy and regulation, as well as support for infrastructure investment.