

**Updated draft final report for the
Communications Authority of
Kenya**

Telecommunication
competition market study
in Kenya
(Abridged version)

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Abbreviations used

The following acronyms and abbreviations are used in this report.

Term	Meaning
ARPU	Average revenue per user
BEREC	Body of European Regulators for Electronic Communications
CA	Communications Authority of Kenya
CAK	Competition Authority of Kenya
CAK Guidelines	“Guidelines on Relevant Market Definitions” (CAK document)
CBA	Commercial Bank of Africa (now trades as CBA)
CBK	Central Bank of Kenya
CCK	Communications Commission of Kenya (predecessor of the CA)
CDMA	Code Division Multiple Access
CGAP	Consultative Group to Assist the Poor
Competition Act	Competition Act, 2010 (with the 2012 and 2014 amendments)
EC	European Commission
EFinA	Enhancing Financial Innovation and Access
EFT	Electronic funds transfer
Eol	Equivalence of inputs
EU	European Union
HHI	Herfindahl–Hirschman Index
Internet protocol	IP
KCB	Kenya Commercial Bank (now trades as KCB)
KICA	Kenya Information and Communications Act, 1998 (as amended in 2013 and 2015)
LRAIC	Long-run average incremental cost (average incremental cost of all traffic of a given service plus potentially a mark-up for common costs)
LRIC	Long-run incremental cost (avoidable long-run cost of the traffic of a given service considered as the last increment on the network)
MNO	Mobile network operator
MKA USSD	“Competition inquiry into USSD service provision in Kenya”, Macmillan Keck and Acacia Economics report for the CAK (draft, 22 April 2016)
MoICT	Ministry of Information, Communications and Technology
MOU	Memorandum of understanding
MTR	Mobile termination rate
MVNO	Mobile virtual network operator
NFP	Network facilities provider
NRA	National regulatory authority
OECD	Organisation for Economic Co-operation and Development
OTT	Over-the-top
PPP	Purchasing power parity
PwC	PricewaterhouseCoopers

Term	Meaning
SIM	Subscriber identity module
SIP	Session Initiation Protocol
SMP	Significant market power
SMS	Short message service
SSNIP	Small but significant and non-transitory increase in price
STK	SIM application toolkit
USF	Universal service fund
USSD	Unstructured supplementary service data
VoIP	Voice over Internet protocol

1 Executive summary

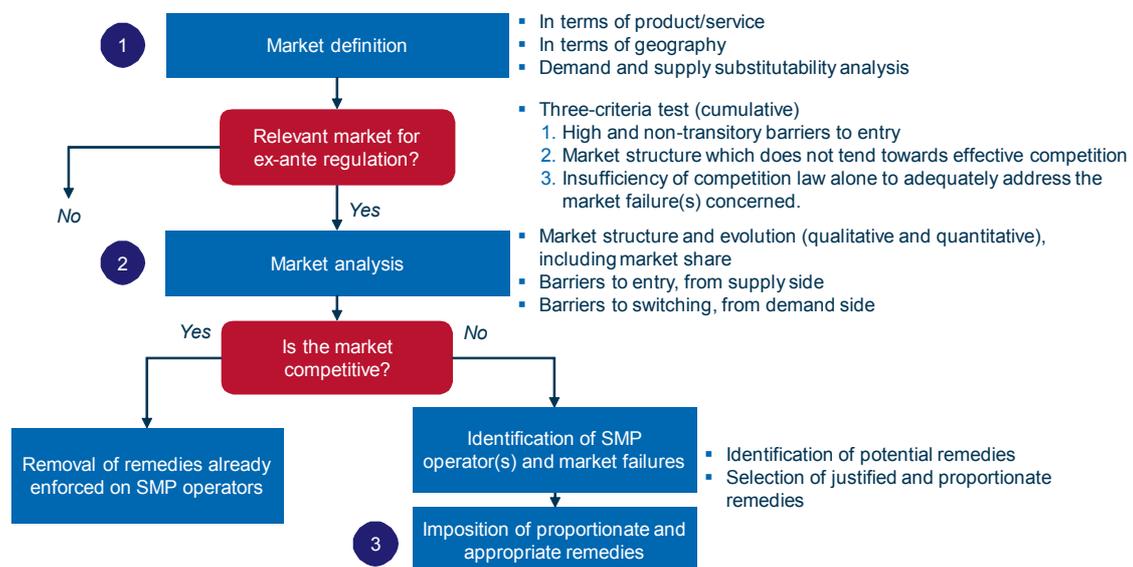
Analysys Mason has been selected by the Communications Authority of Kenya (CA) through a competitive procurement process to provide consultancy services to undertake a telecommunication competition market study (contract CA/LS/RFP/071/004/2016).

This is our updated draft final report containing our findings and recommendations following inputs from key stakeholders. It is based on our interactions with the CA and other stakeholders between 24 May 2016 and 12 May 2017, and contains updated information in relation to the amendments to the primary legislation for the sector, consequent upon the outcome of a High Court judgement on 6 June 2017 which was made publicly available in August 2017.

1.1 The European market review framework

Figure 1.1 shows the European Commission (EC) framework (or European framework) for market review, which is often recognised as an example of global best practice. We believe that this framework is consistent with the Kenyan law and regulation (see next section) and that it forms a very good reference model for performing market reviews.

Figure 1.1: Overview of EC telecoms market review framework [Source: Analysys Mason, 2017]



1.2 Summary of framework for competition regulation in Kenya

Our review has mainly been based on the following two Acts:

- Kenya Information and Communications Act, 1998 (as amended in 2013 and 2015) (KICA)
- Competition Act, 2010 (with the 2012 and 2014 amendments) (Competition Act).

The CA's powers in relation to competition under KICA include:

- the promotion of competition (section 23(2)(b))

- ex-ante and ex-post jurisdiction (sections 84Q, 84R, 84S and 84T)
- determining which licensees are “dominant in a relevant market” (section 84W).

We believe that the existing regulatory framework in Kenya is consistent with the EC framework described above.

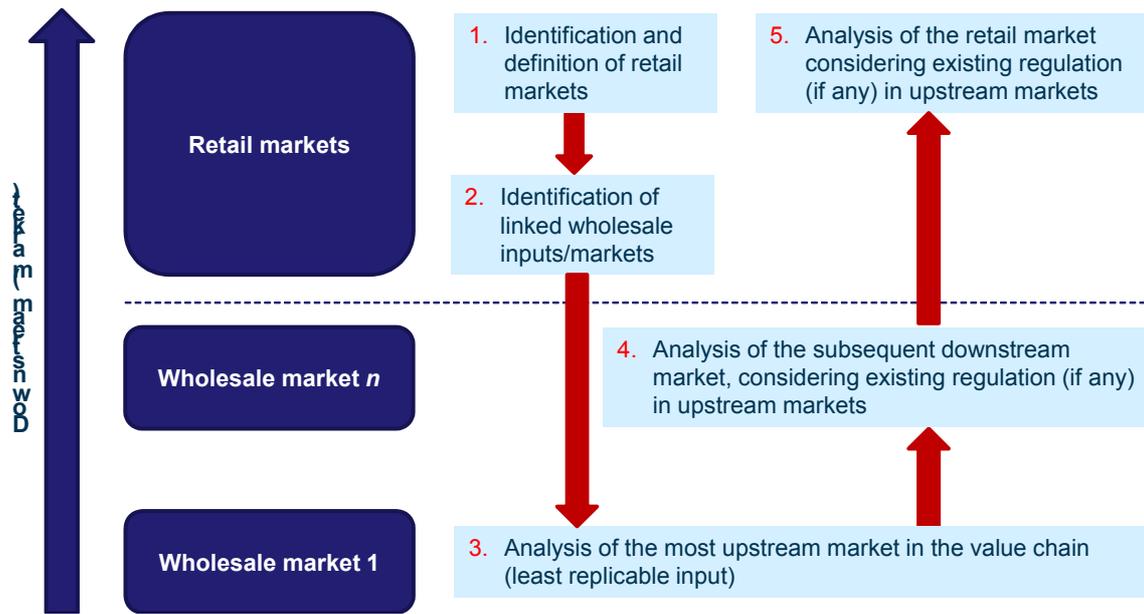
1.3 Overview of approach

Competition law has at its core, the same goal everywhere – to facilitate competition for the benefit of consumers. Consumers in Kenya are no different from consumers in any other country and the need to facilitate competition by restraining unbridled dominance through ex-ante regulation is a recognised and internationally upheld phenomenon in the telecoms sector (where, given the investment profile and the potential harm for consumers, ex-post intervention is not sufficient). One way to achieve this outcome is through the process of ex-ante market review.

Conducting a market review can be quite a technical exercise. In particular, it can appear very theoretical and not necessarily appropriate to start defining a market without having first considered the main trends in the market. This is why we start our analysis with a high-level overview of the current conditions and prevailing trends in Kenya’s telecoms market. The objective of this initial description of the Kenyan telecoms market is to understand the positioning of the key market players, main trends in the markets as well as how Kenya’s telecoms market compares with its neighbouring countries, before starting a rigorous market review (described below).

Our assessment then follows the approach originally developed by the European Commission that has become known as the modified greenfield approach for market review (see Figure 1.2). The market review starts by defining the retail markets. We then identify all related wholesale markets and start a market review (market definition, analysis and identification of remedies) of the most upstream wholesale market. We then move down the value chain to the most downstream market. Finally, we complete the retail market analysis (taking account of the wholesale regulation proposed for upstream markets) by assessing if the markets are susceptible to ex-ante regulation and if so performs the market analysis and select the appropriate remedies.

Figure 1.2: Overview of the modified greenfield approach used in this study [Source: Analysys Mason, 2016]



1.4 Market definition and preliminary review of retail markets

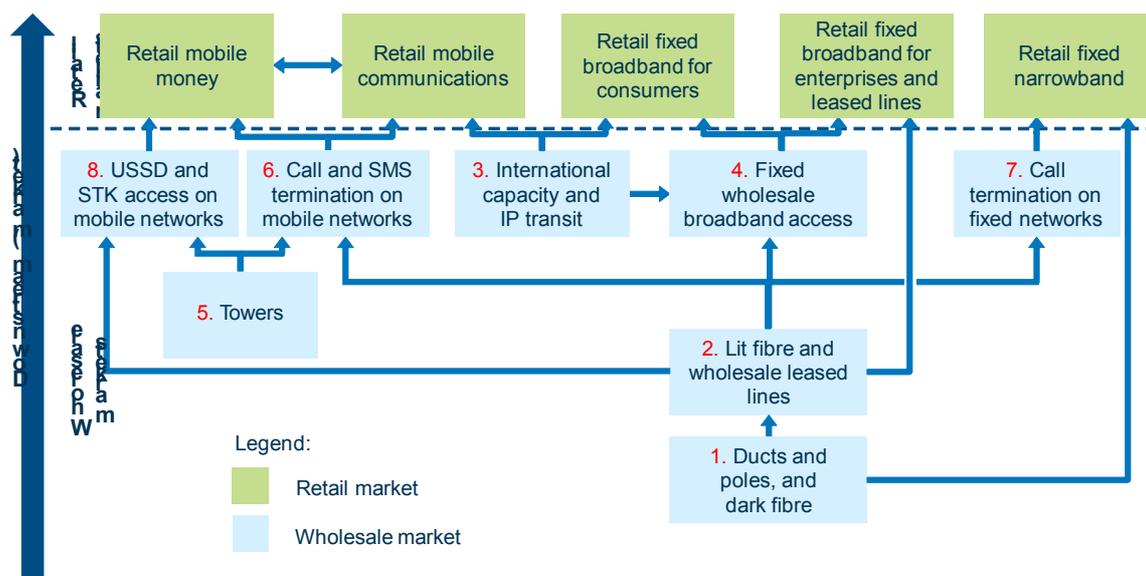
We have identified five retail markets:

- Retail mobile communications market
- Retail mobile money market
- Retail fixed narrowband market
- Retail fixed broadband market for enterprises and leased line market
- Retail fixed broadband market for consumers

1.5 Review of wholesale markets and proposed remedies

Upstream of these markets we have identified eight linked wholesale markets (see Figure 1.3). Two of these, *call and SMS termination on mobile networks* and *call termination on fixed networks*, are currently subject to ex-ante regulation in the form of termination rates set by the CA.

Figure 1.3: Retail markets and lined wholesale markets defined in this study [Source: Analysys Mason, 2016]



We have analysed each of these wholesale markets starting with the most upstream to determine whether they are susceptible to ex-ante regulation on the basis of the three-criteria test (specified in Regulation 3A of the Schedule to the Kenyan Tariff Regulations, 2010¹) and, if so, which player or players have significant market power (SMP). The conclusions of our wholesale market analysis are shown in Figure 1.4.

¹ The three criteria are:

- effective competition amongst existing licensees cannot develop;
- there are strong and non-transitory barriers to entry in the identified market segment; and
- there is no other competition law that is sufficient to deal with the competition concerns.

Figure 1.4: Summary of conclusions from wholesale market analysis [Source: Analysys Mason, 2016]

Market	Susceptibility to ex-ante regulation	Findings on SMP
Ducts and poles and dark fibre	No – no particular competition issues in ducts and dark fibre; access to poles does not constitute a strong barrier to entry*	Not applicable
Lit fibre and wholesale leased lines	No – effective competition exists*	Not applicable
International capacity and IP transit	No – effective competition exists and is likely to increase in next 3 years as new capacity is completed	Not applicable
Fixed wholesale broadband access	No – emerging market where ex-ante regulation would be premature and inappropriate. CA should however closely monitor the evolution of this market	Not applicable
Towers	Yes – not economically viable for smaller operators to extend coverage in areas of low population density given current market share and cost of tower sharing	Safaricom dominant
Call and SMS termination on mobile networks	Yes – each mobile operator has an effective monopoly on termination on its network	Each mobile operator dominant on its own network
Call termination on fixed networks	Yes – each fixed operator has an effective monopoly on termination on its network	Each fixed operator dominant on its own network
USSD and STK access on mobile networks	Yes – each mobile operator has an effective monopoly on USSD and STK access on its network	Each mobile operator dominant on its own network

* There is a competition issue in the special case where a facilities provider has secured exclusive rights of access to a particular building or site. This is discussed further in section 1.7 below

Based on this analysis we propose that the following wholesale remedies are justified and proportionate:

- *Towers.* Safaricom should be required to provide other Tier 1 mobile operators with access to its sites in 7 designated counties where there is the largest disparity between the number of Safaricom sites and the number of sites deployed by the other two Tier 1 mobile operators. The price for site sharing at these sites should be based on the long-run average incremental cost (LRAIC) of providing these sites. Access should be provided on a non-discriminatory basis via a Reference Access Offer (RAO) detailing the commercial and technical terms that apply to regulated site sharing. The regulated prices should be available on all new site shares agreed in the next five years in the designated counties and the regulated price shall apply for a minimum of five years at each individual site. Where it is demonstrated that a site needs strengthening or other essential work to accommodate additional operators, the access seeker should be responsible for the associated capital expenditure.

- *Call and SMS termination on mobile networks.* Each mobile operator should continue to provide termination services on its network to any other network operator on a non-discriminatory basis with rates set by the CA based on LRIC (for the avoidance of doubt, we are not proposing any immediate changes to the current mobile termination rates). Each operator should prepare an RAO detailing the commercial and technical terms that apply to call and SMS termination.
- *Call termination on fixed networks.* Each fixed operator should continue to provide termination services on its network to any other network operator on a non-discriminatory basis with rates set by the CA based on LRIC (for the avoidance of doubt, we are not proposing any immediate changes to the current fixed termination). Each operator should prepare a Reference Interconnection Offer (RIO) detailing the commercial and technical terms that will apply to call termination by dominant operators. This is already provided for in the Interconnection and Provision of Fixed Links, Access and Facilities Regulations, 2010.²
- *USSD and STK access on mobile networks.* All licensed mobile operators should be required to provide USSD access on request to all licensed content service providers on a non-discriminatory. Prices should be based on LRIC but, given the cost and time required to prepare a suitable cost model, if each operator were to agree voluntarily to a price below KES1 per session (or if charged per hop, a price reaching the equivalent result) then the CA should give due consideration to accepting this offer as a short-term alternative. Each operator should prepare a RAO detailing the commercial and technical terms that apply to USSD access. STK access for third-party providers would be desirable in terms of ensuring a ‘level playing field’ for all market players but we propose that this more intrusive remedy should not be made mandatory at this stage since it could raise practical implementation difficulties.

1.6 Review of retail markets and proposed remedies

We then return to analyse competition in the five retail markets.

We believe that two of these five markets, *mobile communications* and *mobile money*, are susceptible to ex-ante regulation based on the three-criteria test. The market analysis concludes that Safaricom is dominant in both the *mobile communications* and *mobile money* markets. In both of these markets Safaricom enjoys, and has enjoyed for a long time, a very high market share (above 80% in value). Our assessment of other qualitative criteria (barriers to entry, economics of scale and scope etc) confirms the fact that Safaricom is able to behave independently of its competitors.

Based on this finding, and taking into account the remedies proposed for wholesale markets above, we propose that the following retail market remedies are justified and proportionate:

² Regulation 18.

For the retail mobile communications market:

- ▶ *National roaming.* For a period of five years, Safaricom should provide 2G, 3G and 4G roaming on its network to other Tier 1 mobile operators in the counties identified for regulated tower sharing. The national roaming offer should be based on the LRAIC of an efficient operator, providing coverage in the area designated for national roaming with a quality of service equivalent to that which Safaricom provides to its own subscribers. Safaricom should prepare a RAO detailing the commercial and technical aspects of its national roaming offer.
- ▶ *Replicability of retail tariffs.* Safaricom's standard tariffs, permanent loyalty schemes and promotions should be capable of being profitably replicated by a reasonably efficient competitor. At least five days before launching a new tariff, loyalty scheme or promotion, Safaricom should provide a justification that the proposals can be replicated by a reasonably efficient operator, for which the key parameters (market share, cost structure etc) will be defined by the CA. We have explained the CA's powers in this regard in more detail in Annex E.
- ▶ *Prohibition of on-net discounts.* Safaricom should not be permitted to charge different rates for on-net and off-net calls or messaging to any customers under any circumstances (i.e. through its standard tariffs, promotions or permanent loyalty schemes). This includes a requirement that any bonus airtime granted to Safaricom customers should be usable for on-net and off-net calls and messaging at the same rates. To ensure that customers are aware of this remedy, all Safaricom advertising marketing materials referring to tariffs, promotions and customer loyalty schemes should make it clear that on-net and off-net tariffs are the same and that bonus airtime may be used for on-net and off-net calls and messaging. We have explained the CA's powers in this regard in more detail in Annex E.
- ▶ *Prohibition on individually tailored loyalty schemes and promotions.* Safaricom may not offer loyalty bonuses or promotions for which the qualification criteria require different levels of expenditure or usage by different subscribers in the same category. This would be discriminatory.

For the retail mobile money market

- ▶ *Prohibition on surcharges for cross-platform money transfers* Safaricom should apply the same fee structure and fee level on transfers to registered and unregistered users, including users of other platforms. The fee for cross-platform transfers shall include the fee for cash withdrawal at the Safaricom agent (as it does now) until such time as full wallet-to-wallet interoperability (by which we mean the automatic and near-instantaneous transfer of funds between mobile wallets on different platforms without the need to take cash out and pay it back in again) is available. We recommend that wallet-to-wallet interoperability should be a symmetric obligation on all operators and for this reason we discuss this remedy in the next section.

1.7 Proposals to address other market barriers

1.7.1 Mobile communications

It would be desirable to have a more even allocation of low-frequency (sub-1GHz) spectrum amongst mobile operators but we believe that a re-allocation of 900MHz spectrum from Safaricom to Telkom (as proposed by Telkom) would have little impact on competition in the short term and would be difficult to implement. It should therefore not be a priority for the CA.

When regulatory fees (including spectrum fees) undergo another periodic review we recommend that the CA should consider ways to reduce the burden on smaller operators.

We propose that where a licensed network facilities provider (NFP) owns or controls any in-building wireless solution, they should be required to make it available to all other licensed NFPs on non-discriminatory and cost-oriented terms.

1.7.2 Mobile money

Wallet-to-wallet interoperability would clearly benefit consumers in terms of:

- convenience (avoiding the need to withdraw cash from an agent of the sender's network and pay it back in at an agent of the recipient's network). In this regard, we note the recent launch of Pesa Link by the Kenya Bankers Association which enables electronic transfers between bank accounts of participating banks to be made quickly and cost-effectively. Pesa Link may give rise to a new divide between consumers within the formal banking sector – who now have access to convenient low-cost cross-platform money transfers – and those who use mobile money instead – for whom cross-platform money transfers are inconvenient and relatively high cost
- potentially increased competition amongst providers on transfer fees, leading to lower fees overall.

It is also likely that wallet-to-wallet interoperability would benefit the smaller mobile money providers as it would reduce the 'club effect' currently enjoyed by Safaricom as the provider of the dominant platform. We therefore recommend that the CA should set a firm timetable for the implementation of wallet-to-wallet interoperability between all licensed mobile money platforms in Kenya and work with the licensees, the Competition Authority of Kenya (CAK) and the Central Bank of Kenya (CBK) to ensure that this timetable is adhered to. In the event that the timetable is not adhered to and the CA has reasonable grounds for believing that this is due to actions or lack of action by one or more licensees, the CA should take appropriate measures against licensee or licensees concerned.

In addition to wallet-to-wallet interoperability for mobile money, it would be desirable to set up a system under which agents can support multiple mobile money platforms using a single float (termed 'agent-to-agent interoperability' by Telkom). However, we see this as a matter of banking

regulation and therefore the CA's role in its implementation is limited to encouraging and supporting the CBK (possibly with assistance from the CAK).

1.7.3 Fixed broadband for enterprises and leased lines

As with in-building wireless solutions, we propose that any licensed NFP that controls a monopoly entry to a building or site should be required to make it available to all other licensed NFPs on non-discriminatory, cost-oriented terms.

1.7.4 Fixed broadband for consumers

Fixed broadband operators have reported widespread illegal reselling of their access and, in some cases, their content services. We recommend that the CA should review its current processes for handling complaints about illegal broadband networks with the aim of providing a faster response and more effective enforcement.

Fixed broadband operators who provide TV service also complain that they have difficulty accessing attractive subscription content because MultiChoice has bought exclusive rights to much of the most attractive content on a long-term basis and is unwilling to wholesale it. A review of competition in media content markets in Kenya is beyond the scope of this study but we believe the broadband operators have a *prima facie* case so this is a market that the CA should consider reviewing in the future.

1.7.5 Content services

At the time of writing we are still waiting for results of our information request to content service providers (CSPs) but we understand that the CA has received a number of complaints from CSPs about access to network facilities providers. Our preliminary conclusion is that if these problems could be solved, or at least alleviated, if all licensed network facilities providers who support third-party content service providers were required to publish a reference access offer (RAO) under the Interconnection and Provision of Fixed Links, Access and Facilities Regulations, 2010, setting out their terms and conditions, including the scale of charges and the timescales required to implement new services. Recently the CA imposed an obligation on signal distributors in the broadcasting market requiring them to produce a RAO for their conditions of carriage. This sort of RAO would be more appropriate as a model to be used with content service providers. The RAO is dealt with in more detail in the sections that follow.

1.7.6 General

New drafts of most of the CA's main regulatory instruments are currently under discussion and this presents an opportunity for CA to improve and streamline the instruments to create a clearer and better regulatory framework for the future. [38]

We recommend that the collection of CA quarterly statistics from licensees should be reviewed and streamlined to eliminate misunderstandings about the data required and try to reduce the burden on licensees (particularly smaller ones). We also note that the CA does not collect data on some of the markets defined in this study. For example, we believe that no data is currently collected on leased line volumes or USSD wholesale traffic.

The mobile-money-market issues identified are a good example of an instance where effective inter-authority liaison could be used to achieve an improved regulatory outcome. Some of the issues identified in the mobile money market also require, or would benefit from, action on the part of the CBK. [38]

2 Introduction

Analysys Mason has been selected by the Communications Authority of Kenya (CA) through a competitive procurement process to provide consultancy services to undertake a telecommunication competition market study (contract CA/LS/RFP/071/004/2016).

The last telecoms market review in Kenya was begun in 2009. Since 2009, the number of mobile subscriptions in Kenya has doubled, the number of PSTN lines in service has fallen by around 65%, three new submarine cable systems have transformed international connectivity and large amounts of terrestrial fibre have been deployed. In the light of these developments, the CA commissioned a new market review encompassing the mobile, fixed line and broadband markets and the regulatory framework that governs them. Our terms of reference are as follows:

- i. To identify the relevant markets (sub-markets) within the telecommunication sub-sector, the number of players that exist and their respective market shares.
- ii. To establish the levels and extent of competition in the various telecommunication sub-markets identified; and identify players with significant market power.
- iii. To identify the market barriers, if any, that prevent or restrict entry, competition and the growth of the players in the era of changing technologies.
- iv. To provide a proposal on the best ways by which the identified barriers and factors acting as a hindrance to growth can be considerably minimised or eliminated.
- v. To establish whether any anti-competitive behaviour exists or has taken place and evaluate the extent this has helped certain players entrench dominance in telecommunication sub-sector.
- vi. To identify specific stimulus that can be injected in the Internet/data sub-segment in order to ensure that there is effective competition, accessibility, affordability and growth.
- vii. To recommend the optimal or appropriate and proportionate regulatory response to the competition issues identified within the existing regulatory and legal framework.
- viii. To develop accounting separation guidelines that will be applicable to identified dominant firms.
- ix. To recommend any other relevant intervention(s) that would go a long way towards enhancing effective management of competition in the telecommunication subsector in Kenya.

This is our updated draft final report containing our findings and recommendations following inputs from key stakeholders. It is based on our interactions with the CA and other stakeholders between 24 May 2016 and 12 May 2017. We have modified certain aspects of the report to reflect the outcome of a High Court case in relation to the primary legislation governing the sector, which was determined on 6 June 2017.

The primary purpose of a telecoms market review is to determine:

- the scope of relevant markets (*market definition*)
- if the defined telecoms markets are competitive and, if not, which participants in the market have significant market power (SMP) and what market failures are occurring as a result of this SMP (*market analysis*)
- what asymmetric regulation in the form of regulatory remedies should be applied to the SMP participants to address these market failures (*identification of appropriate remedies*).

Hereafter we use the term *market review* to cover the three key steps of market definition, market analysis and identification of remedies.

Symmetric regulation, i.e. rules that apply to all participants, may also be desirable to ensure that markets work efficiently. Symmetric regulation is typically developed outside of the context of specific market analysis (which focuses on the need for asymmetric regulation of market players with SMP). The obligations for all players to pay licence fees, provide statistics to the regulator or contribute a percentage of their revenues to the universal service fund are examples of symmetric regulation. Our scope of work does not cover a full review of symmetric regulation. However, we do consider, at the end of our report, whether the imposition of new symmetric regulation would be relevant to address some market issues that could not be dealt with via asymmetric regulation.

The rest of this report is structured with these objectives in mind:

- Section 3 introduces the guidelines of the European Commission (EC) for telecoms market reviews as an example of best practice in this area that is globally consistent with Kenyan law and regulation and forms a good reference model for assessing telecoms markets in Kenya.
- Section 4 contains a summary of the framework for competition regulation in the Kenyan telecoms sector.
- Section 5 details the methodology we have followed for this Kenyan market assessment study.
- Section 6 contains a description of the main trends in the Kenyan telecoms market.
- Section 7 formally defines the retail markets.
- Section 8 contains the market review of the wholesale markets linked to the relevant retail markets previously identified (market definition, market analysis and identification of appropriate remedies).
- Section 9 returns to the retail markets, and finalises the market review of these markets (i.e. we identify the retail markets susceptible to ex-ante regulation and perform market analysis and identify appropriate remedies, bearing in mind the proposals already made for regulating related wholesale markets).

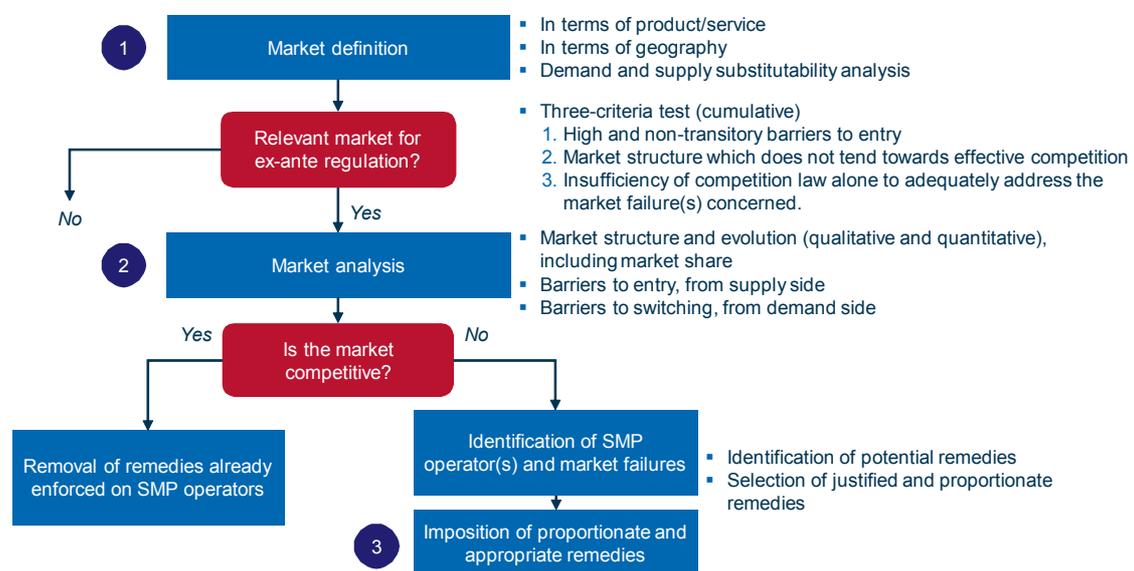
- Section 10 considers the need for new symmetric regulation and proposes other actions to address market barriers not addressed by the asymmetric regulation proposed in earlier sections.

3 The European framework for market review

In this section, we present the European Commission (EC) framework (or European framework) for market review, which is often recognised as an example of global best practice. We believe that this framework is consistent with the Kenyan law and regulation (as presented in the following section) and that it forms a very good reference model for performing market reviews.

A regulator in the European Union (EU) needs to follow a specific process in order to apply ex-ante regulation. The process is summarised in Figure 3.1 and described in more detail in the following sub-sections.

Figure 3.1: Overview of EC telecoms market review framework [Source: Analysys Mason, 2017]



3.1 Market definition

3.1.1 Definition of the relevant product/service market

The first step of a market review process is to define the market or markets to be reviewed. This activity aims to delimit the “boundaries” or “perimeter” in terms of products and services and the geographical scope of the market that is being assessed.

In order to define the boundaries of a market for a given service correctly, it is necessary to identify the competitive constraints on the price-setting behaviour of the firms which supply the product or service under consideration. There are two sources of competitive constraints on the price-setting behaviour of firms:

- demand-side substitutability
- supply-side substitutability.

The use of both demand- and supply-side substitutability analysis allows the boundaries of each relevant market to be defined, by identifying those services that should be considered as part of the same economic market.

- *Demand-side substitutability* represents the ability and willingness of consumers to substitute the service in question with other available services. Suitable services will be substitutes to the extent that they can provide similar functionalities, or can satisfy consumer needs to the same extent as the relevant service. The key issue is to determine whether or not the characteristics and the price of a potential substitute service effectively constrains the price of the relevant service.
- *Supply-side substitutability* refers to the ability of a firm to promptly switch its production from its current services to the relevant service in question (or a substitute service).

In order to identify constraints on price-setting behaviour arising from demand- and supply-side substitution, it is common practice to consider the characteristics, usage and prices of two potentially substitutable products or services using the so-called ‘hypothetical monopolist test’, also known as a SSNIP (small but significant and non-transitory increase in price) test.

An iterative approach can typically be used to assess demand-side and supply-side substitutability, carrying out iterations until there are no more demand- or supply-side substitutions, as presented in Figure 3.2.

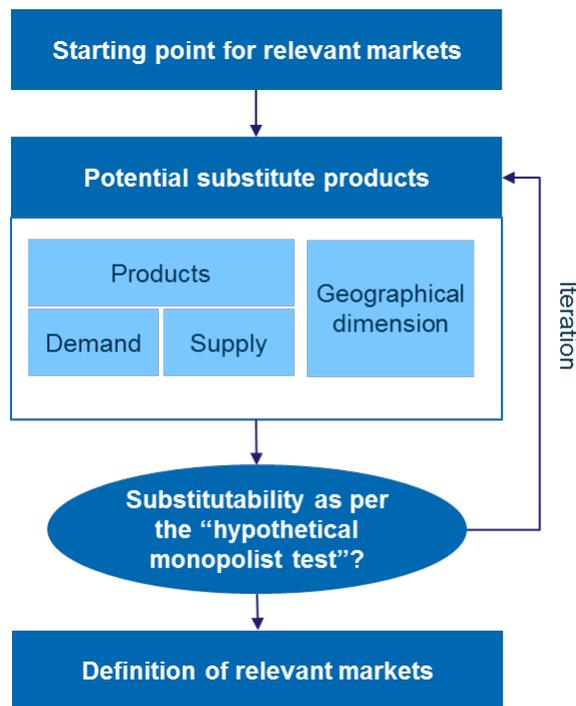


Figure 3.2: Iterative market-definition process [Source: Analysys Mason, 2017]

The principle of the hypothetical monopolist test – at least as a theoretical framework – is that a market should be defined as a service (or a group of services) such that a hypothetical, profit-maximising firm that is not subject to price regulation and is the only present and likely future

seller of that service (or group of services) can profitably and sustainably impose a SSNIP³ above prevailing or likely future levels.

Once the relevant service market has been identified, the geographical dimension can also be assessed to identify those geographical areas where the competitive conditions are different and should therefore be analysed separately.

The SSNIP test is often used by European regulators and may include both quantitative and qualitative analysis. Other techniques that may be used, such as price elasticity and cross-elasticity using regressions and correlations, are only based on a quantitative analysis and require very detailed and exact data, which is often not available.

It is fundamental that the hypothetical monopolist test is not performed as a merely theoretical approach that is distant from operational reality. For this reason, regulators tend to take a realistic and pragmatic approach to such tests. In practice, it is often difficult to obtain empirical evidence of consumers' or suppliers' responses to non-transitory relative price movements of different services. The SSNIP test is, by definition, a hypothetical test, and as a consequence the necessary evidence is rarely available to allow the test to be applied quantitatively. European regulators' approach to the hypothetical monopolist test therefore tends to be based on a qualitative and technical analysis of the services in question.

A second issue concerning the implementation of the hypothetical test is that it is – in theory – effective only in those environments where the price of the relevant services is freely set by market forces. In markets without effective competition, where one or more firms hold market power, the SSNIP test might be applied to a market price which is already set at a monopoly level (or has been set via regulated conditions), such that any further increase will be unprofitable (because profits peak at the monopoly price level and a further price increase will reduce profits).

In such circumstances, which might frequently occur in a liberalised market environment such as that of the telecoms industry, the application of the SSNIP test might lead to a broader market definition that also includes dubious demand-side substitutes. This distortion, which in literature is known as the cellophane fallacy,⁴ might lead to a conclusion that there is a high degree of market competition and fail to identify operators with market power. The working assumption which is typically adopted is that the prices of services currently available in the market (including services provided at regulated prices) are set at competitive levels, as long as there is no material evidence to the contrary. Nonetheless, it is important to bear the concept of the cellophane fallacy in mind when assessing the market definition.

³ It is common practice to assume a price increase in the order of 5–10%. The EC recommends testing price increases of the same order of magnitude.

⁴ *U.S. v. E.I. DuPont de Nemours & Co.*, 351 U.S. 377 (1956). See William Landes and Richard Posner, *Market Power in Antitrust Cases*, 94 Harv. L. Rev. 937 (1981). In this case DuPont presented evidence that the relevant market was “flexible wrapping materials”, including such products as wax paper and aluminium foil. The US Supreme Court agreed, failing to realise that it was precisely DuPont’s non-competitive price on cellophane that allowed these products to compete. The criticism of this decision has centred on the allegation that the prevailing prices were above competitive levels. At (lower) competitive prices for cellophane, there may have been no substitutes for cellophane, and thus DuPont would have had market power. See Margaret Sanderson and Ralph A. Winter, “Profits” Versus “Rents” in *Antitrust Analysis: An Application to the Canadian Waste Services Merger*, *Antitrust Law Journal*, Vol. 70, No. 2 (2002), pp. 485-511

The principle of common pricing constraints should also be considered at the market-definition stage. This principle is based on the fact that two products that are not directly substitutable for each other could still belong to the same relevant market if both are shown to have common pricing constraints. This rationale can typically be used to include, in the same relevant market, calls to different destinations or different services bundled together, even though such products are typically not substitutable from the demand side. A common pricing constraint can also be used to broaden the geographical dimension of a market (from the demand-side perspective, a service provided to a customer in region A could not be used by a subscriber in region B, however they may still be considered as part of the same market from a supply-side perspective).

3.1.2 Relevant markets susceptible to ex-ante regulation

All markets are not necessarily *susceptible to* (i.e. appropriate for) ex-ante regulation. To determine whether a particular market is susceptible to ex-ante regulation the so-called ‘three-criteria test’ is used in Europe (and elsewhere). A market is relevant for ex-ante regulation if the following criteria are cumulatively met:

1. The presence of *high and non-transitory barriers to entry*. These may be of a structural, legal or regulatory nature. An obvious example in mobile communications might be where the number of infrastructure-based participants is limited by the availability of suitable harmonised spectrum and by the need to establish an extensive network of base stations to offer services.
2. *A market structure which does not tend towards effective competition within the relevant time horizon*. This criterion takes account of the dynamic character and functioning of electronic communications markets and thus the possibility of overcoming barriers to entry in the short term, e.g. through technical innovation. A period of three years is often considered to be a relevant time horizon.
3. *The application of competition law alone would not adequately address the market failure(s) concerned*. Competition law interventions are likely to be insufficient where, for instance, the compliance requirements of an intervention to redress persistent market failure(s) are extensive or where frequent and/or timely intervention is critical.

The application of these three cumulative criteria aims to limit the number of markets where ex-ante regulatory obligations are imposed to those where intervention is essential (i.e. where the development of competition or ex-post regulation would not be sufficient). This is because it is preferable to let market forces act without unnecessary restrictions or regulatory intervention. Failure to meet any one of the three criteria would indicate that a market should not be identified as a market susceptible to ex-ante regulation.

Overall, it should be noted that the three-criteria test differs from the market analysis, even though both analyses may make use of similar indicators. The three-criteria test focuses on overall *market* characteristics and structure, for the sole purpose of identifying those markets that are not susceptible to ex-ante regulation (and by inference the ones that could be susceptible to ex-ante regulation). The test is typically carried out at a higher level (i.e. in less detail) than the following

market analysis (of the market susceptible to ex-ante regulation). The market analysis (or assessment of SMP) instead determines whether an *operator* active in a market that has previously been identified as susceptible to ex-ante regulation should be considered as having SMP and thus whether the operator should be subject to ex-ante regulation.

3.2 Market analysis (establishment of dominance or market power)

The notion of SMP or dominance in Europe has been aligned with the notion of dominance in competition law. It refers to the ability of a company or a group of companies to maintain the prices of its or their products and/or services above a competitive level. Market power arises in a number of industries as a result of factors such as economies of scale that act as barriers to entry and thereby reduce the number of efficient market players, or the use of switching costs that limit the ability of customers to move to new suppliers. Specifically, a company:

“shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.”⁵

The first relevant criterion to assess market power is market share, which is often considered a proxy for market power. Although the possession of high market share is not sufficient to conclude that an operator has market power, it is unlikely that a dominant operator would not have a significant market share.

Several quantitative and qualitative factors may also be taken into account, including:

- product prices and profitability
- overall size of the undertaking
- market concentration
- vertical integration
- product and/or services diversification (for example, bundled products or services)
- a highly-developed distribution and sales network
- control of an infrastructure that is not easy to duplicate
- economies of scale
- economies of scope
- technological advantages or superiority
- easy or privileged access to capital markets/financial resources
- commercial barriers to entry
- regulatory barriers to entry
- ability of customers to switch suppliers
- absence of or low countervailing buying power
- absence of potential competition
- barriers to expansion.

⁵ See Framework Directive, Article 14(2).

The EC framework states that the existence of SMP requires ex-ante regulation.⁶

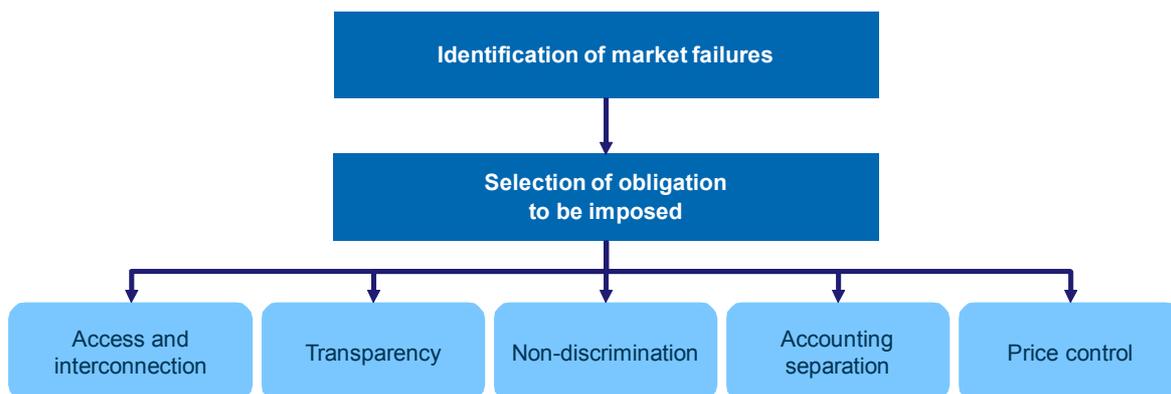
3.3 Identification of remedies

If market analysis establishes that a market is not effectively competitive, then the last phase of the work involves developing remedies to promote competition in that market by addressing the identified market issues/failures. In selecting appropriate remedies, it is necessary to:

- consider the existing regulations to understand the transition and the burden that the proposed remedies will have on the SMP operator
- select remedies that are justified in terms of the specific market conditions, and aimed at addressing the market failures identified by the market analysis
- choose remedies that are in accordance with the principle of proportionality, which is well established in EU law, to ensure that
“the means used to attain a given end should be no more than what is appropriate and necessary to attain that end. In order to establish that a proposed measure is compatible with the principle of proportionality, the action to be taken must pursue a legitimate aim, and the means employed to achieve the aim must be both necessary and the least burdensome, i.e. it must be the minimum necessary to achieve the aim.”⁷

In order to select and justify an appropriate set of remedies for the SMP operators, remedies are often considered under certain groupings. For example, five categories are typically used for remedies in wholesale markets, as presented in Figure 3.3.

Figure 3.3: Categories for remedies in wholesale markets [Source: Analysys Mason, 2017]



⁶ See Framework Directive 2002/21/EC, Paragraph 27.

⁷ Source: Point 119 of the “Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services”.

3.4 Other relevant aspects

Emerging markets

The EC defines ‘emerging markets’ as markets which are so new and volatile that it is not possible to determine whether the three-criteria test is met or not. The underlying principle is that in new emerging markets, the market leader is likely to have a de-facto substantial market share but should not however, be subject to inappropriate obligations. In an emerging market, conditions and market shares can change very quickly and a leading player should not be unduly penalised for being an innovator or a first mover.

Technology neutrality

The EC framework recommends that analysis should be performed on the principle of technology neutrality, that is to say, a regulator should not impose, nor discriminate in favour of, a particular type of technology.

Forward-looking approach and time horizon

Market analysis should be based on a prospective, forward-looking basis. The EC in its Guidelines for market analysis⁸ states that

“NRAs will conduct a forward-looking, structural evaluation of the relevant market, based on existing market conditions. NRAs should determine whether the market is prospectively competitive, and thus whether any lack of effective competition is durable, by taking into account expected or foreseeable market developments over the course of a reasonable period. The actual period used should reflect the specific characteristics of the market and the expected timing for the next review of the relevant market by the NRA. NRAs should take past data into account in their analysis when such data are relevant to the developments in that market in the foreseeable future.”

The typical market review period considered by European regulators is around three years. Some regulators may however perform additional analysis in a shorter timeframe if specific market circumstances may justify additional regulation. Equally, the existence of stable markets and/or stable market player positions may lead regulators to conclude that a new iteration of a market review may only be required every five years.

Self-supply

The issue of how to take into account the self-provision of wholesale inputs (self-supply) has arisen in Europe both in defining and analysing wholesale markets.

⁸ Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03).

Normally, a market consists of a place where some ‘demand’ meets some ‘supply’ and self-supply should therefore not be considered (at least at the market definition stage). However, in order to harmonise EU markets, the EC has defined a list of relevant markets at European level that national regulators then have to analyse nationally. In this context, regulators sometimes found themselves having to analyse markets for which no supply (and sometimes no demand) were identified. These are called notional markets. The EC has therefore tried to clarify its position in an explanatory note accompanying the Commission Recommendation in the 2014 list of relevant markets. It mentions that self-supply by the incumbent operator and by alternative operators had to be differentiated:

“Where there is no merchant market and where there is consumer harm at the retail level, it is justifiable to construct a notional market when potential demand exists. Here the implicit self-supply of this input by the incumbent to itself should be taken into account”.

Similarly, the EC also tries to define when self-supply from alternative operators should be considered.

The modified greenfield approach

Since many markets are interrelated, there is a logical sequence for analysing these markets.

The EC framework explains that the starting point of the analysis should be the retail market(s) that are downstream of any wholesale markets. Achieving a retail competitive market is the ultimate objective of regulation. Wholesale markets are only a means to an end, namely obtaining a level market playing field in the retail market. The analysis should therefore start with the definition of the retail market and then identify the related wholesale services on which the market review should be performed.

The EC states in its explanatory note accompanying the Commission Recommendation on the 2007 list relevant market⁹ that

“[i]n general, the market to be analysed first is the one that is most upstream in the vertical supply chain. Taking into account the ex-ante regulation imposed on that market (if any), an assessment should be made as to whether there is still SMP on a forward-looking basis on the related downstream market(s). This methodology has become known as the ‘modified greenfield approach’. Thus the NRA should work its way along the vertical supply chain until it reaches the stage of the retail market(s). A downstream market should only be subject to direct regulation if competition on that market still exhibits SMP in the presence of wholesale regulation on the related upstream market(s).”

For example, access to infrastructure and termination markets are upstream to the retail fixed and mobile markets and should be analysed first (initially assuming that there is no specific regulation of these wholesale markets) before moving down the value chain to the retail markets. When the market analysis of the retail markets is performed, the regulator should consider the new set of

⁹ SWD(2014) 298.

remedies potentially defined in the related wholesale markets and whether these remedies are likely to result in a competitive retail market. It is only if wholesale market remedies are not sufficient that (more intrusive) retail remedies should be considered.

4 Summary of framework for competition regulation in Kenya

In this section, we provide a summary of the framework for competition regulation in Kenya. In order to provide an accurate overview of this framework, we have:

- indicated the primary laws and regulations that we have considered in our assessment in this section, while Annex A lists all documents reviewed
- summarised the powers of the CA and the Competition Authority of Kenya (CAK) in relation to competition and, in particular, market reviews, and identified the areas of overlap between the powers of the CA and the CAK
- highlighted the methodology that flows from the various legislative instruments in Kenya for undertaking a review of this kind
- summarised the markets defined in the 2010 PwC report for the CA
- summarised the (new) markets defined in the recent report prepared by Macmillan Keck and Acacia Economics for the CAK¹⁰
- considered the CA's powers to regulate mobile money services such as M-Pesa.

4.1 Review of documents

We have been provided with a substantial amount of useful material. In this section we have only indicated the primary laws and regulations considered [§].

In the main our review has been based on the following two Acts:

- Kenya Information and Communications Act, 1998 (as amended in 2013 and 2015) (KICA) but note that we have had to adjust our preliminary conclusions on the law as a result of a High Court decision¹¹. This decision was made subsequent to a case lodged in 2016 (High Court case)
- Competition Act, 2010 (with the 2012 and 2014 amendments) (Competition Act).

We note that the High Court case considered changes made to the KICA on 15 December 2015 pursuant to the Statute Law (Miscellaneous Amendments) Act, 2015 to have been unconstitutional in nature, and the inclusion of them in the omnibus legislation to have been unlawful on the basis that the amendments were not “minor” or “non-controversial”¹². The Judge ordered that the amendments should be quashed. The effect is that the amendments can be disregarded. Our advice will not change substantially as a result, but we have indicated below where the amendments had been referenced.

¹⁰ “Competition inquiry into USSD service provision in Kenya”, a draft of which is dated 22 April 2016 (redacted version).

¹¹ The Judgement of the Honourable G Odunga (Judge) made on 6 June 2017 in Petition No. 45 of 2016 in the High Court of Kenya at Nairobi Milimani Law Courts, Constitutional and Human Rights Division, brought by Okiya Omtatah Okoiti (petitioner) at paragraphs 131 and following.

¹² Paragraph 132 of the High Court case.

We have not considered banking legislation specifically although we have considered it generally in relation to the authorisation of banks and the issuing of credit and debit cards, in connection with the definition of a mobile money market.

[<]

4.2 Powers of the CA in relation to regulation of competition

The CA's powers in relation to competition under KICA include:

- the promotion of competition (section 23(2)(b))
- ex-ante and ex-post jurisdiction (sections 84Q, 84R, 84S and 84T)
- determining which licensees are “dominant in a relevant market” (section 84W¹³).

In the exercise of those powers, the CA has passed regulations (approved by the relevant Minister – now Cabinet Secretary) which empower it:

- to define a market
 - regulation 6, Fair Competition Regulations, 2010 read with regulation 3A of the Tariff Regulations, 2010
- to assess the level of competition in the market
 - regulations 3(2), 5, 8, and 8A(2) of the Fair Competition Regulations, 2010 read with the Schedule to the Tariff Regulations, 2010
- to determine dominance
 - regulation 8 of the Fair Competition Regulations, 2010 read with regulation 3A(2) of the Tariff Regulations, 2010
- to determine and impose remedies
 - regulations 9, 10 and 11 of the Fair Competition Regulations, 2010; regulations 6 and 10 read with the Schedule to the Tariff Regulations 2010; and regulation 18 of the Interconnection and provision of Fixed Links, Access and Facilities Regulations, 2010
- to conclude a memorandum of understanding (MOU) with CAK
 - regulation 4(2) of the Fair Competition Regulations, 2010.

In accordance with best practice and following our review, we understand that the CA has primary jurisdiction, if not sole jurisdiction, over ex-ante matters.

The CA has concluded an MOU with the CAK regarding the regulation of competition in the electronic communications sector. The MOU requires the parties to liaise regarding process and to share information. The MOU itself requires the parties to uphold Articles 10 and 47 of the Constitution, namely that it is appropriate for authorities with concurrent jurisdiction to work together to ensure efficiency, co-ordination, avoid duplication (double jeopardy), and promote equality of treatment, consultation and use of the authority with specific sector expertise. [<]

Section 7 acknowledges that the main role of the CAK is in relation to ex-post matters (i.e. investigations and complaints). One party can ask the other to forbear from involvement in

¹³ We are now ignoring the amendments made to this section by reason of the judgement in the High Court case.

competition matters. The CAK recently commented in a competition publication that it regarded itself as primarily addressing ex-post matters, and specifically recognised the CA as dealing with sector-specific concerns.¹⁴

Section 84W of KICA provides that the CA “may, by notice in the Gazette, declare a person or an institution to be a “dominant telecommunications service provider” for purposes of this Act”. This is very clear in its terms – the CA has primary responsibility to determine dominance. The provisions of subsection (3) and (4) set out what criteria the CA ought to apply including whether or not the market share of the relevant provider is or exceeds 50%, whether it has any “significant market power” as defined in the KICA, and any other considerations that CA may determine to be relevant.

4.3 Powers of the CAK in relation to competition in telecoms markets

Under the Competition Act, the CAK’s powers are:

- ex-post (with some powers in relation to market inquiries, see below)
- to investigate complaints and markets to establish if there has been an abuse of dominance or anti-competitive behaviour (including restrictive trade practices) (Parts III, IV and V of the Competition Act)
- to conclude an MOU with the CA (section 5 of the Competition Act).

[§<]

The CAK has already begun to investigate competition in the mobile money market from an ex-post perspective and, having found Safaricom dominant in three sub-segments of this market, it may want to determine remedies which could potentially affect our forward-looking assessment of competition in the relevant market for mobile money. In 2014, the CAK reached a ‘settlement agreement’ with Safaricom in relation to its arrangements with resellers. Safaricom agreed not to make agreements exclusive and not to prohibit branding of competitor services by resellers. We note that the CAK has been provided with several written complaints by Safaricom’s competitors about the latter’s alleged anti-competitive behaviour.

4.4 Kenyan market review principles

The existing regulatory framework in Kenya is consistent with the EC framework presented in Section 3 of this report. For ease of reference we have repeated some of the relevant regulations and provisions from legislation in full below.

¹⁴ See <http://www.iclg.co.uk/practice-areas/competition-litigation/competition-litigation-2017/kenya>. Note that this publication refers to the Fair Competition and Equality of Treatment Regulations of 2015, which are not currently in force.

4.4.1 Regarding the market definition

Fair Competition and Equality of Treatment Regulations, 2010

Regulation 6(2):

“... consider –

- (a) the communications products that constitute a specific market, whose product dimension shall be assessed by analysing –
 - (i) demand-side substitutability in order to measure the extent to which consumers are prepared or able to substitute other communications products or services for the communications products or services subject to considerations at low cost;
 - (ii) supply-side substitutability to determine the extent to which suppliers are able to supply other communications products or services in place of the communications products or services subject to consideration, at low cost;
- (b) the geographic scope of the market for a given group of consumers, considering the following conditions –
 - (i) the geographic distribution of, and evolution over time of market shares;
 - (ii) the pricing of services across the area under consideration;
 - (iii) pricing of the different operators as well as its evolution over time in the relevant areas; and
 - (iv) additional supply and demand characteristics which may indicate the existence of different competitive pressures;
- (c) any other factors or issues which are in the opinion of the Commission, relevant.”

The CAK Guidelines

These Guidelines clearly support the methodology that we have used in this report and echo the approach that we have adopted:

“The first and essential task of the Authority in market definition is to delineate the product market by identifying all the products that buyers regard as reasonable substitutes for the product under investigation. Therefore a relevant product market comprises all those products which are regarded as reasonably interchangeable or substitutable by the consumers, by reason of the products’ characteristics, their prices and their intended use.”

The identification of a product market is followed by defining the geographical market, which may extend beyond the area under investigation and in which the product is sold. The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently

homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas.

The process of market definition

Demand substitutability and supply substitutability constitute the main factors to be considered in market definition. Demand substitution constitutes the most immediate and effective disciplinary force on the suppliers of a given product, in particular in relation to their pricing decisions. Demand substitutability is therefore the main factor considered in market definition.

4.4.2 Regarding whether a market is susceptible to ex-ante regulation

In Europe, a market is susceptible to ex-ante regulation if it passes the three-criteria test. This part of the methodology requires a forward-looking assessment of competition – absent regulatory intervention, is it likely that the current market failure will dissipate, or put another way, will it be sufficient to rely on ex-post regulation?

The CA asked us whether it was possible to use the criteria included in the Fair Competition Regulations (by reference to the Tariff Regulations) that suggest that an ex-post inquiry should take place. Our deliberations have led us to conclude the following:

- the Tariff Regulations apply only where tariffs pose a problem in a particular market or where the remedy is likely to be tariff-related
- we can have reference to the list in the Tariff Regulations in order to determine the sort of anti-competitive conduct that might already be taking place or that might take place without regulatory intervention, on an ex-ante basis.

The list in the Tariff Regulations fits well within that aspect of the three-criteria test that requires a forward-looking analysis of competition in the future, and consideration of whether or not ex-post regulation would suffice even in the presence of market failure. The determination of whether or not to regulate tariffs is because those criteria are, in general, indicative of the fact that ex-post regulation would not suffice and tariff regulation would be just one of the relevant ex-ante remedies.

Regulation 3A of the Tariff Regulations addresses a situation where “services in specific markets [are] to be regulated services”. The Tariff Regulations immediately cross-refer to the Fair Competition Regulations and specifically regulation 8A(2) which clearly articulates the principle upon which (among others) ex-ante regulation is based, namely that it is a forward-looking exercise. The Schedule to the Tariff Regulations at 3A(2) sets out many of the factors typically included in an ex-ante market review. Both sets of Regulations are therefore applicable.

Tariff Regulations, 2010

Regulation 3A of the Schedule:

“ ...

- (c) demonstrate that there is a competition concern as specified in regulation 8A(2) of the [Fair Competition Regulations, 2010] *or* that a licensee who has been declared to be in a dominant market position has been found to have abused the dominant market position and where there is a competition concern, the Commission shall, in satisfying itself, demonstrate pursuant to a report prepared by the Commission that –
- (i) effective competition amongst existing licensees cannot develop;
 - (ii) there exists strong and non-transitory barriers to entry in the identified market segment;
 - (iii) there is no other competition law that is sufficient to deal with the competition concerns;
 - (iv) in the case of a retail service, no wholesale remedies are available to address the competition concerns in the identified market segment; and
 - (v) such other circumstances that the Commission may consider necessary from time to time;
- (d) follow the guidelines contained in the Schedule to these Regulations to prepare the report mentioned in paragraph (2)(c)
- (e) show that declaring the relevant service to be a regulated service would prevent a potential abuse; and
- (f) show that the declaration would be consistent with the objectives of these Regulations ...”

Items (i) to (iii) in this regulation effectively constitute the three-criteria test.

Regulation 3A(2)(c) of the Schedule:

“The Commission shall consider all the factors indicated below in order to address the insufficiency of competition law to address the competition concern identified in sub-regulation 4(c), condition 3A(2)(c) of these Regulations.

- (a) Degree of generalisation of non-competitive behaviour associated to the competition concern [sic];
- (b) Degree of difficulty to address the competition concern;
- (c) Expected damage created by the non-competitive behaviour associated to the competition concern;
- (d) Need of regulatory intervention to ensure the accomplishment of the objectives stated in Regulation 3(2).”

Regulation 3A(2) of the Schedule:

“ ...

The Commission shall consider all the factors indicated below in order to assess the existence of high and non-transitory barriers to entry under Regulation 3A(c)(ii) of the Regulations:

- (a) Existence of sunk costs;

- (b) Scale and scope economies;
- (c) Control of an infrastructure not easily duplicated;
- (d) Technological advances;
- (d) Easy or privileged access to capital or financial resources;
- (e) Barriers to development of distribution and sales network;
- (f) Switching costs and product diversification;
- (g) Vertical integration;
- (h) Requirement for an administrative authorisation or licence in order to operate in the market and conditions for obtaining such an authorisation;
- (i) Limits and conditions attached to the use of spectrum;
- (j) Effects of general regulation over new entrants.”

4.4.3 Regarding market analysis and the identification of operators with SMP

Regulation 7(2) of the Fair Competition Regulations, 2010 sets out the criteria that should be used to identify operators with SMP:

“The criteria shall among others include –

- (a) current degree and development of market concentration or the market share of the licensee, determined by reference to revenues, numbers of subscribers or volumes of sales;
- (b) the degree to which a licensee’s prices vary over time;
- (c) the ability of the licensee to maintain or erect barriers to entry to the market, including by means of control of essential facilities, access to superior technology, privileged access to resources or capital markets or superior buying or negotiating position, amongst others;
- (d) the ability of the licensee to earn supernormal profits;
- (e) the global technology and commercial trends affecting market power;
- (f) the licensee’s power to make independent rate setting decisions;
- (g) the degree of product or service differentiation and sales promotion in the market;
- (h) the ability to materially raise prices without suffering a commensurate loss in service demand to other licensees; and
- (i) any other matters which the Commission may consider relevant.”

Other relevant matters

“Market share” is not defined in the Competition Act or KICA, although KICA defines “market” as “a market in Kenya or a substantial part of Kenya and refers to the range of reasonable possibilities for substitution in supply or demand between particular kinds of goods or services and between suppliers or acquirers, or potential suppliers or acquirers, of those goods or services.” This is consistent with the market definition exercise in this report.

4.4.4 Regarding possible remedies

There are, in addition to the CA's general discretion as to remedies, a number of possible remedies set out in various regulations under KICA.

Fair Competition Regulations, 2010

Regulation 9:

“(1) Where the Commission has, pursuant to paragraph 8A, found a competition concern, the Commission may impose all or any of the following remedies –

- (a) Meet all reasonable requests for access to its public telecommunications network, in particular access at any technically feasible point on its telecommunications network;
 - (b) Adhere to the principle of non-discrimination with regard to interconnection offered to other interconnecting licensees, particularly –
 - (i) apply similar conditions in similar circumstances to interconnecting licensees providing similar services, and
 - (ii) provide interconnection facilities and information to other telecommunications licensees under the same conditions and of the same quality as it provides for its own services or those of its affiliates or subsidiaries;
 - (iii) make available, on request, to other interconnecting licensees considering interconnection with its public telecommunications network, all information and specifications reasonably necessary, in order to facilitate conclusion of an agreement for interconnection ...
 - (c) Submit to the Commission for approval and publish a Reference Interconnection Offer, sufficiently unbundled, giving the description of the interconnection offerings broken down into components according to the market needs and associated terms and conditions including tariffs; and
 - (d) Provide access to the technical standards and specifications of its telecommunications network ...
- (6) (c) maintain a cost accounting system ...

Regulation 10:

“(1) A licensee shall maintain separate books of account for each service as may be prescribed by the Commission from time to time and shall not cross-subsidise the prices for any services it offers in the market with revenue from the sale of communications systems and services ...”

Tariff Regulations, 2010

Regulation 4 refers to tariffs being just and reasonable, clear and detailed, non-discriminatory (unless there are legitimate commercial reasons for the differences), and to guarantee equality of treatment. Billing information is to be provided, and licensees are not to apply tariffs that prevent market entry or distort competition.

Regulation 5 requires filing of tariffs with the CA and publication.

Regulation 6 permits the CA to publish a schedule of regulated services; applications for tariffs must follow a specified method; regulated services may not be discontinued without the CA's approval; and the CA may decide a service is no longer a regulated service.

Regulation 3A(2)(c) of the Schedule:

“When addressing a retail service, the Commission shall consider whether the identified competition concern can be addressed with –

- (a) Existing remedies imposed in related wholesale markets; or
- (b) Alternative or wholesale remedies.

The analysis of the alternative measures shall consider the costs and benefits associated with each option and the impact for the different undertakings following a regulatory impact assessment.”

[We consider that] [X] the entire market analysis and review exercise and the interaction with operators during this process constitutes the necessary regulatory impact assessment.

Interconnection, Provision of Fixed Links, Access and Facilities Regulations, 2010

Regulation 18:

“If the Commission issues an order requiring a dominant telecoms service licensee to publish a RIO [Reference Interconnect Offer] or a RAO [Reference Access Offer] the licensee shall submit this to the Commission for review and approval. Conditions apply regarding unbundling of charges, type of infrastructure, roaming, and virtual network services.”

We have discussed the issue of vertically integrated licensees with the CA. Kenya and many other countries have adopted a unified licensing regime in terms of which one operator may apply for and get a network, applications service and content service licence. Larger operators would tend to apply for all the licences, while smaller operators may only apply for one service licence, anticipating that they will use the networks of the larger operators. In the market that results from this sort of licensing arrangement, it is important that infrastructure sharing and facilities leasing arrangements are well regulated. The CA already has regulations in place for this purpose.

In Kenya, an operator like Safaricom can make very good use of all its licences, becoming vertically integrated to such a degree that it is ‘dominant’ in each type of licence category. This in itself is not anti-competitive, however. It is necessary to decide whether the fact that Safaricom is

vertically integrated or not is relevant in determining if there is market failure in any of the relevant markets we have identified, and if so, whether that market is susceptible to ex-ante regulation. The approach to assessing competition in each market is therefore not determined by the licensing structure, but by the likely behaviour of the licensee in an identified market if that behaviour is not regulated i.e. if a remedy is not applied. Other factors relevant to determining market failure may include ease of access to capital, economies of scale and scope, and technological advantages (these are all listed in the Fair Competition Regulations, 2010).

Remedies may be necessary to address the extent to which vertical integration is the reason for the market failure. Remedies in this case may include some separation remedies (accounting, functional or even structural separation).

It is important to note that the CA's discretion in relation to remedies is both explicit and implicit. We have set out the explicit remedies above, but the CA should not limit itself by exhaustively listing its options in its own regulations. In the interests of certainty and transparency it is obviously preferable that the CA apply remedies that are already foreseeable, however this does not mean that different remedies might not be more proportionate and justified – and the regulations largely anticipate that this may be the case by admitting other remedies (for example, “alternative and wholesale remedies”).

To the extent that narrowly defined remedies in the regulations do not suit the types of market failure that the CA observes in the market review, the CAK may be consulted on alternative remedies, or the CA may introduce more suitable remedies under the open provisions within the regulations.

4.5 Markets analysed in other processes

We have considered the 2010 PricewaterhouseCoopers (PwC) report which was prepared for the CCK (as was) as the first market review of its kind. The report suggested that nine markets could be defined and made a preliminary finding of dominance in each:

- i. retail mobile voice – Safaricom
- ii. retail fixed voice – Telkom Kenya
- iii. retail leased lines – effectively competitive
- iv. wholesale fixed voice – all terminating operators
- v. wholesale mobile voice – all terminating operators
- vi. wholesale fixed transit – Telkom Kenya
- vii. wholesale Internet access – nascent market
- viii. wholesale leased lines/transmission – nascent market
- ix. international connectivity – nascent market.

Based on this report the CCK held a consultation in 2011 with the intention of declaring “regulated services” in terms of KICA and under the Tariff Regulations. The draft findings from this consultation broadly follow the PwC report but we understand they were never implemented. We understand that this is because the CCK's powers were challenged at the time, rather than because there was anything wrong with the report's conclusion. However, the CA has implemented call

termination price controls on all terminating operators. The CA has not afforded any operator asymmetrical rates despite numerous calls from Airtel to do so. Voice call termination has therefore been defined as a market and addressed by the CA pursuant to the provisions of KICA as it existed at the time, which is prior to the amendments made in 2014, and prior to the introduction of the Competition Act.

A recent report prepared by Macmillan Keck and Acacia Economics for the CAK entitled “Competition inquiry into USSD service provision in Kenya” (hereafter the MKA USSD report), a draft of which is dated 22 April 2016 (redacted version) is also a useful document. It is described as forming part of a “market inquiry into the pricing and conditions of USSD access offered by mobile network operators (MNOs) in Kenya”¹⁵. The tender notice for the “market inquiry” states “The objective of the study is to determine whether the provision and pricing of USSD services leads to constrained competition in the financial services market and identify any concerns relating to consumer protection.”¹⁶. The CAK is specifically tasked with consumer protection in Kenya under the Competition Act. [REDACTED]

The main purpose of the inquiry was [REDACTED] to investigate Safaricom’s dominance in mobile money markets (as defined in Section 4.6 below) and whether this dominance has led to abuse. This does, in fact, constitute an ex-post inquiry. The report spends quite some time defining relevant markets and assessing market power which was obviously necessary to enable the consultants to reach their subsequent findings. The inquiry preceded the implementation of the final Guidelines published by the CAK on its website, so no formalised process was adopted by the authors of the report, rather they followed international practice in competition investigations.

The MKA USSD report defines the following four markets:

- retail mobile telecoms services provided by MNOs and mobile virtual network operators (MVNOs)
- wholesale provision of USSD and STK access by MNOs and MVNOs to financial service providers
- retail money transfer and payment services
- consumer savings and loans.

Safaricom is found to have dominance in the first three markets. The report considers three theories of harm [REDACTED] that would fall within the jurisdiction of the CAK. However, the MKA USSD report also [REDACTED] propose[s] ex-ante remedies under KICA, including functional separation (rather than accounting separation), interoperability and price regulation.

The report recognises that the CA has ex-ante powers and recommends referring certain matters to the CA for attention, i.e. away from the CAK. The CA and CAK have recently met to discuss the way forward in relation to the findings in the report. In the next section, we consider the extent to which the CA has the power to regulate M-Pesa in the various forms we have examined earlier in this report.

¹⁵ http://kenyalaw.org/kenya_gazette/gazette/notice/167683

¹⁶ From the original tender notice, copy available at <http://www.publictenders.net/node/2809946>

4.6 The CA's powers to regulate mobile money

We understand that the CA considers mobile money to be authorised only pursuant to a content service licence. The content service authorisation specifically includes “financial information services and other information society services”. This definition may well suggest (through its use of the word “financial”) that this is the appropriate licence, but in our view, applications services are in fact a more appropriate categorisation. This is because the definition of “application services” is “*electronic communications services which are normally provided for remuneration and consists wholly or mainly in the conveyance of signals on electronic communications networks including telecommunications and transmission services over electronic communications networks*”. In any event, our review of the licence templates provided to us suggests that the Safaricom applications licence refers to and authorises “content services” as defined above as well as Application Services. [X]. [We] rely on the Application Services licence provisions which authorise the use of platforms for the provision of services that include Content Services. In other words, the authorisation of Content Services is a subset of the authorisations granted under the Applications Services licence. [X].

There are potentially several categories of mobile money, but all of them require the mobile network platform and the relevant licences. Safaricom is licensed to operate a mobile telecoms network under a network facilities licence, and also holds an Applications Service and a Content Service licence. The CA therefore has all the necessary powers under KICA to regulate mobile money services as a telecoms service and as a platform because it has authorised the use of the platform for content services. But for the existence of the Safaricom network (authorised under the Network Facility Licence) Safaricom would be unable to provide either applications or content services under those licences. The definitions of services in these licences have never been challenged by Safaricom. The CA does not, of course, regulate the financial transactions that take place over the Safaricom network by virtue of its licences.

The Content Service licence and definition of “content service” limits CA’s authority to regulate (implicitly) to the regulation of information services.

[X]

The CA can determine whether the mobile money market is susceptible to ex-ante competition regulation by applying the methodology described in section 4.2 of this report (which is closely aligned to the European approach described in section 3) to assess if it is a relevant market for ex-ante regulation and if any operator has SMP. Market power or dominance, as defined in the Competition Act, can be determined by assessing the level of market share of each licensee.

5 Market review approach used in this study

Our review of Kenya's telecoms markets is largely based on the principles underpinning the EC regulatory framework for market reviews. As mentioned in Section 3, the EC framework is internationally recognised as an example of best practice, and it is fully compliant with (though sometimes more systematic than) the Kenyan framework. However, we have adapted a few elements of the framework to take account of specific characteristics of the Kenyan market.

5.1 Market definition, analysis and identification of remedies

Our suggested approach for market reviews is based on the standard three steps: market definition, market analysis and identification of appropriate remedies.

The market definition step analyses the perimeter of each market in terms of products and services as well as the geographical scope of the market. At the end of the market definition stage, we explore at a high level whether the defined market is susceptible to ex-ante regulation by conducting the three-criteria test:

- whether there are high and non-transitory barriers to entry
- whether the market structure tends towards effective competition within the relevant time horizon (i.e. three years), and
- if competition law alone would address the market failure adequately.

As per the EC framework, the objective of this preliminary test is to favour a market-led approach and a soft regulatory process where the emerging characteristics of some markets, the evolution of market forces and/or competition law could avoid any unnecessary or premature asymmetric regulation.

The methodology that we will employ for market analysis seeks to balance the need for a rigorous and objective quantitative analysis and the need for a flexible approach which gives due consideration to the specific context of each relevant market.

To this end, we first assess a presumption of dominance (or, alternatively, a presumption of a competitive market) on the basis of a review of the market share trends (in terms of subscribers, traffic or revenue depending on the specific market and available data). In line with Kenyan law, a player that holds a market share above 50% in a given market will lead to a presumption of dominance. We then review the most relevant quantitative and qualitative criteria (such as market concentration, vertical integration, sales agent, control of infrastructure which cannot easily be duplicated, economies of scale and scope, barriers to entry, ability of customers to switch suppliers) focusing on elements that could contradict or confirm our initial conclusion. Our initial presumption of dominance (or of a competitive market) serves as a reference case against which the various criteria mentioned above could be tested. On completion of the analysis we can then confirm our initial position or change it based on the evidence presented in the analysis.

At the end of the market analysis, if we conclude that the market is not competitive (i.e. that we have identified at least a player with SMP) we then detail the market failures and potential behaviours from the SMP operator(s) that lead to the market being non-competitive. This step is important to thereafter select appropriate remedies for the SMP operator(s).

The final stage of the market review is to identify appropriate remedies. For each of the proposed remedies this involves:

- describing the content and the principles of the proposed remedies, and
- explaining why the proposed remedies are i) justified (e.g. address the pre-identified market failures) and ii) proportionate (the least intrusive and burdensome obligation that will achieve the intended objective).

We note that the CA is not legally required and we do not plan to conduct detailed economic impact assessments on the recommended remedies. Indeed, no ex-ante market review tend to include this type of analysis as the intention is rather to discuss the justification and proportionality of suggested remedies (in light of the longer-term impact of continued market failure).

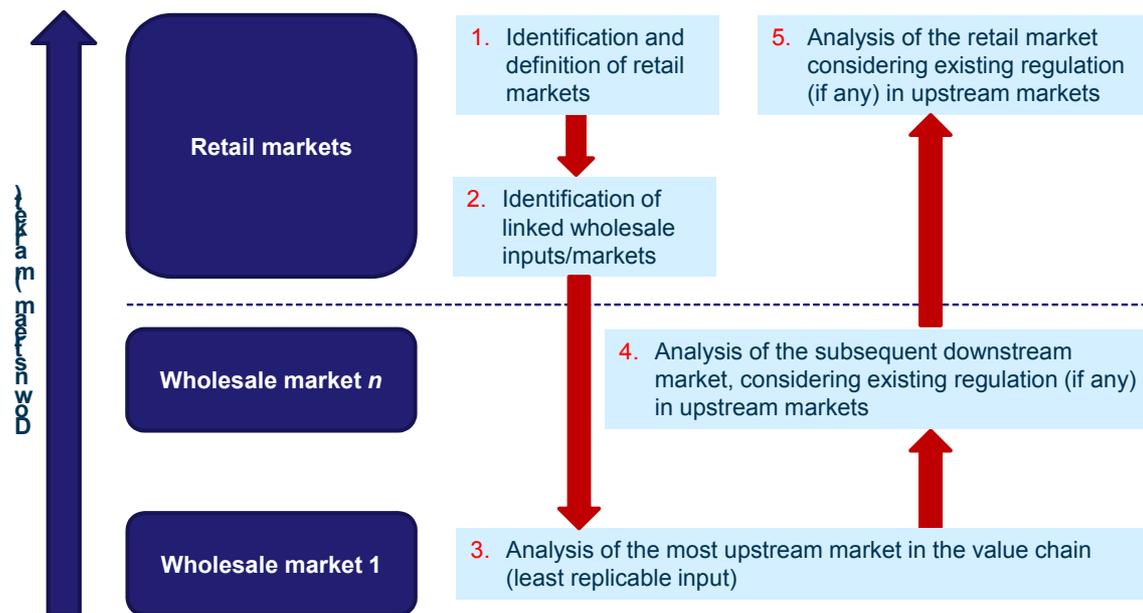
5.2 Interrelated markets

Market review can be quite a technical exercise. In particular, it can appear very theoretical and not necessarily appropriate to start defining Kenyan telecoms markets without having first considered the main trends in the Kenyan telecoms sector as a whole, and identifying which services are important for the development of the sector and which are more marginal.

This is why we start our analysis with a high-level overview of the current conditions and prevailing trends in the Kenyan telecoms sector without necessarily following the ‘technicalities’ of a proper market analysis (as detailed above). The objective of this initial description of the telecoms sector is to understand the positioning of the key players, the main trends in the sector and how the telecoms sector in Kenya compares with the telecoms sectors of neighbouring countries and other major African countries, before starting a rigorous market review.

Under the modified greenfield approach, the market review starts by defining the retail markets. We then identify all related wholesale markets and start a market review (market definition, analysis and identification of remedies) of the most upstream wholesale market. We then move down the value chain to the most downstream market. Finally, we complete the retail market analysis (taking account of the wholesale regulation proposed for upstream markets) by assessing if the markets are susceptible to ex-ante regulation. If they are, we go on to perform the market analysis and propose appropriate remedies. This approach is presented in Figure 5.1 below.

Figure 5.1: Overview of the modified greenfield approach [Source: Analysys Mason, 2017]



5.3 Notional markets / self-supply

We have slightly adapted the EC framework to avoid the need to consider ‘notional markets’. As mentioned above, in Europe the need for country harmonisation means that a set of markets have been listed at European level to ensure that a consistent approach and a set of common principles and results could be achieved. This has led to the consideration in some countries of what is commonly known as ‘notional markets’ where no supply (offer) existed but market analysis were still performed on these theoretical markets.

For example, a market for access and call origination on mobile networks was initially defined at the European level in the list of relevant markets. In countries where no MVNO was active, the rationale was then to consider that the wholesale market shares (including self-supply) in the notional market were the ones that existed in the retail mobile market. So, the market review of this notional market was based on the retail market situation (since there was no wholesale market).

To be pragmatic and more in line with market realities in Kenya, if no wholesale (merchant) market exists we have immediately considered the retail market and identified from the retail market the appropriate remedies that should be imposed, favouring as much as possible least-intrusive remedies like wholesale obligations. In the previous example, the application of such principles would imply that the analysis should be done at the retail mobile market and would lead, if found to be necessary, to an access obligation consisting of the creation of a wholesale offer to provide access to MVNOs.

5.4 Time horizon

We believe that market review should be done using a forward-looking approach. In line with the EU framework, we consider a standard three-year timeframe to be appropriate unless specific conditions justify a shorter or longer time horizon.

6 Description of the Kenyan telecoms market

In this section, we present an overview of the current conditions and prevailing trends in Kenya's telecoms market, prior to undertaking a more detailed regulatory market review (this follows in Sections 7 to 9).

As part of our review, we have benchmarked the telecoms regulatory environment in Kenya against other countries in East Africa (Burundi, Rwanda, Tanzania and Uganda) and other populous countries in sub-Saharan Africa (Ghana, Nigeria and South Africa).

The remainder of this section is laid out as follows:

- Section 6.1 presents basic demographic and economic indicators for Kenya compared to the benchmark countries
- Section 6.2 looks at trends in mobile and fixed-line penetration
- Section 6.3 examines levels of competition in mobile and fixed-line markets
- Section 6.4 considers average revenue per user (ARPU) and tariff levels
- Section 6.5 looks at trends in termination rates.

6.1 Demographic and economic outlook

Figure 6.1 shows the population of Kenya relative to our benchmark countries. The current population of Kenya is estimated at 47.3 million, which is similar to South Africa (55.0 million), Tanzania (55.2 million) and Uganda (41.5 million). The population of Kenya is considerably lower than that of Nigeria (187.0 million) and significantly higher than that of Ghana (27.5 million), Burundi (10.9 million) and Rwanda (11.9 million). The size of a country's population is a relevant indicator because it might be reasonable to expect that countries with large populations can support more mobile operators than countries with small populations.

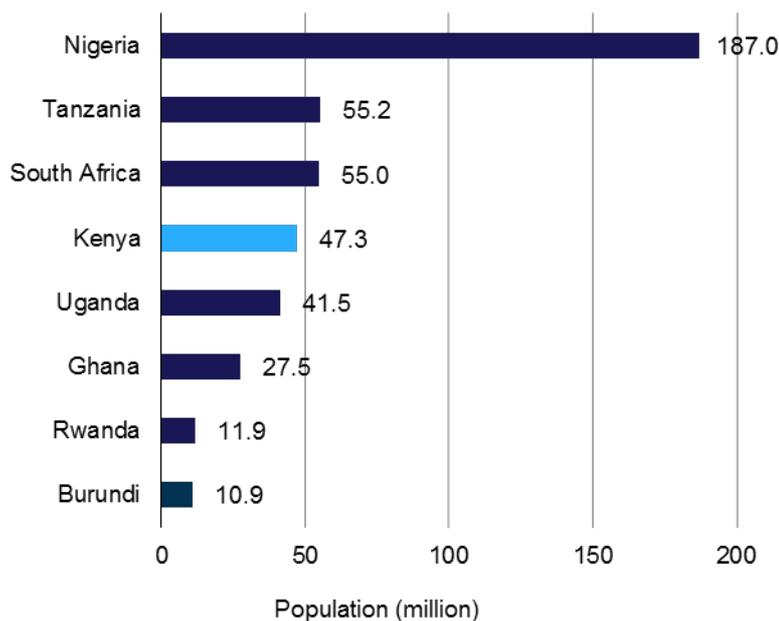


Figure 6.1: Estimates of population for Kenya and the benchmark countries as of 30 June 2016 [Source: EIU, 2016]

Figure 6.2 shows the gross domestic product (GDP) per capita in Kenya relative to our benchmark countries. Kenya is also in the middle range of our benchmark countries in terms of per-capita income levels. When measured in purchasing power parity (PPP) terms – i.e. adjusted for the relative price of goods and services in different countries – Kenya is higher than Tanzania, Uganda, Rwanda and Burundi but has lower income levels than Ghana and Nigeria, and much lower income levels than South Africa. Clearly, a given level of expenditure on telecoms services is more affordable in countries with high GDP per capita than those with low GDP per capita.

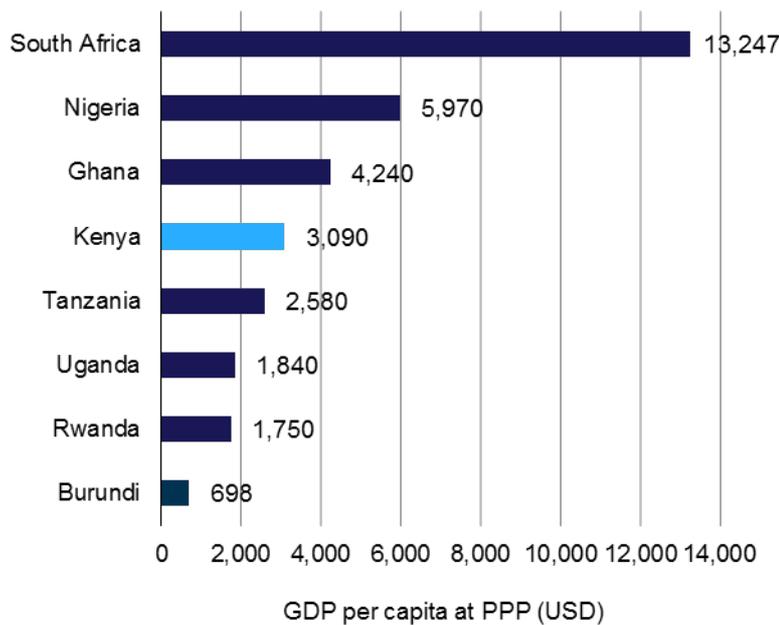


Figure 6.2: Estimates of GDP per capita at PPP, 2015 [Source: EIU, 2016]

6.2 Mobile and fixed-line penetration

6.2.1 Mobile penetration

Figure 6.3 shows mobile penetration (total subscriptions divided by population) across our benchmark countries. Since 2011, mobile penetration of the population in Kenya has risen from 67% to 78%, which is similar to the level observed in Nigeria, Rwanda and Tanzania, although a long way behind Ghana and South Africa, where total penetration is significantly higher than 100% of the population due to local market factors such as on-net discounts and short-term promotions.

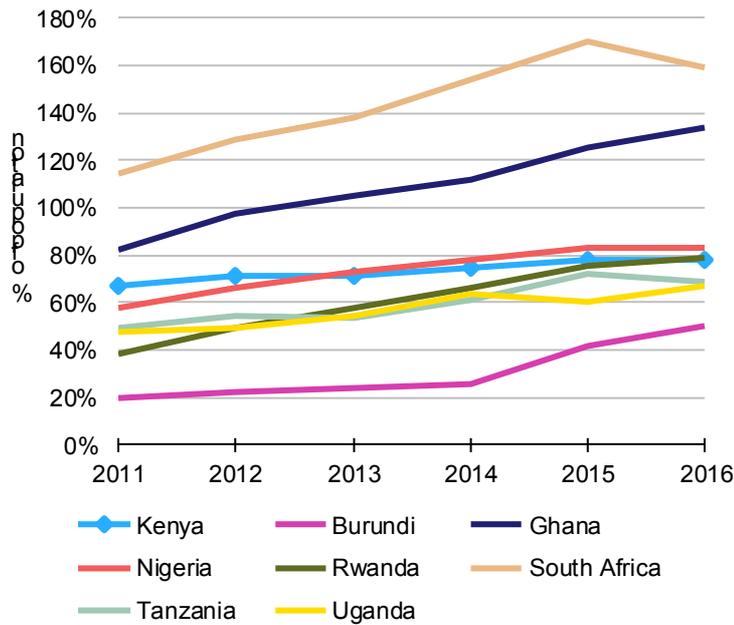


Figure 6.3: Benchmark of mobile penetration
[Source: GSMA Intelligence and EIU, 2017]

According to data collected by the Consultative Group to Assist the Poor (CGAP) and Enhancing Financial Innovation and Access (EFInA), the penetration of mobile money is far higher in Kenya than in any of the other benchmark countries (see Figure 6.4), although Tanzania is catching up with Kenya quite rapidly.

Figure 6.4: Penetration of mobile money [Source: CGAP, EFInA and Analysys Mason, 2015]

Country	% of adults with active mobile money accounts
Kenya	58%
Burundi	Low (no precise data)
Ghana	17%
Nigeria	0.8% (2014 figure)
Rwanda	17%
South Africa	Low (<1%, Vodacom closing M-Pesa)
Tanzania	34%
Uganda	26%

Based on our analysis, we conclude that mobile penetration in Kenya is in line with our expectations. In terms of mobile money penetration, at 58%, Kenya has the highest penetration in the world, although Tanzania is catching up. Also, countries with higher smartphone penetration than Kenya are starting to use mobile banking apps for some of the same purposes.

6.2.2 Fixed-line penetration

Figure 6.5 shows that fixed-line penetration in Kenya fell from around 3.0% of households in 2011 to 1.6% of households in 2015, as fixed lines are increasingly being abandoned in favour of mobile connections and voice-over-Internet protocol (VoIP) connections. Fixed-line penetration in Kenya

is at a similar level to that observed in our benchmark countries, with the notable exception of South Africa, where penetration is around 32% of households (noting that this is not shown on the chart, to make the trend in the remaining countries more clearly visible).

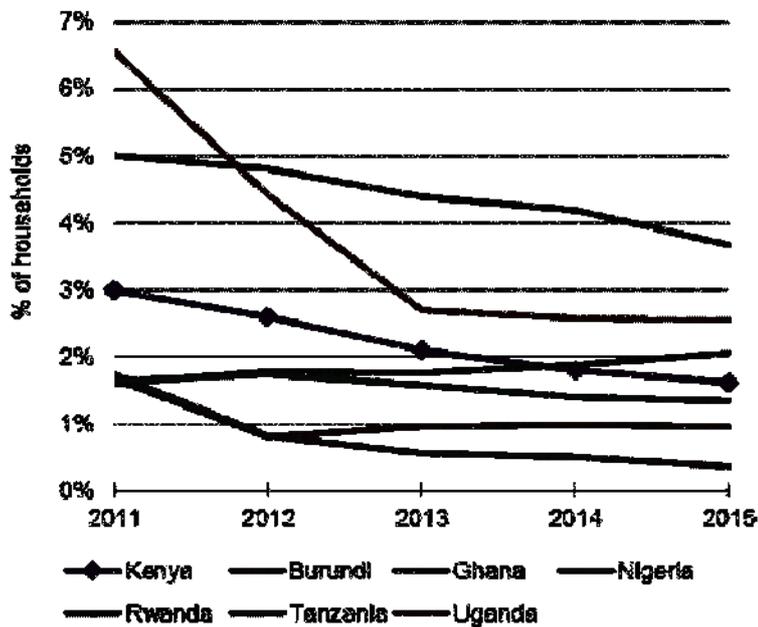


Figure 6.5: Benchmark of fixed-line penetration (note: S Africa, where penetration is much higher, excluded for clarity) [Source: GlobalComms and Euromonitor, 2016]

Conversely, fixed broadband penetration, including fixed-wireless broadband (see Figure 6.6) has increased quite rapidly in Kenya since 2011, and with a penetration rate of 1.3% of households Kenya is now at the top end of our benchmarks. However, Kenya still lags significantly behind South Africa in terms fixed broadband penetration (where penetration stands at around 12% of households), which is in itself a long way behind the levels recorded in OECD¹⁷ countries. The data source that we used for this comparison, PriMetrica’s GlobalComms service, also shows Kenya behind Uganda in terms of fixed broadband penetration. However, the large step increase between 2012 and 2013 in the data for Uganda and the fact that GlobalComms reports most of the broadband lines as being DSL lines from Uganda Telecom makes us doubt the accuracy of the figures.

¹⁷ Organisation for Economic Cooperation and Development.

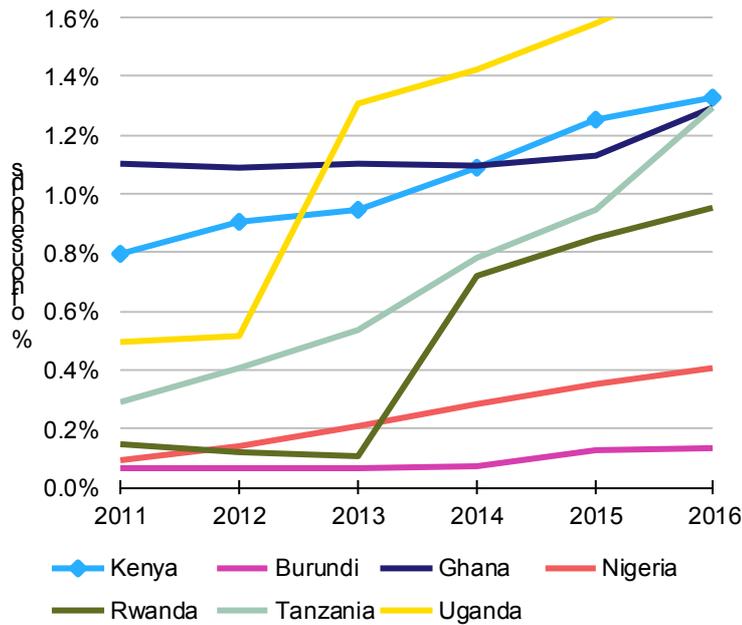


Figure 6.6: Benchmark of fixed broadband penetration
[Source: GlobalComms and Euromonitor, 2016]

(note: S Africa, where penetration is much higher, excluded for clarity)

In summary, the penetration of fixed lines and fixed broadband in Kenya is in line with our expectations given the relative income levels in the benchmark countries, but continued growth in broadband take-up remains an important factor to support the economic development of the country.

6.3 Levels of competition

6.3.1 Competition in mobile communications

Figure 6.7 shows the number of mobile operators (excluding MVNOs) in each of the benchmark countries at the end of both 2010 and 2015. Kenya and Rwanda are the only countries in the group with fewer than four operators, and Kenya is the only country with fewer operators than five years earlier.

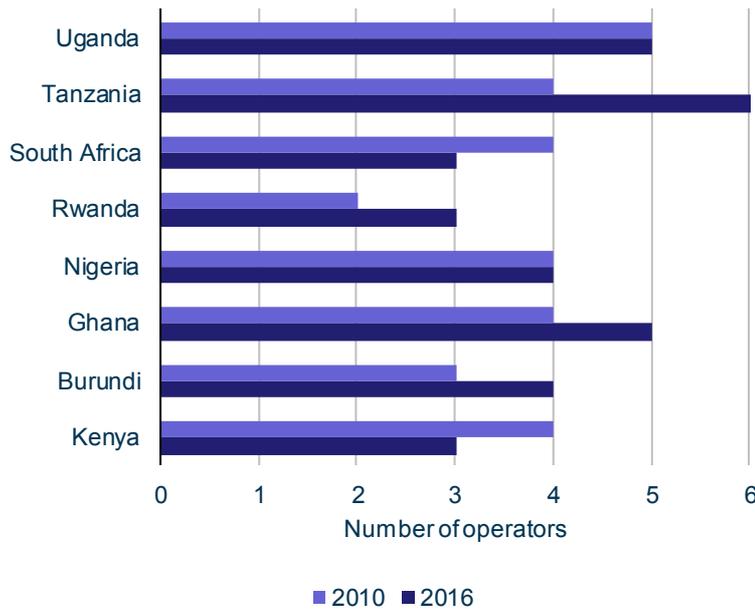


Figure 6.7: Number of mobile operators as of 31 December 2010 and 31 December 2016
[Source: GlobalComms, 2017]

Note: In Uganda, the number of operators fell by one in 2013 as a result of a merger, before two more operators entered the market in 2014–2015

Kenya’s mobile market has the highest Herfindahl–Hirschman Index (HHI)¹⁸ of any country in the benchmark group, at 5735 out of a maximum of 10 000 at the end of 2015 (see Figure 6.8). This is around 40% higher than the country with the second-highest HHI (Burundi) and 67–123% higher than the remaining countries in our benchmark. This indicates that the market is heavily concentrated.

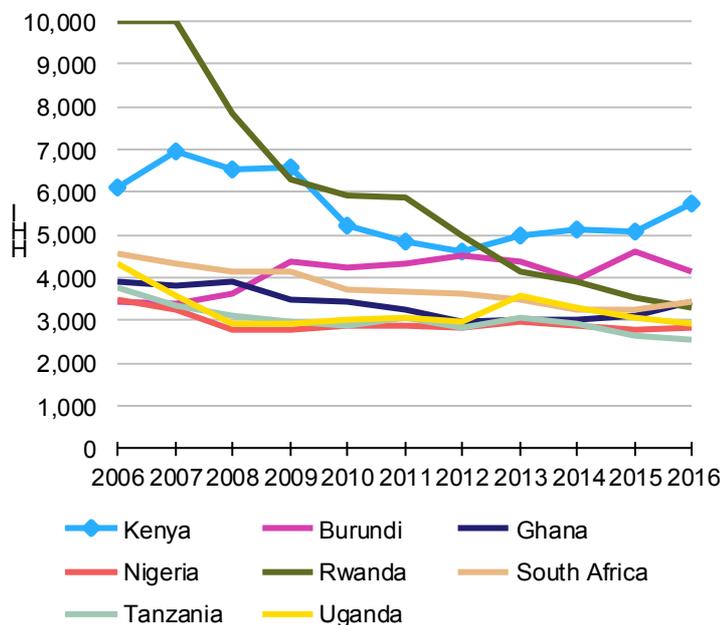


Figure 6.8: HHI for the mobile market in the benchmark countries
[Source: GSMA Intelligence, 2017]

¹⁸ The HHI measures the size of operators in relation to the industry and the level of competition that exists within a market or industry. A high HHI is associated with low levels of competition in a market. HHI values in this report are based on market share by number of subscribers.

Unsurprisingly, Safaricom also has a significantly higher share of subscribers than the leading operator in the other benchmark countries (73% at the end of 2016 versus 55% in Burundi and 52% in Ghana; see Figure 6.9)¹⁹. Ghana is the only other country in the benchmark group where the leading operator has maintained or increased its market share since 2012.

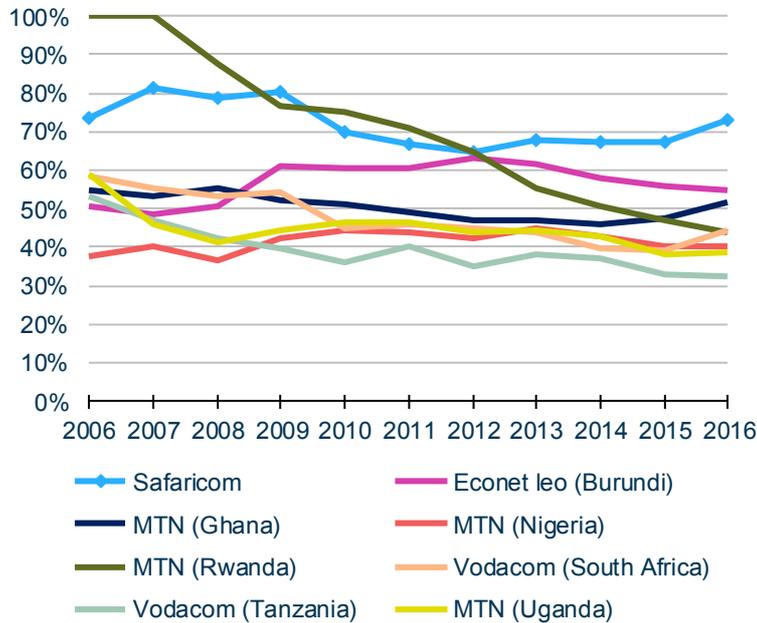


Figure 6.9: Market share of leading operator by number of subscribers
[Source: GSMA Intelligence, 2017]

Based on data reported by the CA, there has been little variation in Safaricom’s share of total subscribers over the last five years (see Figure 6.10); since 1Q 2011, the figure has ranged from 63.2% to 68.9%.

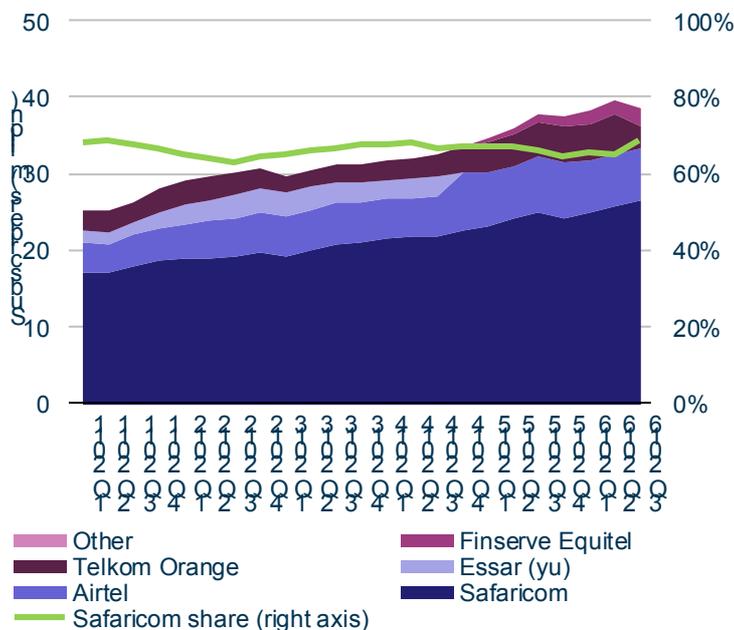


Figure 6.10: Safaricom's market share of subscribers
[Source: CA, 2016]

¹⁹ Note that the GSMA's data for 4Q 2016 is estimated and may not align completely with the CA's data for 3Q 2016. We have used GSMA data for all countries in Figure 6.9 for reasons of consistency

Safaricom’s share of national minutes as reported by the CA is higher than its share of subscribers (see Figure 6.11). This indicates that the number of minutes per subscriber is higher for Safaricom than for the other operators. Safaricom’s share of total minutes fell from 88.3% in 3Q 2011 (the CA did not publish minutes by operator prior to 3Q 2011) to 68.8% in 2Q 2015, but has since climbed to 76.3%.

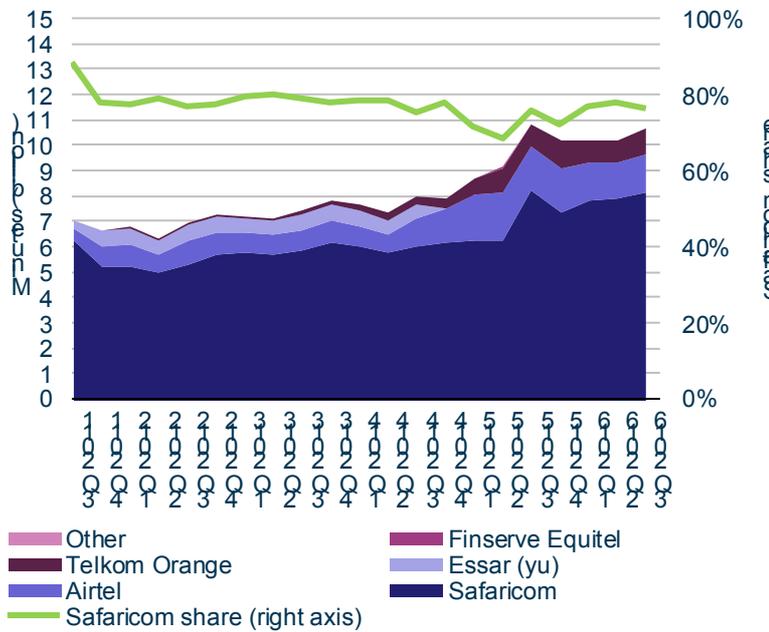


Figure 6.11:
Safaricom’s share of national minutes
[Source: CA, 2016]

Lastly, based on the data received in response to our information request, Safaricom’s share of voice, SMS and data revenue is higher than its share of national minutes (86.7% in 2015, down from 90.1% in 2012, as shown in Figure 6.12). There were some inconsistencies in the data on the average revenue per minute (ARPM) supplied by operators, but it appears as if Safaricom’s ARPM is considerably higher than for the other two Kenyan operators. It also seems plausible that Safaricom’s data revenue per subscriber is higher than Airtel and Telkom’s.

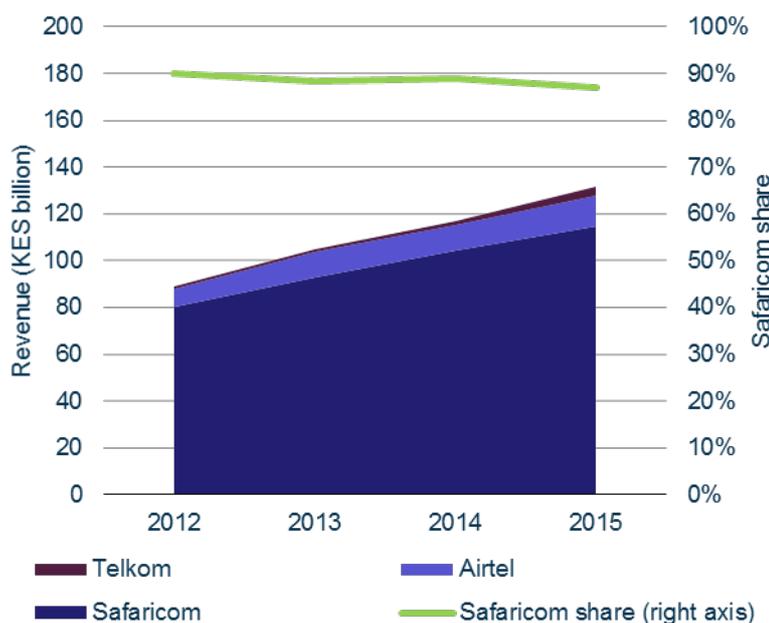


Figure 6.12:
Safaricom’s share of voice, SMS and data revenue [Source: CA, 2016]

Data supplied by the operators indicates that Safaricom’s coverage by population is much higher than that of Airtel and Telkom, particularly in the case of 3G (see Figure 6.13). Using data concerning the distribution of population in Kenya derived from the 2009 census results at district level suggests that Safaricom’s 2G [and 3G] coverage by area [is also much higher than] that of Airtel and Telkom. Coverage maps provided by the CA also indicate that Safaricom’s coverage by area is much higher than Airtel and Telkom’s [is also much higher than].

Figure 6.13: Mobile coverage by operator [Source: Operator data request, Analysys Mason, 2016]

[Redacted]

We therefore conclude that Safaricom’s market share is unusually high for a large three-player market such as Kenya, and has remained high despite previous regulatory interventions such as reductions in mobile termination rates, the launch of mobile number portability and the licensing of MVNOs. While Safaricom has better coverage than its competitors, the gap in market share is too large to be explained by coverage or efficiency factors alone.

6.3.2 Competition in mobile money

Figure 6.14 shows Safaricom’s share of mobile money subscriptions. The figures suggest that Safaricom’s share of mobile money subscriptions has fallen since 3Q 2015, but the absolute decline in the number of M-Pesa subscribers between 3Q 2015 and 1Q 2016 can be attributed to Safaricom’s decision to change the definition of active mobile money subscribers from those who have used the service in the last 120 days to those who have used it in the last 30 days. In any case, Safaricom still has 66.5% of all mobile money subscriptions in Kenya.

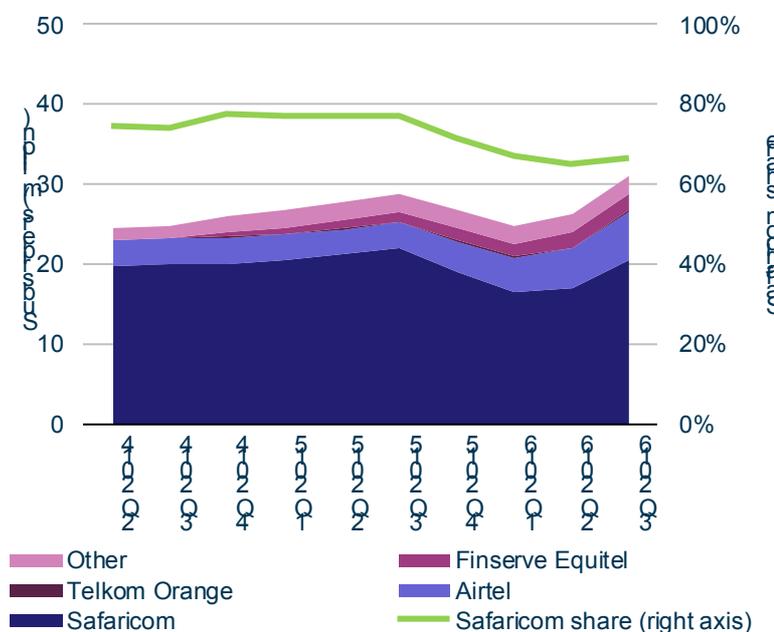


Figure 6.14: Safaricom’s share of mobile money subscriptions [Source: CA, 2016]

Safaricom’s M-Pesa agents also account for 67% of all mobile money agents in Kenya, although Figure 6.15 shows that this percentage has slightly fallen from 73% in 2Q 2014, perhaps because of an intervention by the CAK in relation to Safaricom’s imposition of exclusivity obligations on its resellers.

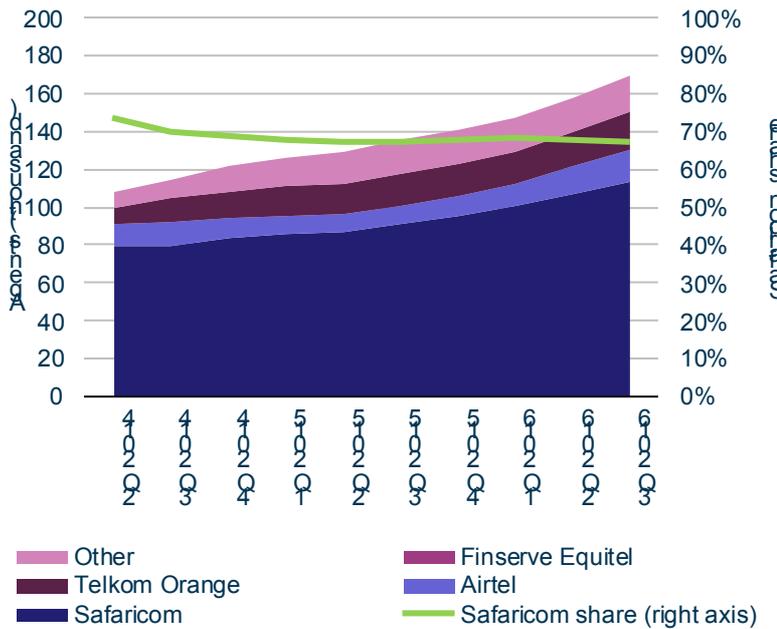


Figure 6.15: Safaricom share of mobile money agents [Source: CA, 2016]

Figure 6.16 shows that Safaricom’s share of mobile money transactions by volume (82% in 3Q 2016, down from 91% in 1Q 2015, when the CA started collecting this data) is significantly higher than its share of mobile money subscribers. This decline is largely a result of the growth in Equitel’s transaction volumes. On average, a Safaricom M-Pesa subscriber makes 6 transactions per month, whereas an Airtel Money subscriber makes 0.6 and an Orange Money subscriber makes 0.1. However, the average Equitel subscriber makes 10 transactions per month. We believe this is because a large majority of Equitel subscribers are Equity Bank customers who acquired their subscription primarily because of the banking features that Equitel offers.

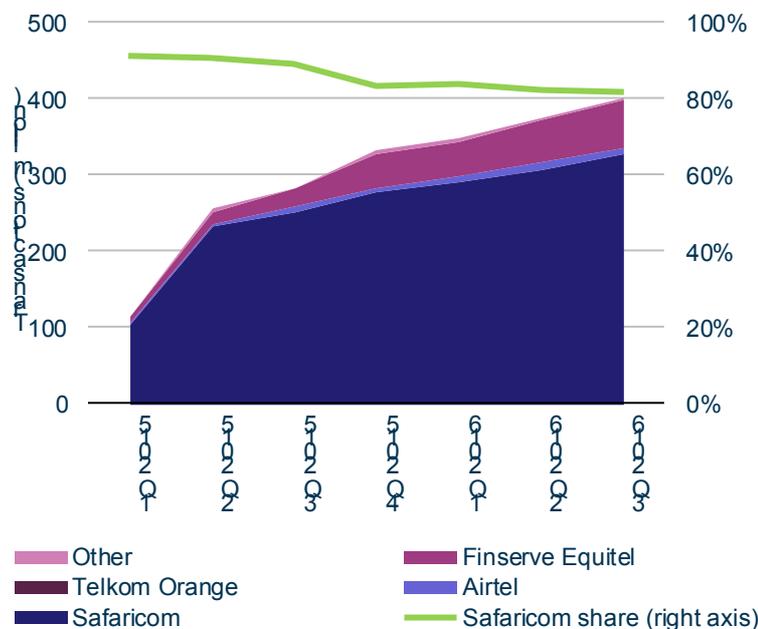


Figure 6.16: Safaricom's share of mobile money transactions [Source: CA, 2016]

Finally, since 1Q 2015 Safaricom’s share of mobile money transactions by value has exceeded

75%, although it has decreased from 98.4% in 1Q 2015 to 78.7% in 3Q 2016 (see Figure 6.17). Note that there appears to be an error in the reporting for 2Q 2015.

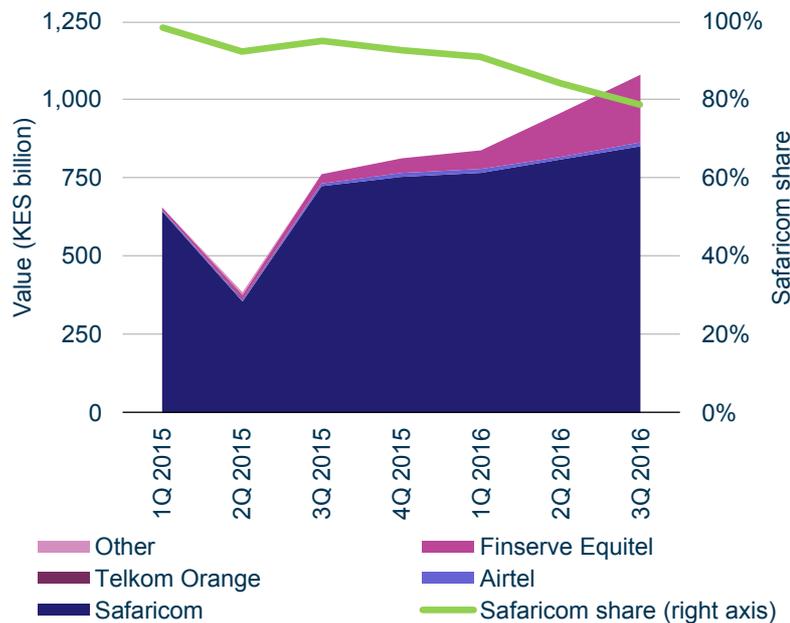


Figure 6.17:
Safaricom's share of mobile money transactions by value
[Source: CA, 2016]

We are not aware of any other mature multi-player mobile money markets where one player has as high a market share as Safaricom across the various measures of market share. Given the importance of mobile money in Kenya, it appears very likely that Safaricom's high share of mobile money transactions is supporting its high share of mobile communications.

We have collected benchmarks of mobile money transfer charges from Safaricom, Airtel, Telkom (Orange) and Equitel in Kenya, Vodacom and Airtel in Tanzania, MTN and Airtel in Uganda, Tigo and MTN in Rwanda, and two operators from outside the region: Vodafone India and Mobilink in Pakistan.

Figure 6.18 and Figure 6.19 compare the charges for transfers to registered users for Kenyan operators, while Figure 6.20 and Figure 6.21 compare Safaricom's charges against those of operators in the other benchmark countries.

We understand that Airtel and Equitel do not charge for on-net transfers, and that Telkom charges a flat rate of KES33 for transfers of up to KES35 000, making Telkom the most expensive operator for low-value transfers, although Safaricom is more expensive for transfers in the range USD20-100 (we understand that Telkom is in the process of implementing a new platform which may lead to a review of charges).

For transfers of up to USD10, Safaricom is in the middle range of benchmarks from other countries, although it is still rather expensive at the USD1 level. Safaricom is at the high end of our benchmarks for amounts of USD20 and above.

Figure 6.18: Charges for mobile money transfers to registered users (on-net) in Kenya, USD0–10
[Source: Operator websites, 2017]



Figure 6.19: Charges for mobile money transfers to registered users (on-net) in Kenya, USD10–100
[Source: Operator websites, 2017]



Notes: Airtel (KEN) and Equitel (KEN) charge nothing for on-net transfers.

Figure 6.20: Charges for mobile money transfers to registered users (on-net) international, USD0–10
[Source: Operator websites, 2016-17]

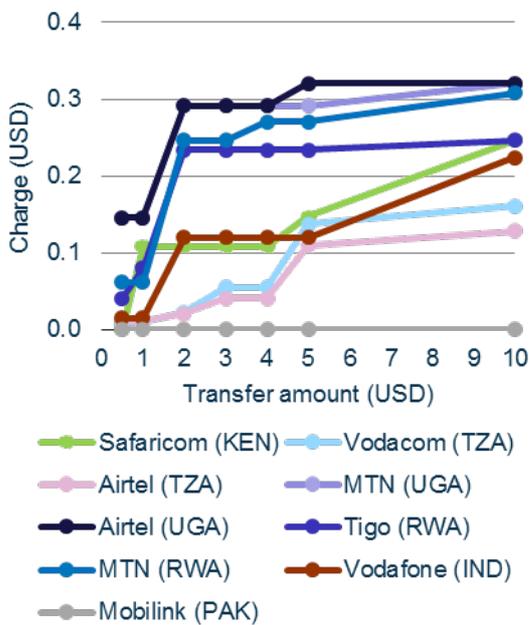
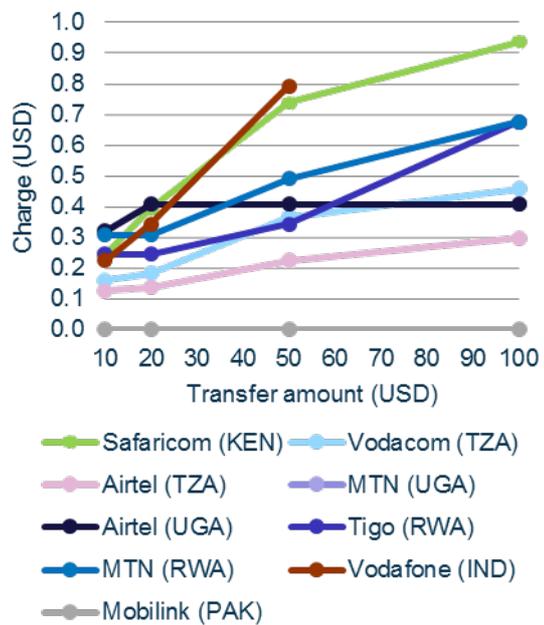


Figure 6.21: Charges for mobile money transfers to registered users (on-net) international, USD10–100
[Source: Operator websites, 2016-17]



Notes: Mobilink (PAK) makes no charge for on-net transfers, while the charges applied by MTN (UGA) and Airtel (UGA) are identical.

Figure 6.22 and Figure 6.23 compare the charges for transfers to unregistered users, including

cross-platform transfers, for Kenyan operators, while Figure 6.24 and Figure 6.25 compare Safaricom’s charges against those of operators in the other benchmark countries. The figures presented include cash withdrawal fees where these are paid by the recipient rather than the sender.

Safaricom is more expensive than Airtel and Equitel but less expensive than Telkom for transfers to unregistered users.

Regarding international comparisons, Safaricom is particularly expensive for a transfer of USD1, but is in the middle range of benchmarks for transfers of USD5–10. In the international comparisons, Safaricom sits in the middle of the range of benchmarks for cross-platform transfers of USD10–100, although it is rather more expensive at the USD50 level than at USD20 and USD100.

Figure 6.22: Charges for mobile money transfers to unregistered users (including cross-platform) in Kenya, USD0–10 [Source: Operator websites, 2017]



Figure 6.23: Charges for mobile money transfers to unregistered users (including cross-platform) in Kenya, USD10–100 [Source: Operator websites, 2017]

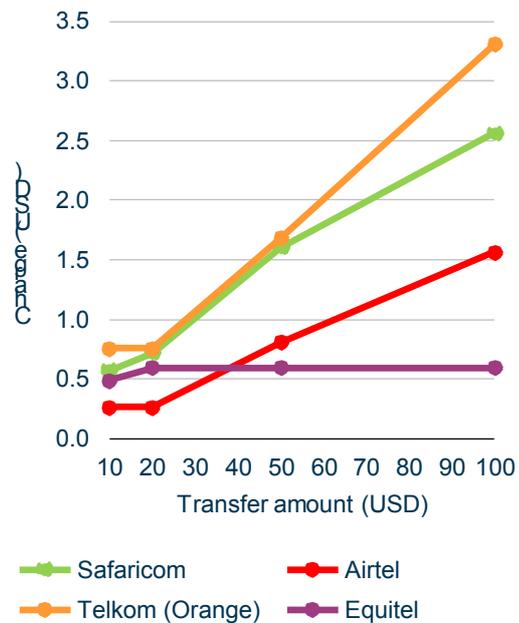


Figure 6.24: Charges for mobile money transfers to unregistered users (including cross-platform) international, USD0–10 [Source: Operator websites, 2016-17]

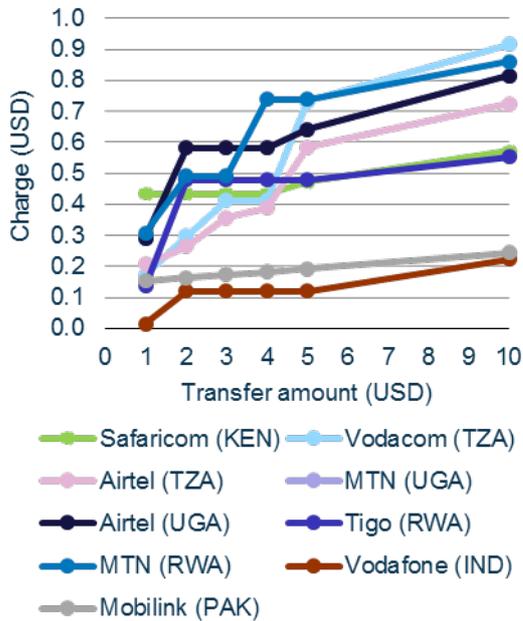
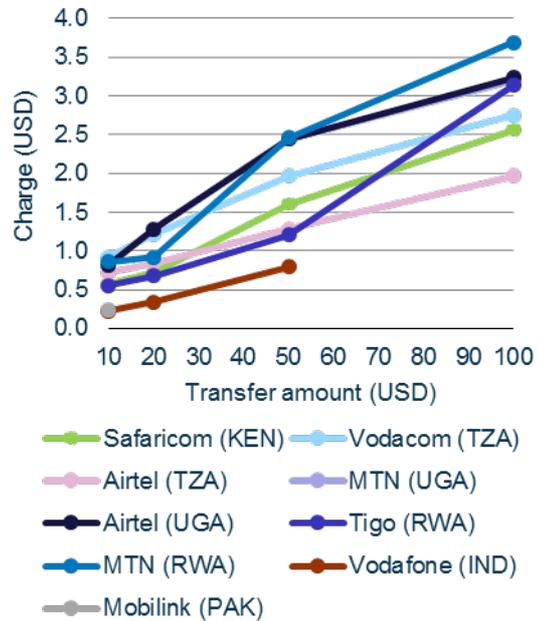


Figure 6.25: Charges for mobile money transfers to unregistered users (including cross-platform) international, USD10–100 [Source: Operator websites, 2016-17]



Note: The charges applied by MTN (UGA) and Airtel (UGA) are identical.

6.3.3 Competition in fixed lines and fixed broadband

As Figure 6.26 shows, since Telkom turned off its CDMA fixed wireless network in 2015, the majority of traditional fixed voice lines in Kenya have been provided by Wananchi, which includes an interface for an analogue telephone as part of its standard installation for customers served via its hybrid fibre coax network (fibre-to-the-home customers are provided with a SIP²⁰ interface instead). However, we believe that in the enterprise segment customers are moving fairly rapidly from traditional fixed voice lines to VoIP, while in the residential segment there is a clear move from fixed to mobile connections.

²⁰ Session initiation protocol.

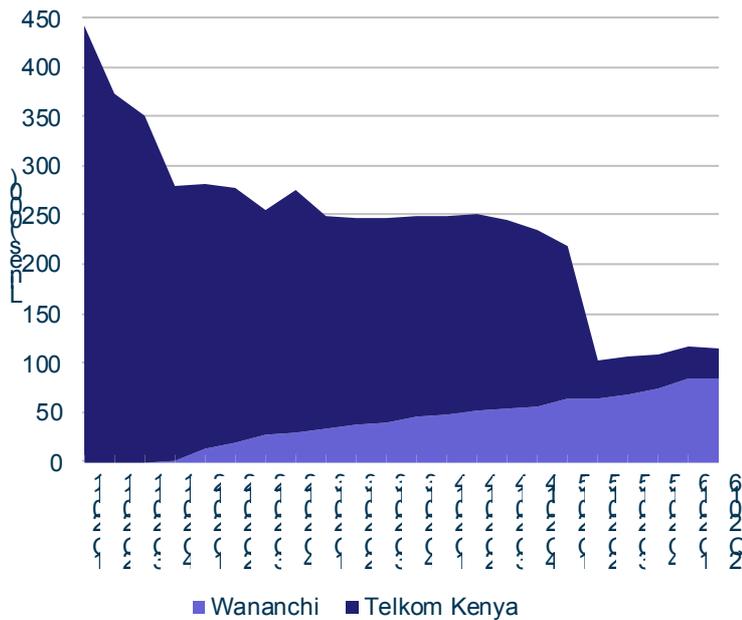


Figure 6.26: Fixed voice lines by operator
[Source: CA, 2016]

The majority of fixed lines in the benchmark countries are provided by the incumbent operator, except in Nigeria where the incumbent operator, Nitel, went bankrupt. We have not been able to find sufficient information on alternative operators to reach any conclusions on the relative levels of competition in the fixed-line market in Kenya compared to the other countries.

In the case of fixed broadband, slightly more information is available and we have been able to derive HHI trends for four countries: Kenya, Nigeria, South Africa and Tanzania (see Figure 6.27).

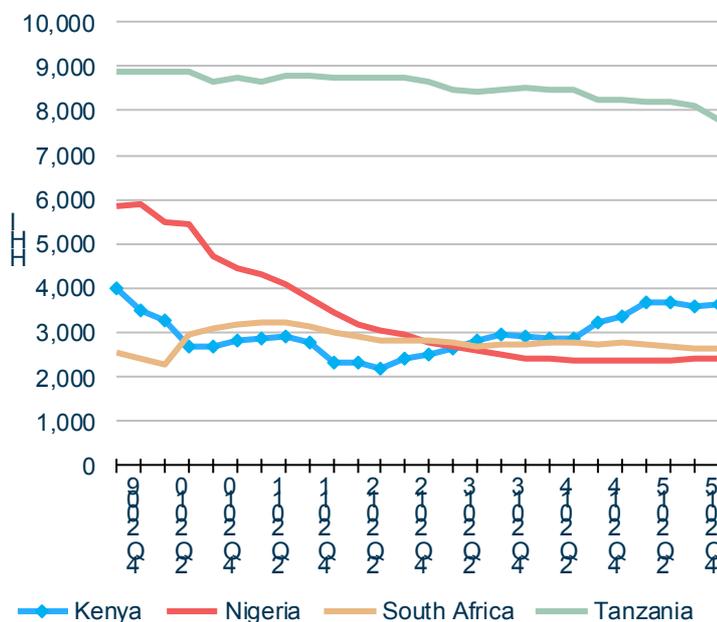


Figure 6.27: HHI for the fixed and fixed wireless broadband market in selected benchmark countries [Source: GlobalComms 2016]

The above chart shows that the HHI in Kenya is higher than that in Nigeria and South Africa (largely as a result of the rapid increase in the number of broadband lines supplied by Wananchi in recent years), but far below the level in Tanzania where, according to GlobalComms, the vast majority of broadband lines are provided by the incumbent, TTCL.

Figure 6.28 shows the number of broadband subscriptions by operator and the evolution of Wananchi’s market share. According to data reported by the CA, as of 2Q 2016 Wananchi accounted for around 60% of all fixed broadband subscriptions in Kenya. We do not have sufficient data to assess market shares by revenue since operators do not currently report revenue by service, and in the case of Wananchi the broadband service is bundled with TV and voice. However, we believe that Wananchi has a much higher proportion of residential customers than the other providers.

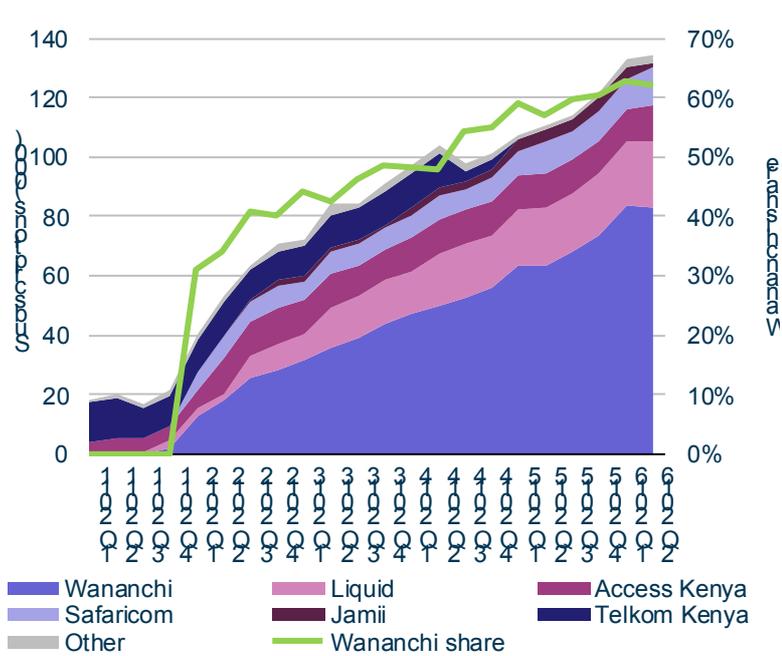


Figure 6.28: Fixed broadband lines by operator and Wananchi's market share [Source: Analysys Mason from CA data, 2016]

Note: The figures reported by Liquid include KDN, and the figures for Access Kenya include communications solutions. Some reporting gaps have been filled with interpolated figures to improve readability

Based on our analysis we therefore conclude that the traditional fixed voice market in Kenya is declining rapidly due to substitution from mobile and VoIP services. The fixed broadband market is in its infancy, and although Wananchi appears to have a relatively high share of fixed broadband subscribers, it is likely that the company’s share of broadband revenue is significantly lower.

6.4 Average revenue per user (ARPU) and tariff levels

6.4.1 Mobile ARPU

Figure 6.29 shows that mobile ARPU in Kenya (measured in USD at the current exchange rate) has risen considerably since 2011, whereas it has remained broadly constant in Ghana and has fallen in the other benchmark countries.

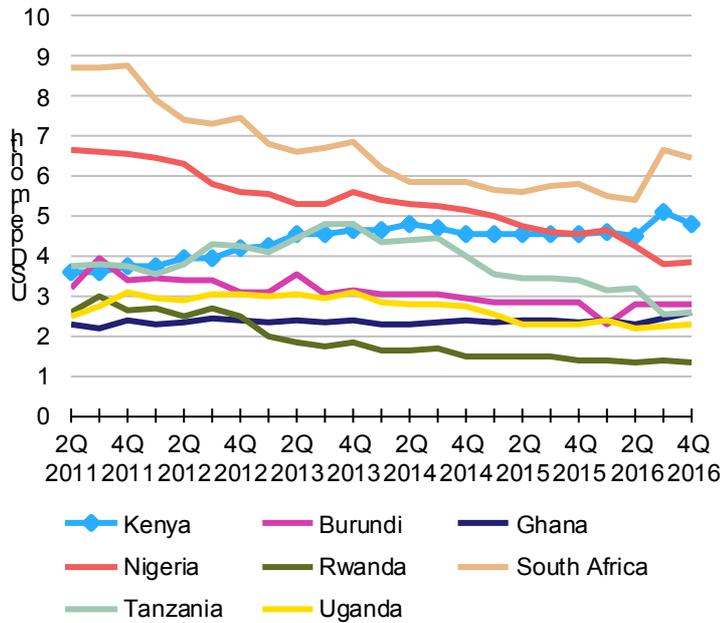


Figure 6.29: Benchmark of mobile ARPU
[Source: GSMA Intelligence, 2016]

The divergent trend is more apparent if the changes in ARPU are plotted in the form of an index (see Figure 6.30). This shows that ARPU in Kenya rose by 34% in nominal US dollar terms, whereas it fell in all the other benchmark countries except Ghana where it rose 13%.

This could be taken as evidence that lack of competition in the Kenyan mobile market is driving up the cost to end users. However, the use of mobile money is much more widespread in Kenya than in the other markets and it is possible that the contribution to ARPU from mobile money transactions is distorting the trend in Kenya (we note, for example, that GSMA Intelligence estimates that Safaricom’s ARPU for 3Q 2016 is USD6.31 per month, but voice ARPU is estimated at USD2.95 per month, data ARPU at USD1.44 per month and messaging ARPU is estimated at USD0.54 per month, which leaves around USD1.38 per month of other revenue, which is very high by regional standards).

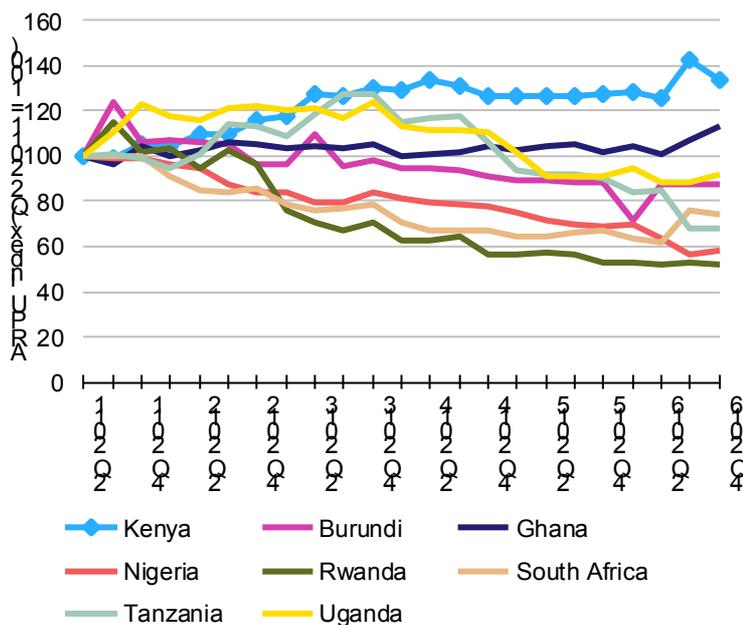


Figure 6.30: Benchmark of mobile ARPU index
[Source: GSMA Intelligence, 2016]

To further investigate whether mobile money charges are perhaps distorting the ARPU figures for Kenya, we collected tariff information for operators in the benchmark countries and used it to calculate the cost of three monthly usage baskets, as shown in Figure 6.31 below. Outside Kenya we collected information for each market’s leading operator and one challenger operator (where such data was available). Since all of the benchmark countries are predominantly prepaid markets, we used prepaid tariffs and we picked what we consider to be the most popular or default tariffs, avoiding those that offered bundles of voice, SMS and data for a fixed price. On this basis, we had to exclude Tanzania from the comparisons because non-bundled rates in Tanzania are very high compared to bundled rates and would have made Tanzania by far the most expensive country in the benchmark group when the ARPU comparison indicates that it is not.

We did not take account of recharge bonuses or other special offers that may be available (such as Safaricom’s *Stori Ibambe na Storo* bonuses in Kenya). The cost of prepaid data tends to increase with validity period. Where possible we chose a 30-day validity period for the 1GB bundle and a 7-day validity period for the 100MB bundle (100MB bundles with 30-day validity not being widely available). In many cases the available bundles were larger or smaller than the target size. Where this happened we took the price for the closest-available bundle and worked out the implied cost for the target-sized bundle.

Figure 6.31: Baskets used for tariff comparisons [Source: Analysys Mason, 2016]

Per month	Voice	SMS	Data
Low-end basket	60 minutes	60 SMS	None
Mid-range basket	120 minutes	120 SMS	100MB
High-end basket	240 minutes	120 SMS	1GB

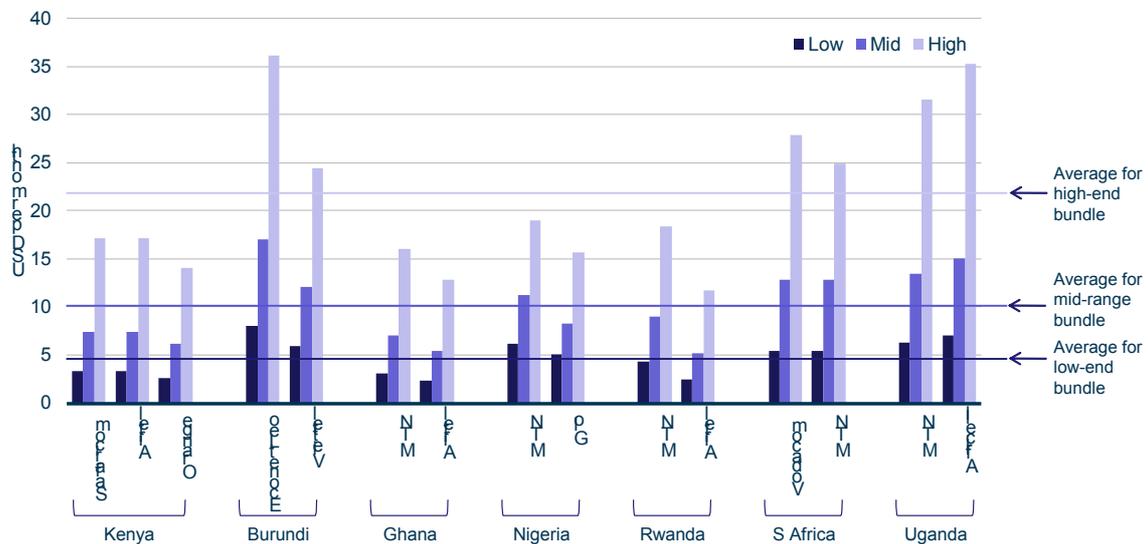
In cases where off-net usage is charged at a higher rate than on-net usage we assumed that 50% of traffic is on-net and 50% off-net. Where there are peak and off-peak rates we assumed that 75% of usage is at the peak rate (off-peak rates tend to start fairly late in the evening and finish fairly early in the morning: in Kenya for example, the off-peak period goes from 10:00pm to 8:00am). We also assume that per-minute billing (as in Kenya) increases call costs by an average of 30% compared to per-second billing (the amount varies depending on the distribution of call durations; 30% would imply a fairly high proportion of short calls).

Costs were converted to US dollars at the exchange rate prevailing on 20 July 2016, except in the case of Nigeria, which has recently experienced an exchange rate shock after the government removed the peg between the Naira and the US dollar on 21 June 2016. For Nigeria, we assumed an exchange rate of USD1 = NGN198, which is the average rate that had prevailed for the preceding six months. In Nigeria, the first minute of usage each day is charged at 2–3 times the rate for subsequent minutes. We accounted for this by assuming that monthly usage is spread evenly across all the days of the month (i.e. our hypothetical users have to pay the first minute charge every day).

The results (shown in Figure 6.32) paint a rather different picture from the ARPU trend. The price of each basket in Kenya is below the average price across the benchmark countries.

However, Safaricom still manages to have the same prices as Airtel and higher prices than Telkom (Orange) for the three baskets considered (i.e. Safaricom’s very high share cannot be attributed to lower tariffs).

Figure 6.32: Comparison of the cost of low-end, mid-range and high-end mobile baskets [Source: Analysys Mason, 2016]



Based on our analysis, we can therefore conclude that there is a lack of competition in the Kenyan mobile communications market, where Safaricom has been able to achieve very high market share and maintain prices at or above the levels of its competitors. However, this has not necessarily led to excessive retail charges when compared with other countries.

6.4.2 Fixed ARPU

We were not able to collect enough information about fixed-line and broadband charges to be able to conduct a similar comparison in the fixed market as for the mobile market. In Kenya, the situation is complicated by the fact that a significant proportion of broadband lines are supplied by Wananchi and almost all these lines are sold as a triple-play service comprising broadband, voice telephony and pay TV.

6.5 Termination rates

6.5.1 Mobile termination rates

We were able to collect information on mobile voice termination rates for at least some years for all of the benchmark countries apart from Burundi (see Figure 6.33).

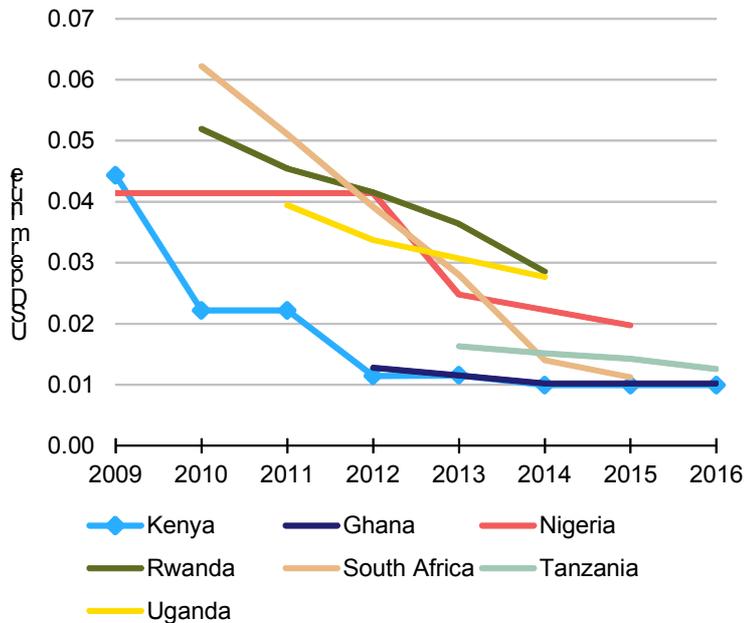


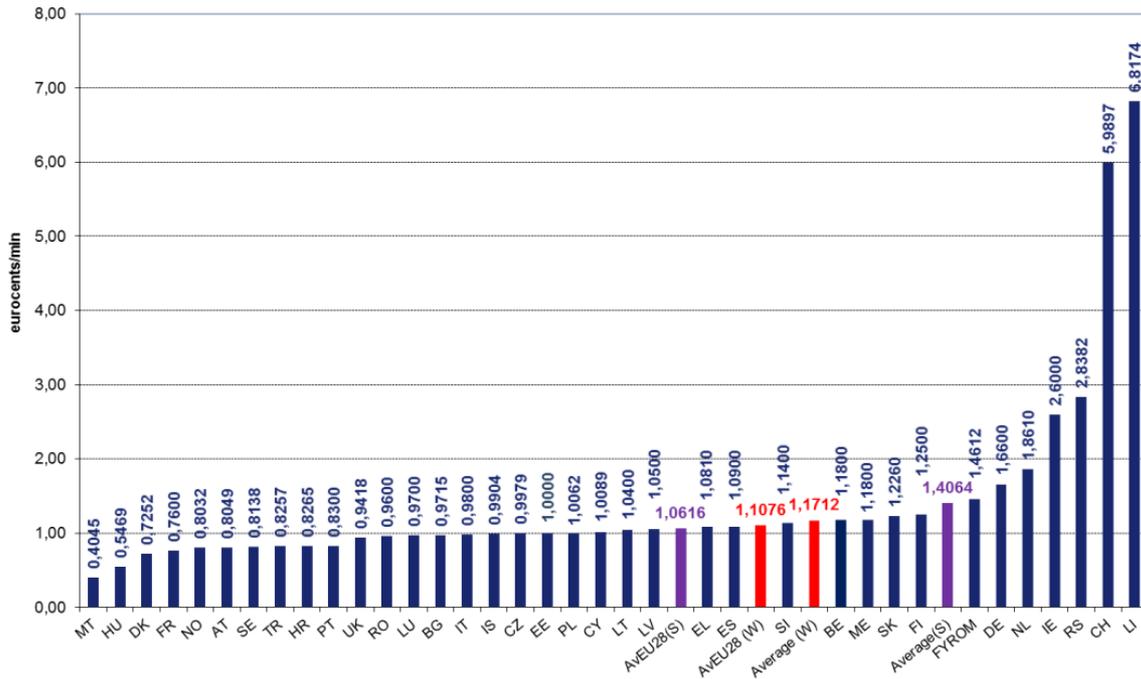
Figure 6.33: Mobile termination rates in the benchmark countries
[Source: GlobalComms and Analysys Mason, 2016]

Note: In South Africa, rates for Vodacom and MTN are shown; Cell C and Telkom Mobile are allowed to charge 16% more than Vodacom and MTN; Ghana and Nigeria previously had asymmetric rates but these have now been phased out.

When converted into USD at the exchange rate on 20 July 2016 (except in the case of Nigeria, where a rate of USD1 = NGN198 was used; see Section 6.4.1), Kenya has the lowest mobile termination rates of any of the benchmark countries at 0.99 US cents per minute, although the rates in Ghana are only 3% higher than in Kenya.

Moreover, the Body of European Regulators for Electronic Communications (BEREC) reports that in January 2016, the weighted average rate across the 28 Member States of the European Union (EU28) was 1.1076 Euro cents, equivalent to 1.01 US cents on 20 July 2016 (see Figure 6.34).

Figure 6.34: Mobile termination rates in European countries in January 2016 [Source: BEREC, 2016]

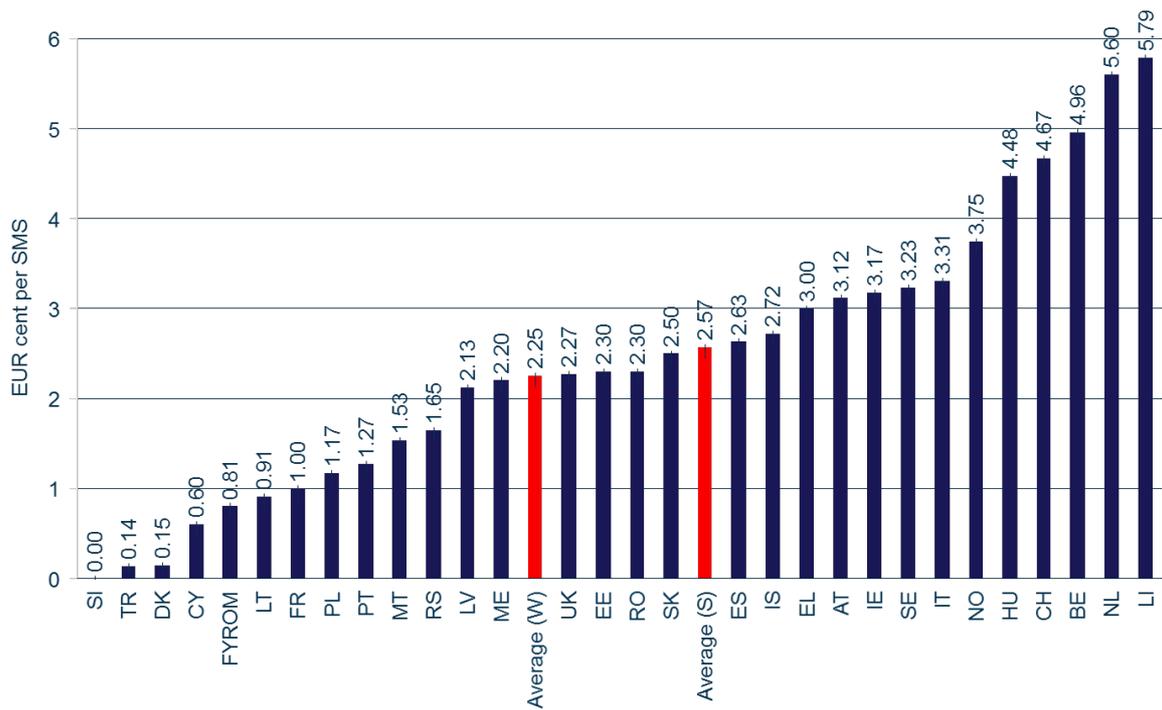


Note: Averages are given for the EU28 and for all 36 countries covered by the study; Average (S) indicates simple average, Average (W) indicates weighted average based on subscriber numbers in each country.

We therefore conclude that mobile voice termination rates in Kenya are low by regional standards and in line with international best practice.

We were not able to collect SMS termination rates for the majority of our African benchmark countries, but the current rate of KES0.05 (0.05 US cents) is a small fraction of the average European level of 2.05 US cents (see Figure 6.35).

Figure 6.35: SMS termination rates in European countries in January 2016 [Source: BEREC, 2016]



Note: Average (S) is the simple average of rates for the countries covered by the study while Average (W) is the weighted average. Rates for countries shown in Figure 6.34 but not shown here are confidential.

Safaricom is, however, a big net beneficiary from the current mobile termination regime since it enjoys a much higher proportion of on-net traffic than the other operators, as shown in Figure 6.36. Figure 6.37 shows the absolute level of off-net minutes by operator. As can be seen, Airtel has consistently paid out more in termination rates than Safaricom, even though Safaricom carries four times as many national minutes.

Figure 6.36: Share of on-net traffic by operator
[Source: CA, 2016]

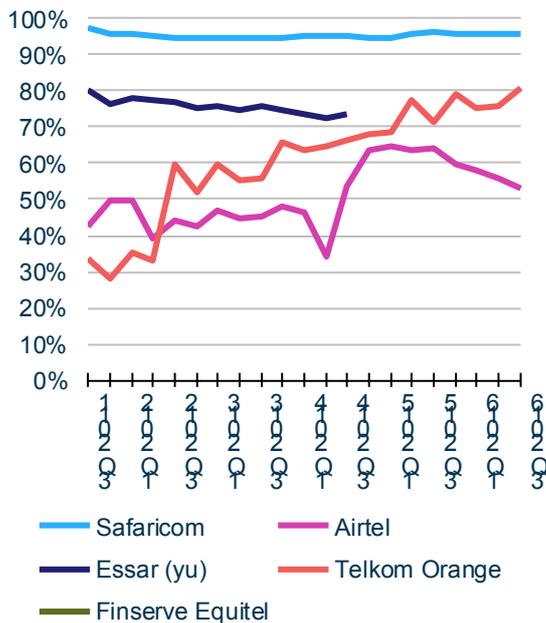
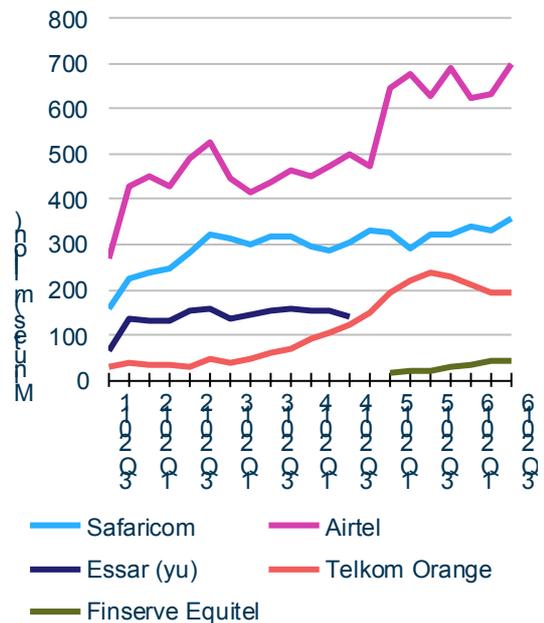


Figure 6.37: Absolute level of off-net traffic by operator
[Source: CA, 2016]



Based on the data that operators supplied in response to our information request, we estimate that in 2015 the net flow of voice traffic from Airtel to Safaricom was approximately [X], while the net flow from Telkom to Safaricom was approximately [X]. By contrast, traffic flows between Airtel and Telkom were closely matched (see Figure 6.38).

[X]

Figure 6.38:
Approximate voice
traffic flows in 2015
[Source: Analysys
Mason, 2016]

6.5.2 Fixed termination rates

We understand that in Kenya and in the majority of other benchmark countries, the fixed termination rate is the same as the mobile termination rate. In Europe, termination rates on the incumbent operator’s fixed network are typically lower than mobile termination rates, with the simple average of rates for local termination in the EU standing at 0.26 Euro cents (0.24 US cents) in January 2016. However, given the very small number of fixed lines in Kenya it would be reasonable to assume that the cost per minute is higher (due to a lack of economies of scale). In any case, the number of minutes terminated on fixed networks in Kenya is less than 0.2% of the number of minutes terminated on mobile networks, and so fixed-line termination payments are unlikely to be a material cost item for any licensed operator.

7 Definition of retail markets

In this section, we define a set of retail markets, both in terms of relevant products/services and geographical scope. The delineation of each market is based on an analysis of demand- and supply-side substitutability among different products or services which could potentially form part of the market under investigation. We provide analysis of the degree of substitutability between the products and services available in Kenya, taking a forward-looking approach with respect to possible developments in the market under review in the time horizon suggested, i.e. three years.

7.1 Retail mobile communications

7.1.1 Definition of the relevant product/service market

Based on the offers available in Kenya, we have performed substitutability analyses, to examine whether:

- retail mobile services and retail fixed services are in the same market
- retail mobile broadband services and retail mobile voice/SMS services are in the same market
- national and international services are in the same market
- services delivered over 2G, 3G and 4G networks are in the same market
- services for consumers and enterprise customers are in the same market
- prepaid and postpaid subscriptions are in the same market.

Substitutability between retail mobile services and retail fixed services

► *Demand-side substitutability*

The market for mobile communications is generally considered to be separate from the market for fixed communications.

Although mobile services can be used as a substitute for fixed services (and many fixed subscribers in Kenya have switched to mobile services) the reverse is not true: fixed services are not a substitute for mobile services because they lack the intrinsic mobility of the former. Hence the demand-side substitutability is limited to using mobile services in place of fixed.

SMS is a service that exists on mobile networks only, thus there is no fixed substitutability.

Substitution of mobile broadband for fixed broadband is possible to some extent, and indeed LTE services may be faster than some ADSL broadband lines, but the performance is more variable (depending on network loading) and mobile broadband is almost always subject to data caps, whereas most fixed broadband services allow unlimited data usage. Fixed broadband is typically a household (family) service (where all family members share the broadband service, typically via Wi-Fi), whereas mobile broadband is more of a personal service. Over time, fixed residential service may increasingly be bundled with TV services, which may also discourage migration to

mobile services. Consequently, in case of a SSNIP in fixed broadband services, there would not necessarily be a rapid migration to mobile broadband services. Similarly, a SSNIP in mobile broadband services would not necessarily cause a rapid migration to fixed broadband. Thus fixed and mobile services are not good substitutes from the demand side.

► *Supply-side substitutability*

On the supply side, it is not possible for a fixed operator to offer mobile services quickly as it would first need to obtain suitable spectrum and then make significant additional investments. A mobile operator could readily offer fixed-wireless services, although in practice there is often little benefit to doing so, and it may require some network adaptations. Supply-side substitute substitutability is therefore only possible from mobile to fixed.

► *Conclusion*

On the demand side, retail mobile and fixed services are not a good substitute for each other. On the supply side, fixed operators cannot easily move into mobile services, though mobile operators could provide fixed-wireless services. Thus retail mobile and retail fixed services are not in the same market.

Substitutability between retail mobile broadband services and retail mobile voice/SMS services

► *Demand-side substitutability*

The majority of mobile broadband connections are handset-based, and the majority of handsets only support one SIM. As a result, the subscriber is obliged to purchase mobile voice, SMS and data services from the same supplier. Mobile voice, SMS and broadband services are increasingly sold as part of the same tariff bundle, which creates some common pricing constraints for end users. It is possible to use services provided over mobile broadband in place of traditional mobile voice and SMS, e.g. over-the-top (OTT) mobile broadband services such as WhatsApp can in some cases replace both mobile voice and SMS. The evolution of usage to include OTT services and common pricing constraints between different types of mobile service therefore imply demand-side substitutability.

► *Supply-side substitutability*

Mobile networks are typically deployed to provide both mobile voice/SMS and mobile broadband services. In fact, as far as we are aware there is no mobile operator that only provides voice/SMS or only provides broadband service on its network. This implies that there is also supply-side substitutability.

► *Conclusion*

Retail mobile broadband services and mobile voice/SMS services are part of the same relevant market.

Substitutability between national and international services

▶ *Demand-side substitutability*

National and international services may be sold in bundles under common pricing constraints. This is sufficient for these retail services to be included in the same relevant market.

▶ *Supply-side substitutability*

Mobile operators in Kenya provide national and international voice and SMS to consumers on the same networks. Thus there is supply-side substitutability among national and international services.

▶ *Conclusion*

National and international services belong to the same relevant market.

Services delivered over 2G, 3G and 4G networks

▶ *Demand-side substitutability*

While there are differences in performance between 2G, 3G and 4G networks, the nature of the basic services is not fundamentally different, and in most cases there is automatic handover between the networks (e.g. voice calls and data sessions will switch back and forth between 2G and 3G networks without noticeable interruptions). In this sense, the commercialisation of 2G, 3G and 4G services is a technology evolution, not a distinct relevant market. Therefore, 2G, 3G and 4G networks belong to the same relevant market.

▶ *Supply-side substitutability*

There are some (network- and licence-related) costs involved in an upgrade from 2G to 3G and 4G. However, much of the basic infrastructure can be re-used and there are strong incentives for operators to follow their competitors in upgrading. This implies that there is at least some supply-side substitutability.

▶ *Conclusion*

Services delivered over 2G, 3G and 4G networks belong to the same relevant market.

Services for consumers and enterprise customers

▶ *Demand-side substitutability*

Retail mobile services available to consumers and enterprise customers are generally identical in terms of characteristics. Thus, both types of customer typically have access to an offer containing all the previously identified retail services. Enterprise customers are free to purchase consumer packages, and in Kenya the packages available for small and medium enterprises (SMEs) are fairly

similar to those for consumers in any case, although packages for larger enterprises are priced and possibly bundled differently.

Moreover, mobile operators may provide additional services to larger enterprises that are not available to consumers, and the distribution channels for larger enterprises are generally different. Thus there is limited demand-side substitutability between services for consumers and those for enterprise customers.

► *Supply-side substitutability*

The same network equipment is used to provide retail mobile services to consumers and enterprises. It would therefore be relatively easy for an existing provider of consumer retail mobile services to start offering enterprise retail mobile services (and vice versa). In practice, all mobile operators in Kenya provide their mobile services to both consumers and enterprises.

► *Conclusion*

Mobile services for consumers and enterprise customers belong to the same relevant market.

Prepaid and postpaid subscriptions

► *Demand-side substitutability*

Retail mobile services currently provided under prepaid subscriptions are also available under postpaid subscriptions, with essentially identical functionality. Postpaid subscribers can typically migrate to prepaid at any time, and some prepaid subscribers can migrate to postpaid (although migration in this direction is constrained by the fact that some subscribers will not meet the operators' eligibility criteria for postpaid subscriptions).

Thus there is good substitutability between postpaid and prepaid subscriptions and some substitutability in the opposite direction.

► *Supply-side substitutability*

All mobile operators in Kenya offer both prepaid and postpaid services and can easily offer a higher proportion of prepaid or postpaid services if the market requires. An operator that did offer only prepaid services or only postpaid services could easily start offering the other form of payment in response to a SSNIP.

► *Conclusion*

Prepaid and postpaid subscriptions belong to the same relevant market.

7.1.2 Definition of the relevant geographical market

Definition of the geographical scope of the relevant market is generally determined with reference to the area in which a licensee is authorised to build out a network.

In Kenya, Tier 1 operators have a licence that authorises them to offer services across the entire territory and provide national coverage (even if coverage levels vary by operator). Moreover, retail pricing is uniform at a national level (excepting a few short-term promotions at the regional level), and services are marketed nationally.

The relevant geographical market is therefore national

7.1.3 Conclusion

In conclusion, we believe that the retail mobile communications market:

- comprises mobile connections, national and international calls, SMS, narrowband and broadband data services provided over 2G, 3G and 4G networks
- includes prepaid and postpaid offers for consumers and enterprise customers
- is separate and distinct from fixed communications markets
- is national in scope.

7.2 Retail mobile money

7.2.1 Definition of the relevant product/service market

The mobile money market in Kenya includes the mobile wallet services provided by mobile operators (M-Pesa, Airtel Money and Orange Money), similar services offered by other providers (e.g. MobiKash and Tangaza Pesa) and mobile-centric bank accounts (e.g. Equitel MyMoney and MCo-op Cash). Based on the offers available in Kenya, the definition of the relevant product/service market involves examining whether:

- retail mobile money services and retail mobile communications services are in the same market
- retail mobile money services and other types of payment service are in the same market. Here we consider four other categories of payment service:
 - cash
 - card payments
 - money orders
 - other types of electronic funds transfer.

Substitutability between retail mobile money and retail mobile communications services

► *Demand-side substitutability*

Mobile communications and mobile money have very different characteristics: if we use the SSNIP test, an end user cannot replace a mobile money transfer by voice or data communications (or vice versa). There is no demand-side substitutability.

► *Supply-side substitutability*

Mobile operators cannot easily alter the relative proportions of revenue earned from mobile communications and mobile money services (as Airtel and Telkom's experience demonstrates). Equally, mobile money providers do not necessarily need (or want) to provide mobile communications services, although Equitel has chosen to do this.

► *Conclusion*

There is no substitutability between retail mobile money and retail mobile communications services, and hence the retail mobile money market is separate from the retail mobile communications market.

We note that the MKA USSD report also concluded that retail mobile communications and retail mobile money are distinct markets, although that study did not need to take a view on the scope of the retail money market. MKA identified consumer savings and loans as a distinct market for the purposes of its study, but we do not consider it relevant to our market review.

Substitutability between retail mobile money services and cash

► *Demand-side substitutability*

Cash payments are different from mobile money payments, because they are essentially anonymous and have no built-in audit trail or security. Consequently, they are only suitable for transactions where the payer and the payee are both present, or where there is a trusted intermediary, and there is always a risk of irrecoverable loss. Mobile money is widely used as a substitute for cash in Kenya, but is still not universally accepted. Thus demand-side substitutability of cash for mobile money is limited.

► *Supply-side substitutability*

The cash payment market is controlled by consumers themselves rather than companies, and thus there is no supply-side substitutability between mobile money and cash.

► *Conclusion*

Mobile money and cash payments are separate markets.

Substitutability between retail mobile money services and card payments

► *Demand-side substitutability*

Card payments can typically only be used for paying merchants, while mobile money supports both merchant payments and person-to-person transfers (with person-to-person transfers still accounting for more than half of transactions by value). Mobile money is also far more ubiquitous than card payments in Kenya: the CA reported 26.3 million mobile money subscriptions in June 2016, roughly twice the number of payment cards in circulation (12.9 million, according to the CBK), and Safaricom reported that it had 36 000 Lipa na M-Pesa merchants (i.e. merchants

accepting M-Pesa payments) in February 2016,²¹ while the MKA USSD report states that there are only around 20 000 point-of-sale terminals. On the demand side, mobile money is a substitute for card payments in most circumstances, but the reverse is not true.

► *Supply-side substitutability*

Payment cards can only be issued by banks that are licensed by the CBK, so mobile money providers would need to buy, or apply to become, a bank in order to issue payment cards. Moreover, if banks wish to become mobile money providers, they either need to reach an agreement with the mobile operators (as gatekeepers to their subscribers) or become MVNOs, as Equity Bank has done. There is therefore no supply-side substitutability.

► *Conclusion*

Mobile money and card payments are separate markets.

Substitutability between retail mobile money services and money orders

► *Demand-side substitutability*

Mobile money offers far greater convenience for the sender and the recipient than money orders such as those available through Posta Kenya and private operators such as Western Union. For this reason, a SSNIP applied to mobile money would not cause any significant migration to money orders.

► *Supply-side substitutability*

Mobile money providers offer an electronic substitute for money orders, e.g. if someone takes cash to an M-Pesa agent and then sends it to a recipient who withdraws it from another M-Pesa agent, the service is to all intents and purposes the same as a post office money order. However, money order providers would encounter the same barriers as banks if they wanted to provide mobile money services. Thus supply-side substitution is in one direction only.

► *Conclusion*

Mobile money and card payments are separate markets.

Substitutability between retail mobile money services and other types of electronic funds transfer

► *Demand-side substitutability*

Other types of electronic funds transfer (EFT) are typically bank-based, and person-to-person transfers may be impossible or prohibitively expensive for low-value transfers unless the recipient also has an account with the sender's bank.

²¹ See <http://www.nation.co.ke/business/Safaricom-s-Lipa-na-M-Pesa-agents-hit-36-000/996-3059428-mr4sl9z/index.html>.

Mobile money is also far more inclusive than traditional banking in Kenya. CGAP's 2015 financial inclusion survey found that 58% of Kenyan adults have an active mobile money account, but only 28% have a bank account. Based on this data, it seems certain that many current mobile money users would either not qualify to open a bank account or would not be able to access other banking facilities. Thus on the demand side mobile money can substitute for bank-based EFTs, but the reverse is not true.

► *Supply-side substitutability*

Mobile money providers cannot move into bank-based EFT without buying, or applying to become, a bank, and the barriers to banks becoming mobile money providers were already outlined earlier.

► *Conclusion*

Mobile money and other forms of EFT are separate markets.

7.2.2 Definition of the relevant geographical market

Based on the number of mobile money agents and their distribution across all parts of Kenya, the mobile money market is clearly national in scope.

7.2.3 Conclusion

In conclusion, we believe that the retail mobile money market:

- includes mobile wallet services provided by mobile operators, similar services offered by other providers, and mobile-centric bank accounts
- is separate and distinct from the mobile communications market (despite an obvious dependency on mobile communications)
- is separate and distinct from the markets for cash payments, card payments, money orders and EFT
- is national in scope.

We note that the MKA USSD report also concluded that retail mobile communications and retail mobile money are distinct markets, although that study did not need to take a view on the scope of the retail money market. MKA identified consumer savings and loans as a distinct market for the purposes of its study, but we do not consider it relevant to our review of telecoms markets.

7.3 Retail fixed narrowband services

7.3.1 Definition of the relevant product/service market

We have already established in section 7.1 that retail mobile communications services are in a different market from fixed services. Based on the offers available in Kenya, the definition of the relevant product/service market involves examining whether:

- retail fixed narrowband services and retail fixed broadband services are in the same market
- retail fixed narrowband access, local, long-distance and international calls are in the same market
- retail fixed narrowband services to residential and non-residential customers are in the same market
- retail fixed narrowband prepaid and postpaid subscriptions are in the same market.

Substitutability between retail fixed narrowband and retail fixed broadband services

▶ *Demand-side substitutability*

Fixed narrowband services cannot support the data applications that broadband supports, because their download and upload speeds are too slow. Users can use broadband access in place of narrowband, e.g. by using a VoIP service in place of a narrowband voice service. However, prices are not directly comparable. As a result, where a SSNIP is applied to fixed narrowband communications, subscribers are not likely to switch to a fixed broadband offer (and the reverse is also true). Thus there is no demand-side substitutability between fixed narrowband and fixed broadband services.

▶ *Supply-side substitutability*

Fixed narrowband providers in Kenya cannot provide broadband services without considerable additional investment (e.g. Telkom's new owners do not believe that upgrading the existing copper network to provide broadband services is commercially viable). However, broadband fixed access providers can offer narrowband services quite easily (as Wananchi has demonstrated). Thus there is one-way supply-side substitutability from broadband to narrowband.

▶ *Conclusion*

Retail fixed narrowband and retail fixed broadband services are therefore different markets.

Substitutability between retail fixed narrowband access, local, long-distance and international calls

▶ *Demand-side substitutability*

Access, local, long-distance and international calls do not provide the same functionality but are generally sold in bundles, and are thus under common pricing constraints. This is sufficient for these retail services to be included in the same market.

▶ *Supply-side substitutability*

The assumption of substitutability is confirmed by a supply-side analysis. Access, local, long-distance and international calls are all provided on the same networks. Therefore, a hypothetical fixed network operator that only provided local calls could start to offer other retail services in a relatively short time and without significant investment.

► *Conclusion*

Access, local, long-distance and international calls are in the same relevant market.

Substitutability between services to residential and non-residential customers

► *Demand-side substitutability*

Retail fixed narrowband services available to residential and non-residential customers are generally identical in terms of characteristics. Thus, both types of customer typically have access to an offer that contains all of the retail services identified previously. In any case, packages for SMEs are fairly similar to those for residential customers.

However, fixed operators may also provide additional services to larger enterprises that are not available to consumers, and the distribution channels for larger enterprises are generally different. Thus there is limited demand-side substitutability between services for residential customers and those for non-residential customers.

► *Supply-side substitutability*

Network equipment used for the provision of residential and non-residential services is essentially identical. It would be relatively simple for an existing provider of residential retail fixed services to start offering non-residential retail fixed services. Thus there is supply-side substitutability.

► *Conclusion*

Services to residential and non-residential customers are in the same relevant market.

Substitutability between prepaid and postpaid subscriptions

► *Demand-side substitutability*

Retail fixed services are typically available with prepaid or postpaid subscriptions, offering essentially identical functionality. Postpaid subscribers can typically migrate to prepaid at any time and some prepaid subscribers can migrate to postpaid (although migration in this direction is limited by the fact that some subscribers will not meet the operators' eligibility criteria for postpaid subscriptions).

Thus there is good substitutability between postpaid and prepaid subscriptions, and some substitutability in the opposite direction.

► *Supply-side substitutability*

A fixed operator that only offered prepaid services or only postpaid services could easily start offering the other form of payment in response to a SSNIP test.

► *Conclusion*

Prepaid and postpaid subscriptions are thus in the same relevant market.

7.3.2 Definition of the relevant geographical market

In Kenya, operators have a licence that authorises the provision of services across the entire Kenyan territory, and retail pricing is generally uniform at a national level. However, competition in fixed narrowband access is currently limited to those parts of Nairobi and Mombasa that are served by both Telkom and Wananchi.

The geographical market is therefore defined by the overall network coverage of fixed operators.

7.3.3 Conclusion

In conclusion, we believe that the retail fixed narrowband market:

- includes fixed voice access and all types of voice calls (local, national and international)
- is separate and distinct from the mobile communications market
- is separate and distinct from fixed broadband services
- is limited to the overall network coverage of fixed operators.

7.4 Retail fixed broadband services for enterprises and leased lines

7.4.1 Definition of the relevant product/service market

We have already established that retail fixed broadband services and retail fixed narrowband services are separate markets. Based on the offers available in Kenya, definition of the relevant product/service market involves a series of substitutability analyses, examining whether:

- retail fixed broadband services for enterprises (including public sector organisations such as schools, hospitals and government offices) and those for consumers are in the same market
- retail fixed broadband services for enterprises and leased lines are in the same market
- low- and high-bandwidth services are in the same market.

Substitutability between retail fixed broadband services for enterprises and retail fixed broadband services for consumers

► *Demand-side substitutability*

Enterprises typically require more bandwidth than consumers and are willing to pay a significant premium for higher quality of service (e.g. less contention and more resilience). Moreover, consumer broadband services are often bundled with entertainment services which enterprises do not require. Similarly, enterprise services are typically too expensive for consumers and lack the entertainment component that they value, while consumer services may not meet the availability requirements of larger enterprises. Therefore, there is no demand-side substitutability.

► *Supply-side substitutability*

On the supply side, fixed broadband services for SMEs may be provided over the same infrastructure as fixed broadband services for consumers, but larger enterprises may require higher

quality of service than can be delivered over infrastructure designed for consumer services (e.g. they may require fibre to the premises in place of hybrid fibre co-ax) as well as better redundancy within the network to deliver high-availability services. Thus a consumer-oriented broadband operator may have difficulty serving large enterprise customers. Equally, the network of an enterprise-oriented broadband operator may only provide very limited geographical coverage (e.g. only central business districts, office and retail parks), and so considerable investment would be needed to pass a large number of homes. Thus there is limited supply-side substitutability.

► *Conclusion*

Retail fixed broadband services for enterprises and those for consumers are different markets.

Substitutability between retail fixed broadband services for enterprises and leased lines

► *Demand-side substitutability*

Historically, leased lines have tended to be considered as a separate market from broadband access services, because leased lines provide point-to-point connectivity (as opposed to a single-ended connection to the Internet), and leased-line connectivity is symmetrical (whereas broadband access services often provide higher speeds for download than for upload). However, as broadband access speeds increase and more communications shift to the use of Internet Protocol (IP), enterprises are finding it more economical to use broadband access with virtual private networking in place of leased lines, so there is an increasing amount of demand-side substitution. Taking a forward-looking perspective, such trends can only be expected to increase over time.

► *Supply-side substitutability*

On the supply side, enterprise broadband access and leased lines tend to be provided over the same infrastructure (mainly fibre). Suppliers typically offer both services, and can easily adjust the mix of services they offer. Thus there is supply-side substitutability.

► *Conclusion*

Retail fixed broadband services for enterprises and leased lines can be considered to be part of the same relevant market.

Substitutability between different broadband speed services

► *Demand-side substitutability*

Basic and very high-bandwidth services are not direct substitutes from a demand perspective, but there is a clear chain of substitutability involving different speeds (i.e. a circuit offering a small increment in bandwidth is always a substitute for the slightly lower-bandwidth circuit). There is therefore demand-side substitutability.

► *Supply-side substitutability*

Suppliers which are able to offer very high-speed services can almost always offer lower-speed services over the same infrastructure, and infrastructure is increasingly being designed with the provision of future high-speed services in mind.

► *Conclusion*

Connections offering different speeds are in the same relevant market.

7.4.2 Definition of the relevant geographical market

Although competition is local rather than national in scope (due to the limited coverage of enterprise broadband and leased-line infrastructure), operators are licensed on a national basis and could operate across the entire territory of Kenya.

7.4.3 Conclusion

In conclusion, we believe that the market for retail fixed broadband services and leased lines for enterprises:

- is separate and distinct from the retail fixed broadband market for consumers
- includes single-ended Internet access services and point-to-point services
- includes services offering different broadband speeds/bandwidths
- is geographically limited by the geographical of the operators' network.

7.5 Retail fixed broadband services for consumers

7.5.1 Definition of the relevant product/service market

We have already established that retail fixed broadband services for consumers form a different market from retail fixed broadband services for enterprise and fixed narrowband services, and we do not consider that any further substitutability analysis is required to define this product/service market.

7.5.2 Definition of the relevant geographical market

Although competition is currently local rather than national in scope (due to the limited coverage of consumer fixed broadband infrastructure), operator coverage may increase significantly over the next three to five years. Operators are licensed on a national basis.

7.5.3 Conclusion

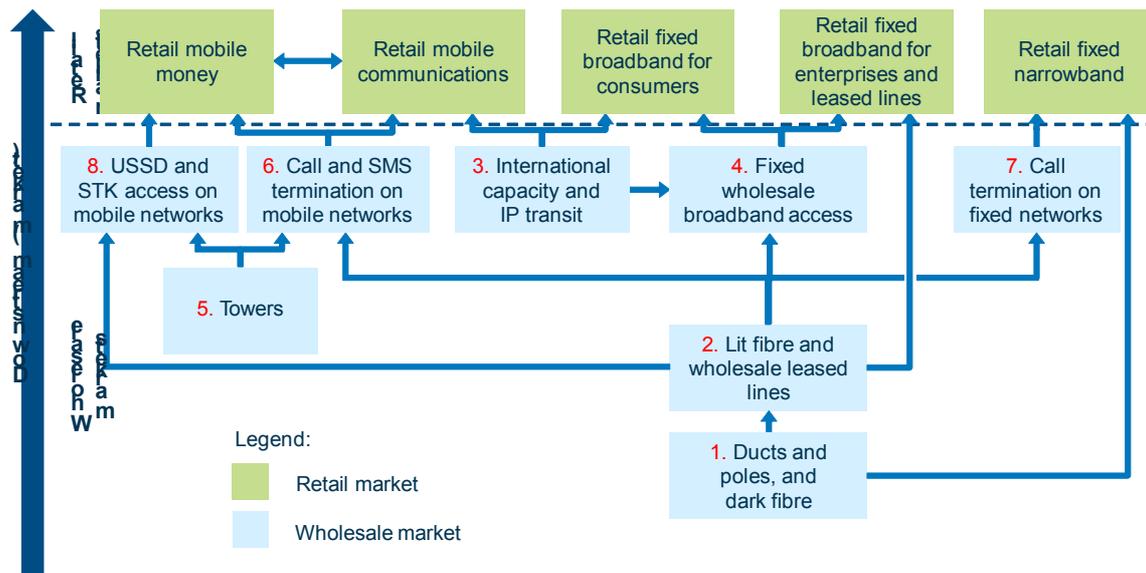
In conclusion, we believe that the retail fixed broadband market:

- is separate and distinct from the retail fixed narrowband communications market
- is separate and distinct from the enterprise fixed broadband and leased-line market
- is geographically defined by the scope of operator network footprints, which are currently relatively limited but are expected to extend over time.

8 Market review of wholesale markets

We have identified eight wholesale markets which are linked to the relevant retail markets defined in the previous section. These markets are shown in Figure 8.1 and discussed below. In accordance with the modified greenfield approach described in Section 5.2, our market review starts with the most upstream markets and proceeds downstream in order to favour a light regulatory approach.

Figure 8.1: Proposed wholesale markets [Source: Analysys Mason, 2017]



8.1 Market definition and analysis: Ducts, poles and dark fibre infrastructure

8.1.1 Market definition

Definition of the relevant product/service and geographical market

Ducts, poles and dark fibre are provided by infrastructure providers. Even though these services are not necessarily substitutable products from a demand-side perspective, they represent passive infrastructure and share common characteristics from a supply-side perspective.

The geographical dimension of the market is the footprint of the providers' networks.

Three-criteria test

► *Presence of high and non-transitory barriers to entry*

In Kenya, no major structural barriers prevent an operator from providing its own ducts, poles and dark fibre. The Tier 1 mobile operators, and the largest fixed operators generally self-provide their ducts and fibre. The operator information request did not identify any problems in obtaining duct

access except where a provider has secured monopoly access to a particular site or building. This issue should be addressed through symmetric regulation and is discussed further in Section 10.

► *Whether market structure tends towards effective competition within the relevant time horizon*

Besides the operators listed above, there are several other competing fibre providers in Kenya, which have generally laid their own ducts. The dark fibre market is developing. KETRACO, KPLC and FON advertise dark fibre products on their websites and we expect that other network operators would be willing to provide similar services if approached. The operator information request did not identify any problems in obtaining dark fibre.

KPLC pole routes are an important right of way in urban areas and form the basis for a number of access networks, including those of JTL and Wananchi. We understand that there is still room on these poles to support other networks, though if KPLC proceeds with its plan to deploy its own open access fibre network on the poles then other operators are likely to use this network rather than deploying their own overhead fibre. We have not identified any market issues or lack of competition during our contact with operators.

► *Application of competition law alone would not adequately address the market failure(s) concerned*

We do not believe there are currently any failures in the market that cannot be addressed through the application of competition law.

Conclusion

We conclude that the market for ducts, poles and dark fibre infrastructure is not susceptible to asymmetric ex-ante regulation.

8.1.2 Market analysis

Not required, as the market is not susceptible to ex-ante regulation.

8.2 Market definition and analysis: Lit fibre and wholesale leased lines

8.2.1 Market definition

Definition of the relevant product/service and geographical market

This market includes lit fibre and wholesale leased lines that can be used to provide retail services. The geographical dimension of the market is the footprint of the operators' networks.

Three-criteria test

▶ *Presence of high and non-transitory barriers to entry*

Lit fibre and wholesale leased lines can be provided using dark fibre in ducts. We have not identified any high or non-transitory barriers to entry.

▶ *Whether market structure tends towards effective competition within the relevant time horizon*

There is relatively strong competition between multiple providers in national and metro area fibre networks. Most of the retail providers of enterprise broadband access and leased lines listed in Section 7.4.3 also offer lit fibre and leased lines on a wholesale basis. The operator information request did not identify any problems in obtaining access to lit fibre and wholesale leased lines, except where a provider has secured monopoly access to a particular site or building (see Section 10).

We believe that the availability of lit fibre and wholesale leased lines does not impede or delay the provision of downstream services, except in locations that are not currently covered by any fibre operators.

▶ *Application of competition law alone would not adequately address the market failure(s) concerned*

We do not believe there are currently any failures in the market that cannot be addressed through the application of competition law.

Conclusion

We conclude that the market for lit fibre and wholesale leased lines is not susceptible to ex-ante regulation.

8.2.2 Market analysis

Not required as the market is not susceptible to asymmetric ex-ante regulation.

8.3 Market definition and analysis: International capacity and IP transit

8.3.1 Market definition

Definition of the relevant product/service and geographical market

This market includes the IP transit and international capacity typically required to provide Internet services.

Three-criteria test

► *Presence of high and non-transitory barriers to entry.*

While the construction of new international capacity is costly, the existence of four submarine cables landing in Mombasa (TEAMS, EASSy, SEACOM and LION2), with three more likely to be completed by 2018 (Africa 1, DARE and Liquid Sea), suggests that there are numerous potential providers of international capacity and that there are no high or non-transitory barriers to entry in this market.

► *Whether market structure tends towards effective competition within the relevant time horizon*

Telkom, Airtel and Safaricom all have ownership interests in at least one of the existing cables. Moreover, SEACOM and Liquid Sea are private (as opposed to consortium) cables and, as such, will typically sell capacity to all access seekers. TeleGeography reports that the median monthly lease price for an STM-1 (155Mbit/s circuit) from Nairobi to London fell by an average of 34% year on year from 4Q 2011 to 4Q 2015 to USD8500 (see Figure 8.2), the same level as the median price from Johannesburg to London and significantly lower than equivalent circuits from Dar es Salaam, Accra and Lagos to London. This corresponds to pricing of around USD55 per Mbit/s per month.

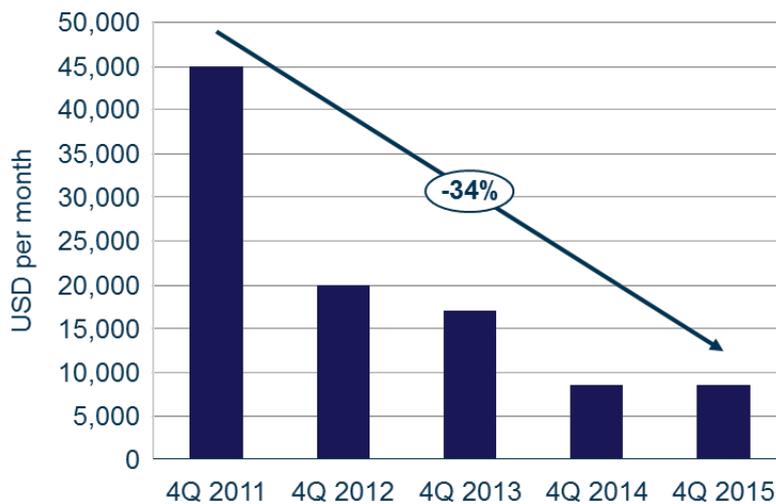


Figure 8.2: Median STM-1 price Nairobi–London [Source: TeleGeography, 2016]

The median price for IP transit in London is around USD1 per Mbit/s per month and the premium in Nairobi should be linked to the cost of bandwidth between London and Nairobi. Figure 8.3 shows that is roughly true: median IP transit prices in Nairobi fell by an average of 31% year on year from 2Q 2012 to 2Q 2016 and are now under USD60 per Mbit/s per month. This figure is only around 15% higher than the median price in Johannesburg, historically the cheapest IP transit location in Africa.

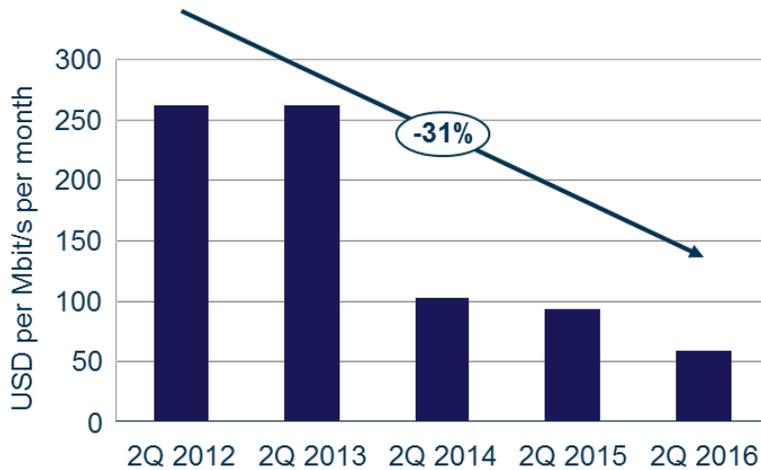


Figure 8.3: Median IP transit price per Mbit/s in Nairobi STM-1 and GigE ports [Source: TeleGeography, 2016]

The rapid reductions in price and the relative cost of capacity and IP transit in Nairobi and Johannesburg indicate that levels of competition in these markets are satisfactory. We believe that competition is likely to intensify as new capacity is brought into use. Furthermore, the operator information request did not identify any particular problems in this market.

- *Application of competition law alone would not adequately address the market failure(s) concerned*

We do not believe there are currently any failures in the market that cannot be addressed through the application of competition law.

Conclusion

We conclude that the international capacity and IP transit market is not susceptible to asymmetric ex-ante regulation.

8.3.2 Market analysis

Not required as the market is not susceptible to ex-ante regulation.

8.4 Market and definition: Fixed wholesale broadband access

8.4.1 Market definition

Definition of the relevant product/service and geographical market

Fixed wholesale broadband access offers refer to wholesale bitstream services which can be used by operators that do not own or control the ‘last mile’ in order to provide retail fixed broadband services. Wholesale broadband offers can be provided on any type of fixed access technology (copper pair, fibre and cable) since the services provided consist in delivering the traffic of a specific end user at an interconnection access point.

We understand that demand for wholesale broadband access to consumers (i.e. residential premises) is currently relatively low in Kenya as operators tend to favour the use of their own access network (vertical integration). However, we understand that some players have made wholesale broadband access offers without any need for regulatory intervention. Demand for such offers may increase in the future as network operators extend their footprint, especially in areas where economics do not justify that several operators build their own access network.

In line with international best practice (e.g. in European countries including Germany, the Netherlands, Portugal, Malta, and the UK), wholesale broadband access over any fixed access technology can be considered as substitutable and belongs to the same relevant market.

The geographical dimension of the market is the network footprint of broadband access operators.

Three-criteria test

► *Presence of high and non-transitory barriers to entry*

Wholesale broadband access can be provided on any type of fixed access technology. However, barriers to entry exist outside of dense areas where it is not economically viable to replicate local access.

► *Whether market structure tends towards effective competition within the relevant time horizon*

The wholesale broadband market is still an emerging market in Kenya. There appears to be relatively strong competition between multiple infrastructure network operators and we would expect them to progressively extend their access networks, at least in dense areas. However, access network coverage is still very limited overall and it would appear too early (and certainly inappropriate) to introduce asymmetric regulation at this stage.

The fact that wholesale broadband offers have started to appear without regulatory intervention tends to indicate satisfactory levels of competition.

The operator information request did not identify any issues in obtaining wholesale broadband access, except where a provider has secured monopoly access to a particular site or building (see Section 9).

► *Application of competition law alone would not adequately address the market failure(s) concerned*

We do not believe there are currently any failures in the market that cannot be addressed through the application of competition law.

Conclusion

We conclude that the market for wholesale broadband access is not susceptible to asymmetric ex-ante regulation. CA should however, closely monitor the evolution of this market to assess if the market conditions are changing in the short to medium term.

8.4.2 Market analysis

Not required as the market is not susceptible to ex-ante regulation.

8.5 Market definition and analysis: Towers

8.5.1 Market definition

Definition of the relevant product/service and geographical market

Ground-based and rooftop towers would appear to be substitutable because an operator can easily switch from one to the other in the event of a price increase, except perhaps in central business districts where it may be difficult to find suitable locations for ground-based towers.

Self-supplied and leased towers would also appear to be in the same market because an operator could easily switch from one to the other in the event of a price increase. In Kenya, Tier 1 mobile operators have national licences and therefore need towers to cover a large proportion of the Kenyan population.

The geographical dimension therefore appears to be national.

Three-criteria test

► *Presence of high and non-transitory barriers to entry*

In principle, the barriers to entry in the tower market are relatively low: in many areas there is a choice of locations for a tower to serve a particular area and a new entrant could start by building towers one at a time. However, it is currently not economically viable to build new towers in many areas (typically in rural areas) because Safaricom is scarcely expanding its geographical coverage, except where it receives a subsidy from the Universal Service Fund (USF) to do so. The other operators would probably like to expand their coverage to more closely match that of Safaricom, but so long as their market share is low (as discussed in Section 6.3.1) they cannot profitably do so. In addition, section 4(5) of the draft Open Access and Infrastructure Sharing regulations creates a regulatory barrier by stating that:

“Passive infrastructure may only be established at a particular location where there is no feasible option of co-location or infrastructure sharing with an existing infrastructure provider.”

The definition of passive infrastructure in this draft regulation explicitly includes towers. Thus, in practice, the barriers to entry in many areas are significant.

► *Whether market structure tends towards effective competition within the relevant time horizon*

Effective competition in the tower market, particularly in rural areas, is unlikely to emerge so long as the mobile market comprises one very large player that has already rolled out its network and two much smaller players that struggle to make a business case for geographical expansion.

- *Application of competition law alone would not adequately address the market failure(s) concerned*

We consider that ex-post competition law is not sufficient to address the market issues that we have identified, particularly the effect that Safaricom’s continued high market share has on the economics of tower construction and the proposed regulatory requirement to avoid duplication of passive infrastructure.

Conclusion

We therefore believe that the wholesale tower market is susceptible to asymmetric ex-ante regulation.

8.5.2 Market analysis

Market share analysis

At present Safaricom owns and manages its own towers, while Airtel has sold almost all of its ground-based towers to an independent tower company, Eaton Towers (trading as Kenya Towers in Kenya). We understand that Kenya Towers also manages the majority of the towers used by Telkom (Orange) but that Telkom still owns its towers. There are several other independent tower companies (for example, the companies that support TV and radio broadcasters) but these are small in scale.

The data that we have been able to collect on the number of towers by operator is shown in Figure 8.4. This indicates that Safaricom owns between 57% and 65% of the towers in Kenya.

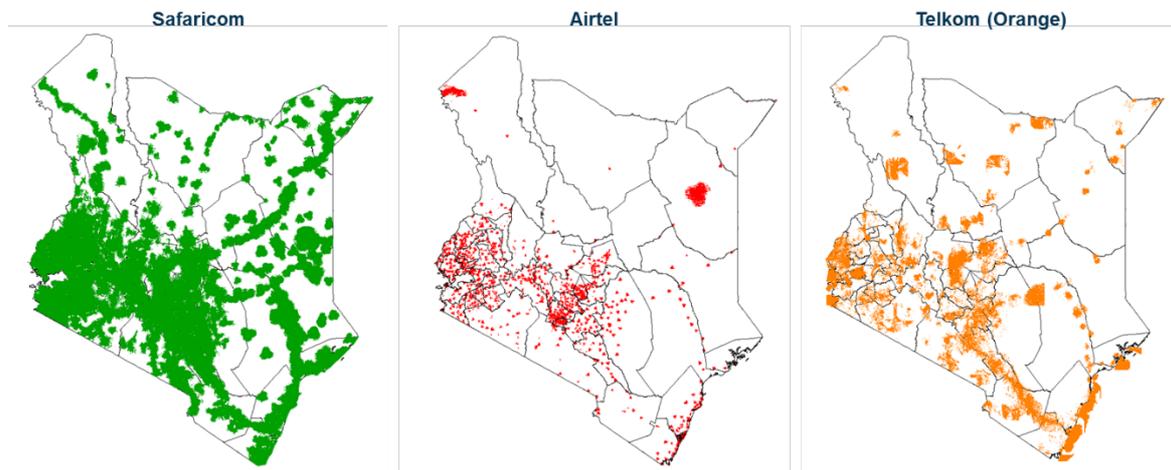
Figure 8.4: Number of towers by operator in Kenya [Source: Analysys Mason, 2016]

Operator	Number of towers	% of total towers	Comment
Safaricom	2500–3450	57–65%	[§<]. FY16 press commentary ²² states that there are 2517 3G base stations and 3800 2G base stations. However, it is possible that, in some places, Safaricom has two 2G base stations at the same physical site (in the case of 3G, UMTS900 sites are listed separately). In the operator information request, Safaricom reported using 352 towers that were not self-provided
Eaton/Kenya Towers	c.1100	21–25%	Press reports state that Airtel Kenya sold 1100 towers to Eaton/Kenya Towers in 2015. Kenya Towers also manages most of Telkom Kenya’s towers but does not own them. It is possible that Kenya Towers may have built some additional towers in the last 12 months
Airtel	c.100	2%	[§<] We believe that Airtel retained its rooftop towers and may also have retained a small number of ground-based towers that were unsuitable for sale
Telkom (Orange)	677	13–15%	Information provided in response to information request

²² http://www.safaricom.co.ke/images/Downloads/Resources_Downloads/FY15-16Press_Commentary.pdf

Figure 8.5 shows the 2G coverage maps supplied by each Tier 1 operator to the CA. While there appear to be significant differences between operators in the assumed coverage per site and some artefacts in the data supplied, the maps nevertheless demonstrate that Safaricom's tower network is significantly more extensive than those of Airtel and Telkom, meaning that in many rural areas Safaricom's towers are the only ones available. There is therefore a presumption of dominance by Safaricom.

Figure 8.5: 2G coverage maps for Safaricom, Airtel and Telkom (Orange) [Source: CA, 2016]



Other criteria considered

► *Prices and countervailing buyer power*

Safaricom has generally been willing to lease its towers at commercially agreed rates, but Telkom has argued that the rates are significantly above cost, pointing out that the smaller operators have low countervailing power when negotiating with Safaricom and typically the only alternative to using a Safaricom site is to self-provide.

► *Control of infrastructure that is not easy to duplicate*

Both Airtel and Telkom have suggested that Safaricom is holding back its most strategic locations on spurious technical grounds. These are common complaints about large infrastructure owners, particularly in the mobile market in other countries.

Conclusion and competition issues

We conclude that Safaricom is dominant in the wholesale tower market in Kenya.

In our opinion, Safaricom's dominance in the tower market raises the following competition issues:

- *Limited coverage and competition in the downstream market:* the fact that Safaricom's competitors are prevented on economic grounds from accessing Safaricom's towers in low-density areas prevents them from extending their coverage and therefore reduces the level of competition in the retail mobile market

- *High pricing:* Safaricom is able to set the price for tower sharing at a level that prevents the other Tier 1 operators from profitably extending their coverage in areas of low population density, thus entrenching Safaricom's dominant position in the retail mobile communications and retail mobile money markets.
- *Potential to delay or deny sharing requests:* Safaricom's process for accepting and implementing requests for tower sharing lacks transparency and could be used to delay or frustrate the expansion plans of other operators.

8.6 Market definition and analysis: Call and SMS termination on mobile networks

8.6.1 Market definition

Definition of the relevant product/service market

The definition of the relevant product/service market involves a series of substitutability analyses, examining whether:

- call termination on mobile network A and call termination on mobile network B are in the same market
- SMS termination on mobile network A and SMS termination on mobile network B are in the same market
- call termination and SMS termination on a mobile network are in the same market
- call termination on a mobile network and call termination on a fixed network are in the same market.

► *Call termination on mobile network A and call termination on mobile network B*

Demand-side substitutability

The technical characteristics of voice call termination services provided by the different operators in Kenya are basically the same. However, mobile operator A, which needs to terminate a call from one of its subscribers to a subscriber from mobile operator B, has no choice but to go through operator B to complete the call. There is therefore no demand-side substitutability.

Supply-side substitutability

If mobile network operator A wanted to compete with mobile network operator B in the wholesale service market for voice call termination on network B, it would have no choice but to take control and buy mobile operator B. This option is not realistic in practice. There is therefore no supply-side substitutability.

Call termination on mobile network A and call termination on mobile network B are not substitutable, thus are not in the same market.

► *SMS termination on mobile network A and SMS termination on mobile network B*

Demand-side

The technical characteristics of SMS termination services provided by

substitutability different operators in Kenya are basically the same. However, from the perspective of demand, mobile operator A, which needs to terminate an SMS from one of its subscribers to a subscriber from mobile operator B, has no choice but to go through operator B to send the SMS. There is therefore no demand-side substitutability.

Supply-side substitutability If mobile network operator A wanted to compete with mobile network operator B in the wholesale service market for SMS termination on network B, it would have no choice but to take control and buy mobile operator B. This option is not realistic in practice. There is therefore no supply-side substitutability.

SMS termination on mobile network A and SMS termination on mobile network B are not substitutable, thus are not in the same market.

► *Call termination and SMS termination on a mobile network*

Demand-side substitutability A mobile network operator that buys a voice call termination service from another mobile network operator cannot be satisfied with an SMS termination service because the characteristics of the services are different. An operator establishing a voice call needs to complete the call in voice mode, not in SMS mode. As a result, there is no demand-side substitutability.

Supply-side substitutability As per above, call/SMS termination services on a particular mobile network can only be provided by the mobile network operator. In case of a price increase in call or SMS termination, no other operator can therefore offer an alternative using SMS/call termination. As a result, there is no supply-side substitutability.

Call termination and SMS termination on a mobile network are not substitutable, thus are not in the same market.

► *Call termination on a mobile network and call termination on a fixed network*

Demand-side substitutability An operator needing to terminate a call on a mobile network cannot use call termination on a fixed network and vice versa. There is no demand-side substitutability.

Supply-side substitutability As per above, call termination services on a particular mobile network can only be provided by the mobile network operator. In case of a price increase in call termination, a fixed operator cannot offer an alternative call termination service. As a result, there is no supply-side substitutability.

Call termination on a mobile network and call termination on a fixed network are not substitutable, thus are not in the same market.

Definition of the relevant geographical market

In Kenya, Tier 1 mobile operators are licensed on a national basis and call termination on a mobile network is sold with no geographical segmentation. We therefore believe that the call termination market for each mobile operator has the same geographical scope as the mobile network coverage of each operator.

The same rationale applies to SMS termination. We therefore believe that the relevant geographical dimension for the SMS termination market for each mobile operator is the mobile network coverage of each operator.

We therefore believe that there are separate relevant markets for:

- call termination on each mobile operator's network
- SMS termination on each mobile operator's network.

The geographical scope for each of these markets is the footprint of each operator's network.

Three-criteria test

To assess relevance for ex-ante regulation of the market for call termination on each mobile network in Kenya, we perform the three-criteria test.

► Presence of high and non-transitory barriers to entry

A mobile network operator A that wishes to compete with a mobile network operator B in the market for wholesale voice call termination on network B would have no choice but to take control and buy mobile operator B. There are therefore high and non-transitory barriers to entry in the market for voice call termination on each mobile network.

The situation for SMS termination is identical. There are therefore high and non-transitory barriers to entry in the market for SMS termination on each mobile network.

► Whether market structure tends towards effective competition within a relevant time horizon

The barriers to entry in the market for voice call termination on each mobile network in Kenya are such that each operator will inevitably retain monopoly. The market for voice call termination on each mobile network in Kenya cannot therefore tend towards effective competition in the timeframe of this market review.

The situation for SMS termination is identical. The market for SMS termination on each mobile network in Kenya cannot therefore tend towards effective competition in the timeframe of this market review.

► Whether the application of competition law alone would not adequately address the market failure(s) concerned

We do not believe that competition law would be sufficient to address operators' potential desire to set unreasonable charges and/or technical conditions.

Conclusion

For each mobile operator, the market for voice call termination and the market for SMS termination are susceptible to asymmetric ex-ante regulation.

8.6.2 Market analysis

Market share analysis

Each mobile network operator has a 100% share of the market for call/SMS termination on its network. There is therefore a strong presumption of dominance.

Other criteria considered

Each mobile operator controls an infrastructure for call termination on its own network that cannot be duplicated.

The countervailing buying power of other Tier 1 mobile operators that also sell call termination is not sufficient to limit the power of each mobile operator on its own network.

There is no alternative to using the network of a given mobile operator to terminate calls on this network.

Conclusion and competition issues

Each mobile operator has a monopoly on call and SMS termination to its mobile network and therefore has SMP.

In our opinion, each operator's dominance on its network sites raises the following competition issues:

- *Refusal of access*: each operator could refuse access to its network
- *High termination rates*: each operator could set a tariff much higher than the one that would prevail in a competitive market; this would translate into high retail tariffs
- *Discriminatory practices*: each operator could discriminate against other operators (for example, by requiring operators to purchase additional services)
- *Unreasonable technical issues*: each operator could set unreasonable technical conditions (for example, in terms of points of interconnection or protocols).

8.7 Market definition and analysis: Call termination on fixed networks

The rationale for ex-ante regulation of the call termination rate on fixed networks is the same as for mobile networks (in section 8.6), although the fixed market in Kenya is very much smaller.

8.7.1 Market definition

Definition of the relevant product/service market

Based on the offers available in Kenya, definition of the relevant product market involves a series of substitutability analyses, to examine whether:

- call termination on fixed network A and call termination on fixed network B are in the same market
- call termination on a fixed network and call termination on a mobile network are in the same market.

► *Call termination on fixed network A and call termination on fixed network B*

Demand-side substitutability The technical characteristics of voice-call termination services provided by different fixed operators in Kenya are basically the same. However, from the perspective of demand, if fixed operator A needs to terminate a call from one of its subscribers to a subscriber from fixed operator B, it has no choice but to go through operator B to complete the call. There is therefore no demand-side substitutability.

Supply-side substitutability If fixed network operator A wants to compete with fixed network operator B in the wholesale service market for voice call termination on network B, it has no choice but to take control and buy fixed operator B (an option which is unrealistic in practice). There is therefore no supply-side substitutability.

Call termination on fixed network A and call termination on fixed network B are not substitutable, and so are not in the same market.

► *Call termination on a fixed network and call termination on a mobile network*

We have already established that call termination on a mobile network and call termination on a fixed network are not substitutable, and so they are not in the same market.

Definition of the relevant geographical market

Fixed network operators are licensed on a national basis and call termination on a fixed network is sold with no geographical segmentation. We therefore believe that the call termination market for each fixed operator has the same geographical scope, since its fixed network (i.e. the relevant geographical dimension) is the national territory of Kenya.

We believe that there are separate relevant markets for call termination on each fixed operator's network and each of these markets is national in scope.

Three-criteria test

To assess the relevance for ex-ante regulation of the market for call termination on each fixed network in Kenya, we perform the three-criteria test.

► *Presence of high and non-transitory barriers to entry*

If fixed network operator A wanted to compete with fixed network operator B in the wholesale market for voice call termination on network B, it would have no choice but to take control and buy fixed operator B. There are therefore high and non-transitory barriers to entry in the markets for voice termination for each fixed operator in Kenya.

► *Whether market structure tends towards effective competition within a relevant time horizon*

The barriers to entry in the market for call termination on each fixed network in Kenya are such that each operator will inevitably retain a monopoly. The market for call termination on each fixed network in Kenya cannot therefore tend towards effective competition within three to five years.

► *Whether the application of competition law alone would not adequately address the market failure(s) concerned*

We do not believe that competition law would be sufficient to address the potential desire of operators to set unreasonable charges and/or technical conditions.

Conclusion

For each mobile operator, the market for voice call termination and the market for SMS termination are therefore susceptible to asymmetric ex-ante regulation.

8.7.2 Market analysis

Market share analysis

Each fixed network operator has a 100% share of the market for call termination on its network. There is therefore a strong presumption of dominance.

Other criteria considered

Each fixed operator controls an infrastructure for call termination on its own network that cannot be duplicated.

The countervailing buying power of other operators that also sell call termination is insufficient to limit the power of each fixed operator on its own network.

There is no alternative to using the network of a given fixed operator to terminate calls on this network.

Conclusion and competition issues

Each fixed operator has a monopoly on call termination to its fixed network and therefore has SMP.

As with mobile networks, in our opinion each operator's dominance on its network sites raises the following competition issues:

- *Refusal of access*: each operator could refuse access to its network
- *High termination rates*: each operator could set a termination rate much higher than the one that would prevail in a competitive market; this would translate into high retail tariffs
- *Discriminatory practices*: each operator could discriminate against other operators (for example, by requiring operators to purchase additional services)
- *Unreasonable technical issues*: each operator could set unreasonable technical conditions (for example, in terms of points of interconnection or protocols).

8.8 Market definition and analysis: USSD and STK access on mobile networks

8.8.1 Market definition

Definition of the relevant product/service market

Unstructured Supplementary Service Data (USSD) and SIM Application Toolkit (STK) access are two methods of supporting mobile money services.

- *USSD* is a GSM bearer service which allows a handset to establish a low-speed real-time connection with a remote server for the exchange of messages comprising up to 182 alphanumeric characters. These messages can be used for a variety of applications, such as prepaid balance queries, text-based web browsing and mobile money transfers. Almost all GSM handsets support USSD and so it can be used to deliver services to more or less any subscriber, so long as the service provider has an agreement with the mobile operator so that one or more USSD short codes initiate a connection between the subscriber and the provider's server.
- *STK* is a GSM standard that enables the subscriber identity module (SIM) in a handset to interact with the end user and a network application. The end-user interaction is often based on a series of menus that have been pre-installed in the SIM, and although communication with the network application can use USSD, SMS communication is more common. STK with SMS is generally regarded as a superior method of supporting mobile money applications, because it is not dependent on maintaining a real-time connection with a remote server (which may be difficult if the network is congested or the end user moves from cell to cell) and because it can use the security features of the SIM to verify the end user's identity. However, because the application is programmed into the SIM, mobile operators are usually reluctant to grant STK access to third parties.

Given the importance of the retail mobile money market in Kenya, our analysis of the USSD and STK wholesale market is largely focused on the use of these services to support mobile money. At present we understand that mobile money services operate as follows:

- Safaricom, Airtel and Telkom use STK access with an SMS bearer service on their respective SIMs
- Equitel uses STK access with an SMS bearer service on its own thin SIMs²³ (hosted by Airtel) although Equity Bank services are also available to Safaricom subscribers via USSD
- non-mobile operator mobile money services such as MobiKash and Tangaza use USSD.

The MKA USSD report defined the market for USSD and STK access in Kenya. It concluded that:

- wholesale USSD and STK access are in the same market (because both services are used for similar purposes)
- this market is separate and distinct from the market for smartphone apps and featurephone apps providing access to similar services (because penetration of smartphones and featurephones that support apps is low in Kenya and unlikely to increase rapidly)
- at the present time it is not clear that there is a separate market for USSD and STK access on each mobile operator's network (because a large number of Airtel and Orange customers also have Safaricom subscriptions).

We review these conclusions below using substitutability analysis. The questions that need to be answered are:

- Whether USSD and STK access are in the same market
- Whether this market is separate and distinct from the market for smartphone apps and featurephone apps providing access to similar services
- Whether USSD and STK access on each operator's network is a separate market.

► *Substitutability between USSD and STK access*

Demand-side substitutability USSD and STK access are used to provide retail mobile money services that offer similar basic functionality. Assuming both services were available, a new service provider could in principle use either. In case of a SSNIP test, it is a likely that a service provider could switch from USSD to STK access (and vice versa). There is therefore demand-side substitutability.

Supply-side substitutability In principle, a mobile operator *could* make both STK access and USSD access available to service providers. However, mobile operators are typically reluctant to make STK access available to third parties, because it could compromise security and because the implementation of new services based on STK access could necessitate a SIM swap. There is therefore limited supply-side substitutability.

²³ A thin SIM is an adhesive SIM that can be stuck on top of an existing SIM to provide dual SIM technology in a handset with only one SIM slot

The existence of demand-side substitutability is sufficient to conclude that USSD and STK access are in the same market.

► *Substitutability between USSD/STK access and smartphone/featurephone apps*

For the purposes of this analysis we define a smartphone as a high-end handset in which the operating system is open, or at least has a well-defined application programming interface. This means that third parties can develop apps which users can then download and install on the handset. Once installed, the apps are accessed via a graphical user interface. A featurephone is a less sophisticated handset with a proprietary operating system. Today, many featurephones also offer graphical user interfaces but these typically only provide access to pre-installed apps. In most cases a featurephone mobile money app therefore needs to be installed before the handset is sold.

Demand-side substitutability

Mobile money services that are currently delivered using USSD/STK access could also be delivered using smartphone and/or featurephone apps. In more developed markets, such as Western Europe, smartphones account for over 75% of handset subscriptions, and smartphone apps are an effective substitute for USSD and STK access (in fact a *superior* substitute, because the graphics capabilities of smartphones allow apps to be made more sophisticated and intuitive). However, Analysys Mason Research (which produces regular forecasts of smartphone penetration in many countries, as an activity which is completely independent of this study) forecasts that smartphones will only account for 30% of handset subscriptions in Kenya in five years' time. At present, therefore, it is not viable for mobile money providers to focus solely on smartphone users, particularly if they want to target the unbanked who are less likely to own a smartphone in the first place. Penetration of app-capable featurephones is probably higher but, as explained above, it is difficult to install new apps on featurephones that have already been sold and expensive to provide every potential user with a new featurephone.

At the present time and considering the timeframe of the current market review, therefore, we conclude that there is no demand-side substitutability in Kenya.

Supply-side substitutability

Apps will typically use packet data as the bearer service rather than USSD or SMS, and a particular mobile operator could easily provide wholesale packet data access in place of USSD or STK access. In general, the mobile data market has evolved on the basis of the end user paying for the data used, but there are some examples of access to particular content services, such as Facebook, being provided free of charge to the end user, possibly with a financial contribution to the operator by the content provider. However, the handset issue still matters on the supply side: it would be pointless to use packet data access to support apps on mobile operator A's network if most of the subscribers on that operator's network do not have handsets that can make use of it.

The handset barrier means that for the time being there is no substitutability between USSD/STK access and smartphone/featurephone apps. We conclude that USSD/STK access and the use of smartphone/featurephone apps to provide access to mobile money services are separate and distinct markets.

► *Substitutability of USSD/STK access on the networks of mobile operator A and mobile operator B*

This is a question on which the MKA USSD report did not reach a firm conclusion.

Demand-side substitutability The technical characteristics of the USSD and STK access services provided by different mobile operators in Kenya are basically the same. However, from the demand perspective, a service provider that wishes to offer a mobile money service to the subscribers of mobile operator A has no choice but to purchase USSD/STK access on operator A's network. The availability of USSD/STK access on operator B's network will not allow a service provider to offer a mobile-money service to its subscriber on network A. There is therefore no demand-side substitutability.

Supply-side substitutability If mobile operator A wanted to compete with mobile operator B in the wholesale market for USSD and STK access on mobile operator B's network, it would have no choice but to take control and buy mobile operator B (an option which is unrealistic in practice). There is therefore no supply-side substitutability.

From the point of view of our study we believe that USSD and STK access on each mobile operator's network should be treated as separate and distinct markets.

Definition of the relevant geographical market

Mobile network operators and the service providers that make use of USSD are licensed on a national basis, and wholesale USSD access is sold with no geographical segmentation. We therefore believe that the relevant geographical dimension is the footprint of each network on which the mobile money service is provided.

We therefore believe that the relevant market:

- includes both wholesale USSD and STK access
- is different from the market for smartphone and featurephone apps providing access to similar services
- consists of a separate market on each operator's network

The geographical scope for each of these markets is the footprint of each operator's network.

Three-criteria test

To assess the relevance for ex-ante regulation of the market for wholesale USSD and STK access in Kenya, we perform the three-criteria test.

► *Presence of high and non-transitory barriers to entry*

At present if service provider A wants to provide content services based on USSD or STK access to the customers of mobile operator B, it must either take control and buy mobile operator B, or reach a commercial wholesale agreement with mobile operator B. Buying mobile operator B is not realistic, and independent service providers in Kenya report that they are being asked to pay high and discriminatory charges which act as a barrier to entry.

► *Whether market structure tends towards effective competition within a relevant time horizon*

Each operator has an effective monopoly on the provision of USSD and STK access on its own network. The requirement to obtain wholesale USSD and STK access to a network will diminish over time as smartphone penetration increases and mobile money providers can provide their services via apps instead. However, given the current low levels of smartphone penetration and Analysys Mason Research's forecast that penetration will only reach 30% in five years' time, we conclude that effective competition will not emerge within the relevant time horizon.

► *Whether the application of competition law alone would not adequately address the market failure(s) concerned*

The MKA USSD report describes how competition law could be used to address the failures that it identifies in the market for USSD and STK access, but concludes that this would need to be based on a statutory investigation into abuse of dominance in USSD pricing and related practices in the mobile financial sector, which would inevitably take a considerable period of time to complete. We believe that timely intervention is indispensable in addressing these market failures, and thus that competition law is insufficient to address the market failures (in the same way that it is insufficient to address market failure on the call termination market). The MKA USSD report also recognises that ex-ante regulation by the CA would be a simpler method of addressing the market failures.

Conclusion

We conclude that the market for wholesale USSD and STK access in Kenya passes the three-criteria test and is thus relevant for ex-ante regulation.

8.8.2 Market analysis

Market share analysis

Each mobile network operator has a 100% share of the market for USSD and STK access on its network. There is therefore a strong presumption of dominance.

Other criteria considered

Each mobile operator controls an infrastructure for USSD and STK access on its own network that cannot be duplicated.

The countervailing buying power of mobile money service providers (that may be owned by other Tier 1 mobile operators that also sell USSD access) is insufficient to limit the power of each mobile operator on its own network.

There is no alternative to using the network of a given mobile operator to provide services that require USSD and STK access to its subscribers.

Conclusion and competition issues

Each mobile operator has a monopoly on USSD and STK access to its mobile network and therefore has SMP.

In our opinion each operator's dominance on its network sites raises the following competition issues:

- *Refusal of access*: each operator could refuse access to its network
- *High rates for USSD access and short codes*: each operator could set a tariff much higher than the one that would prevail in a competitive market. There is evidence that this is happening, and that it is impeding the ability of third-party providers of mobile money services to compete with the operators' own mobile money services
- *Discriminatory practices*: each operator could discriminate against third-party service providers, for example, by charging them more than its own mobile money service provider pays or by charging different amounts to different service providers. The MKA USSD report and a report by CGAP²⁴ document cases of similar service providers being charged different amounts for wholesale access to USSD networks. The MKA USSD report also indicates that Safaricom may be favouring service providers in which it has a financial interest.
- *Lack of transparency*. Service providers complain that it takes too long to arrange USSD access and that there is a lack of information about service levels etc.

8.9 Proposed remedies

8.9.1 Towers

Summary

The remedies that we recommend that should be imposed on Safaricom are summarised below and described in more detail in the following sections.

► *Access to sites in specific counties*

We propose that Safaricom should be required to provide other Tier 1 mobile operators with access to its sites in designated counties where there is a large disparity in the number of sites deployed by Safaricom and the number deployed by the other two Tier 1 mobile operators.

²⁴ *Competition in Mobile Financial Services: Lessons from Kenya and Tanzania*, Rafe Mazer and Philip Rowan, CGAP, January 2016.

► *Tariff control*

The price for site sharing at these sites should be based on the long-run average incremental cost (LRAIC) of providing sites in the designated counties. Since it may take some time to calculate the LRAIC of providing these sites, the CA should consider an interim pricing approach based on commercial discussions between the operators and the CA.

► *Non-discrimination*

Access should be provided on a non-discriminatory basis.

► *Transparency*

The Reference Access Offer (RAO) should detail the commercial and technical terms that apply to regulated site sharing.

Figure 8.6 presents the market issues that each obligation aims to address. These obligations, their justification and proportionality, are detailed in the following sections.

	Limited coverage and competition in upstream market	High pricing	Potential to delay or deny requests
Access to site sharing	✓		✓
Tariff control: cost based	✓	✓	
Non-discrimination	✓		✓
Transparency: reference offer	✓		✓

Figure 8.6: Proposed remedies in the towers market and market failures addressed [Source: Analysys Mason, 2017]

Access to sites in specific counties

► *Description*

Safaricom should make access available to other Tier 1 mobile operators on all towers in designated counties selected on the basis of the relative number of base station sites for Safaricom and the other two operators.

In seven counties (Isiolo, Garissa, Mandera, Marsabit, Samburu, Turkana and Wajir) site location data provided to the CA shows that the current number of Safaricom sites is more than three times the total number of sites for Airtel and Telkom Kenya together (and collectively across these counties, Safaricom has more than four times the total number of sites operated by Airtel and Telkom). In total these counties account for more 50% of the Kenyan territory, but only contained around 10% of the population at the time of the 2009 census (as illustrated in Figure 8.7 and Figure 8.8 below).

Figure 8.7: Total Airtel plus Telkom sites as % of Safaricom sites by county (counties ranked by population density) [Source: CA, Analysys Mason, 2017]

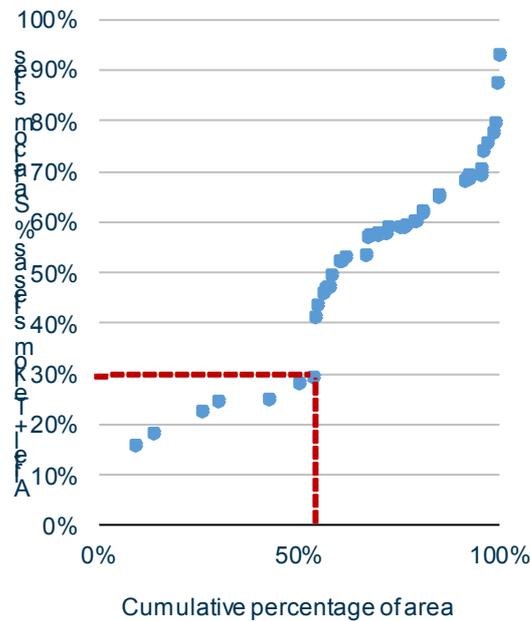
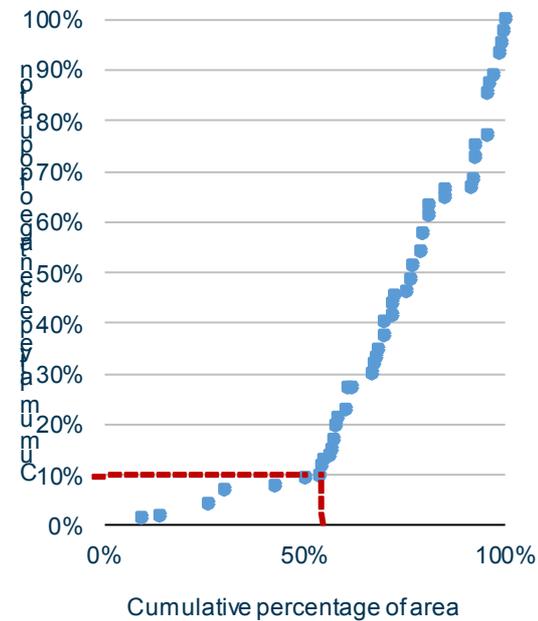


Figure 8.8: Cumulative population and area by county (counties ranked by population density) [Source: CA, Analysys Mason, 2017]



In the event that Safaricom believes that there are technical reasons why sharing is not feasible at a particular site (e.g. due to maximum wind loading on the tower), the company may request an exemption from the CA, stating the rationale and providing supporting calculations as appropriate. The access seeker should have the right to examine the calculations and commission its own site inspection to validate them, if necessary. If the access seeker believes that tower-strengthening works would permit sharing then it should have the option to fund the strengthening work and then pay the regulated sharing rate.

We note that the CA is currently awarding grants from the Universal Service Fund (USF) on a minimum subsidy basis to extend 2G coverage in rural areas, and that Safaricom is expected to win a significant proportion of the grants. The terms and conditions of the award led successful bidders to assume that there would be a 12-month moratorium on hosting other operators on sites built with USF grants. We understand that the number of new sites built under the current round of grants is unlikely to exceed 80. By definition, the new sites will be in the most marginal areas and are thus unlikely to be high-priority sites for coverage expansion by Airtel and Telkom. We therefore recommend that the 12-month moratorium should be allowed to stand, but that at the end of the 12-month period, sites built with USF funding in designated counties should be available at the regulated rate. When planning future rounds of USF funding, the CA should consider whether it is appropriate to retain a moratorium on sharing at new sites.

► *Justification and proportionality*

We believe that Safaricom's high market share in the retail mobile communications and retail mobile money market has led to its high market share in the wholesale towers market, by making it uneconomic for the other Tier 1 operators to roll out in rural areas. Intervention in the wholesale towers market has therefore become a necessary remedy to allow other operators to compete more effectively in rural areas.

We acknowledge that operators have already entered into commercial agreements with one another for tower sharing. We also recognise that Airtel has entered into a commercial sale-and-leaseback agreement with Eaton Towers covering its own towers. The terms offered by Eaton were presumably predicated on being able to sell additional tenancies to Telkom at a commercial rate, which is less likely to happen if Telkom can obtain access to Safaricom towers at lower regulated rates.

In view of these factors, and the fact that the competition concerns primarily apply to rural areas, we propose that the remedy should be made proportional by only applying this obligation:

- in the counties listed where Airtel/Eaton and Telkom have relatively few towers today
- to new site shares, i.e. not retrospectively to any site-sharing agreements that the other operators have already signed with Safaricom.

Furthermore, we propose that the 12-month moratorium on site sharing at sites to be built with the recent round of USF funding should be respected.

To the extent that Safaricom may incur material additional capital expenditure to accommodate sharing at particular sites, the proposed remedy allows this expenditure to be recovered.

We propose that the CA should undertake a review of this remedy towards the end of market review period, to decide whether the remedy is still justified and proportionate for new site shares.

The selection of sites for the application of this remedy derives from the goal of mitigating the impact on the commercial tower market and the possible exit of another mobile operator from this market. Apart from the general powers of the CA in relation to licensees as expressed in each licence, section 85A of KICA specifically deals with co-location and site-sharing and gives the CA powers to resolve disputes, which ultimately means that the CA has general powers in this regard. The Interconnection and Provision of Fixed Links, Access and Facilities Regulations, which have been in place since 2010, and specifically regulation 9, clearly require the sharing of any "network facility" which is defined to include "antenna, mast or other thing which is or may be used for or in connection with communication". Regulations 9(1), 19 and 20 of the Fair Competition Regulations (also dated 2010) also have relevance in this regard.

Tariff control

► *Description*

We propose that the regulated price should be determined on a LRAIC basis and averaged geographically (i.e. the same regulated price should apply to all sites in all designated counties concerned by the current access obligations).

We propose that the remedy should initially apply to new site-sharing agreements signed in the next five years (i.e. a minimum period, not a maximum), and that the regulated prices at each individual site should apply for an initial period of five years (i.e. if price regulation starts in 2017 the initial period will end in 2022, but the regulated price for site shares agreed in 2022 will apply until at least 2027). The regulated prices should apply to all Safaricom sites that currently exist in the designated counties, and to any new sites that Safaricom builds in the future.

Since it may take some time to calculate the LRAIC of providing sites in the designated counties, the CA should consider an interim pricing approach based on commercial discussions between the operators and the CA.

► *Justification and proportionality*

At present the smaller operators are not rolling out in rural areas, so payments received for sharing Safaricom's existing towers in these areas should be incremental and largely a contribution towards sunk costs. It is reasonable that charges should be calculated on a LRAIC basis. As regards new sites, Safaricom is only required to offer the regulated prices at sites that it builds for its own purposes (i.e. there is no requirement to provide build-to-suit sites for other operators), so a similar argument applies.

When deploying a new site, whether on a shared tower or a self-provided tower, an operator needs to take a view on the business case over a period of several years and therefore needs some certainty over site costs for a period of several years. Thus the five-year initial (minimum) period and five-year (minimum) period per site appear reasonable.

We propose that the CA should undertake a review of this remedy towards the end of the five-year period to decide whether it is justified and proportionate to extend price regulation.

Non-discrimination

► *Description*

Safaricom should provide site access on a non-discriminatory basis. This consists of:

- ensuring equivalent conditions in equivalent circumstances to other undertakings
- providing services and information to others under the same conditions (including timescales) and at the same quality as it provides for its own services, or those of its subsidiaries or partners.

► *Justification and proportionality*

Non-discrimination is a basic obligation for a dominant operator (which may otherwise be tempted to offer more favourable treatment to its own downstream arms than to other operators).

We consider it is necessary to impose a non-discrimination obligation on Safaricom to offer site sharing under the same conditions as it provides it to its upstream arms. This obligation of non-discrimination should include price parameters as well as non-price parameters (such as the withholding of information, delay tactics, undue requirements, low or discriminatory quality, and discriminatory use of information), which would put competing providers, and in turn consumers, at a disadvantage.

Transparency

► *Description*

Safaricom should be required to propose a reference access offer (RAO) for approval by the CA, describing the terms on which regulated site sharing will be offered, the maximum timescales for achieving each milestone in the sharing process, and the service levels that will apply once site sharing commences. This agreement may be required in terms of regulation 18 read with regulation 20 of the Interconnection and Provision of Fixed Links, Access and Facilities Regulations, 2010.

► *Justification*

In order to ensure Safaricom's compliance with this obligation of non-discrimination, it is necessary to impose an obligation to publish a RAO.

A RAO is effectively documentation of information that Safaricom should maintain internally in order to offer site sharing (whether regulated or not). It should be helpful to all parties in reducing the number of misunderstandings and complaints.

8.9.2 Call and SMS termination market

Summary

The remedies that we recommend that should be imposed on each dominant operator in the call and SMS termination market are summarised below and described in more detail in the following sections. Note that these proposals simply extend the remedies that are already in place.

► *Access obligation*

Each mobile operator should be required to provide termination services on its network to any other network operator.

► *Tariff control*

Call and SMS termination should be provided on a LRIC basis.

► *Non-discrimination*

Termination services should be provided on a non-discriminatory basis.

► *Transparency*

The reference offer should detail the commercial and technical terms that apply to call and SMS termination.

Figure 8.9 presents the market issues that each obligation aims to address. These obligations, together with their justification and proportionality, are detailed in the following sections.

	Refusal of access	High termination rates	Discriminatory practices	Unreasonable technical issues
Access: termination service obligation	✓			
Tariff control: cost orientation		✓		
Non-discrimination			✓	✓
Transparency: reference offer			✓	✓

Figure 8.9:
Proposed remedies in the mobile call and SMS termination market and market failures addressed [Source: Analysys Mason, 2017]

Access obligation

► Description

Each operator should be required to provide termination service on its network to any other network operator.

► Justification and proportionality

This is necessary to provide interconnection between telecoms operators and ensure that a mobile subscriber can receive a call/SMS from any other mobile subscriber, irrespective of its operator. This termination service is already provided by all mobile network operators and is therefore not burdensome.

Tariff control

► Description

Mobile termination rates (MTRs) in Kenya are already regulated on a LRIC basis, and we recommend that they should continue to be regulated. The voice termination rate was reduced to KES0.99 per minute in 2014 and the SMS termination rate was reduced to KES0.05 in 2013. These rates are at the low end of regional benchmarks, in line with the weighted-average charge for mobile voice termination in Europe and well below the average charge for SMS termination in Europe. Moreover, we understand that the CA has provided guidance to the market that there will be no more cuts in the near future. Consequently, we see no need for change at the present time, although the CA should continue to monitor rates in other countries and consider MTR changes and updates to its cost model when appropriate.

For completeness, we note that Telkom and Airtel currently pay around 8% of their revenue to Safaricom for mobile termination, so it is material. Therefore; the next time the CA reviews MTRs it may wish to give consideration to the question of whether Safaricom’s costs are actually much lower than those of a “hypothetical efficient operator” on whose costs MTRs are typically based.

► *Justification and proportionality*

This remedy is justified on the basis that each mobile operator has a monopoly on call termination and SMS termination on its network. It is proportionate because each operator would otherwise be in a position to set a much higher rate than the one that would prevail in a competitive environment.

The introduction of asymmetric rates was proposed by Airtel in its submission to the MoICT²⁵ and also by Plum Consulting on behalf of Telkom²⁶. We recognise that this remedy has been adopted in some other markets where smaller operators compete with bigger SMP operators. However, in most cases asymmetric rates were implemented at a time when MTRs were set above LRIC, and allowed the smaller operators to benefit from a slower glide path to LRIC than the other operator(s).

This is not the situation in Kenya: the CA has already implemented MTRs based on LRIC, and our benchmarking confirms that the current rates in Kenya are at the low end of regional benchmarks, in line with the weighted-average charge in Europe in the case of voice, and below the weighted-average charge in Europe in the case of SMS. This leaves an increase in the rate charged by Airtel and Telkom as the only mechanism for introducing asymmetric rates.

We know of no precedent where a country with a symmetric LRIC-based MTR has raised the rate for smaller operators. Furthermore, asymmetric rates in other countries were typically set for a limited time period, to assist the entry of a new operator by compensating for its lack of economies of scale in comparison to established operators. In Kenya, even though Safaricom clearly has greater economies of scale than other mobile operators, these other operators have been in the market for a long time and should not be “rewarded” for having achieved smaller scale. Allowing asymmetric rates could create inappropriate subsidies from Safaricom to other smaller operators, and would appear inconsistent with the strategic objectives of avoiding on-net/off-net tariff differentials in the retail market and dismantling the club effect (i.e. which consists of having high proportion of on-net call on an operator network, typically as a result of on-net/off-net price differentiation).

Non-discrimination

► *Description*

Termination should be provided on a non-discriminatory basis. This consists of

- ensuring equivalent conditions in equivalent circumstances to other undertakings
- providing services and information to others under the same conditions (including timescales) and at the same quality as it provides for its own services, or those of its subsidiaries or partners.

²⁵ Letter from Adil El Youssefi, Managing Director, Airtel Networks Kenya Ltd, to Joe Mucheru, Cabinet Secretary, MoICT, dated 12 January 2016

²⁶ Determining dominance and proposing regulatory measures in the telecommunication sector of Kenya, Plum Consulting for Telkom Kenya, October 2016

► *Justification and proportionality*

Non-discrimination is a basic obligation for a dominant operator (which may otherwise be tempted to offer more favourable treatment to its own downstream arm than to other operators).

We consider it is necessary to impose a non-discrimination obligation so that all operators provide call and SMS termination to other operators under the same conditions as they provide it to their upstream arms. This obligation of non-discrimination should include price parameters as well as non-price parameters (such as the withholding of information, delay tactics, undue requirements, low or discriminatory quality, and discriminatory use of information), which would put competing providers, and in turn consumers, at a disadvantage.

Transparency

► *Description*

Mobile operators should be required to propose a reference interconnection offer (RIO) for approval by the CA, describing the technical and pricing terms on which termination services are offered.

► *Justification and proportionality*

In order to ensure the compliance of operators with their obligation of non-discrimination, it is necessary to impose an obligation to publish a RIO.

A RIO is effectively documenting information that operators should maintain internally for their own purposes. It should be helpful to all parties in reducing the number of misunderstandings and complaints. This agreement may be required in terms of regulation 18 of the Interconnection and Provision of Fixed Links, Access and Facilities Regulations, 2010.

8.9.3 Call termination on fixed networks

Summary

The remedies that we recommend that should be imposed on each dominant operator are summarised below and described in more detail in the following sections. Note that these proposals simply extend the remedies that are already in place.

► *Access obligation*

Each fixed operator should be required to provide termination services on its network to any other network operator.

► *Tariff control*

Call termination should be provided on a LRIC basis.

► *Non-discrimination*

Termination services should be provided on a non-discriminatory basis.

Transparency

The RIO should detail the commercial and technical terms that apply to call termination.

Figure 8.10 presents the market issues that each obligation aims to address. These obligations, their justification and proportionality are detailed in the following sections.

	Refusal of access	High termination rates	Discriminatory practices	Unreasonable technical issues
Access: termination service obligation	✓			
Tariff control: cost orientation		✓		
Non-discrimination			✓	✓
Transparency: reference offer			✓	✓

Figure 8.10: Proposed remedies in the fixed call termination market and market failures addressed [Source: Analysys Mason, 2017]

Access obligation

► *Description*

Each fixed operator should be required to provide termination service on its network to any other network operator.

► *Justification and proportionality*

This is necessary to ensure interconnection between telecoms operators and ensure that a subscriber can receive a call from any other fixed or mobile subscriber, irrespective of its operator. This termination service is already provided by fixed operators and is therefore not burdensome.

Tariff control

► *Description*

Call termination should be provided on a LRIC basis, and the rate for fixed termination should be the same as for mobile termination.

► *Justification and proportionality*

This remedy is justified on the basis that each fixed operator has a monopoly on call termination on its network. While many developed countries have lower rates for fixed termination than for mobile termination, in these countries the fixed networks are typically much larger and therefore benefit from economies of scale that are not present in Kenya. Moreover, since the volume of

traffic terminated on fixed networks in Kenya is less than 0.2% of the volume of traffic terminated on mobile networks, the development of a separate cost model and the introduction of separate rates for fixed and mobile termination is unlikely to have a material impact on any licensed operator's costs and would therefore not be proportionate.

Non-discrimination

► *Description*

Termination should be provided on a non-discriminatory basis. This consists of:

- ensuring equivalent conditions in equivalent circumstances to other undertakings
- providing services and information to others under the same conditions (including timescales) and at the same quality as an operator provides for its own services, or those of its subsidiaries or partners.

► *Justification and proportionality*

Non-discrimination is a basic obligation for a dominant operator (which may otherwise be tempted to offer more favourable treatment to its own downstream arm than to other operators).

We consider it is necessary to impose a non-discrimination obligation so that all operators offer the same conditions to other operators as they provide to their upstream arms. This obligation of non-discrimination should include price parameters as well as non-price parameters (such as the withholding of information, delay tactics, undue requirements, low or discriminatory quality, and discriminatory use of information), which would put competing providers, and in turn consumers, at a disadvantage.

Transparency

► *Description*

Fixed operators should be required to propose a RIO for approval by the CA, describing the technical and pricing terms on which termination services are offered.

► *Justification*

In order to ensure the compliance of operators with this obligation of non-discrimination, it is necessary to impose an obligation to publish a RIO.

A RIO is effectively documenting information that operators should maintain internally for their own purposes. It should be helpful to all parties in reducing the number of misunderstandings and complaints. This agreement can be required in terms of regulation 18 of the Interconnection and Provision of Fixed Links, Access and Facilities Regulations, 2010.

8.9.4 USSD and STK access

Summary

The remedies that we recommend that should be imposed on Safaricom are summarised below and described in more detail in the following sections.

► *Access obligation*

We propose that all Tier 1 mobile operators should be required to provide USSD access on request to all licensed content service providers.

► *Tariff control*

We propose that the price of USSD access should be based on LRIC.

► *Non-discrimination*

USSD access should be provided on a non-discriminatory basis.

► *Transparency*

The reference offer should detail the commercial and technical terms that apply to USSD access.

Figure 8.11 presents the market issues that each obligation aims to address. These obligations, their justification and proportionality, are detailed in the following sections.

	Refusal of access	High rates for USSD access and short codes	Discriminatory practices	Lack of transparency
Access obligation	✓			
Tariff control: cost orientation		✓		
Non-discrimination			✓	✓
Transparency: reference offer			✓	✓

Figure 8.11: Proposed remedies in the USSD and STK access market and market failures addressed [Source: Analysys Mason, 2017]

Access obligation

► *Description*

All operators should be required to provide USSD access on request to all licensed content service providers.

► *Justification and proportionality*

USSD access is a required wholesale input to mobile money services and a variety of other content services. It is therefore justified and proportional to make it available to any content service provider that the CA has licensed.

STK access for third-party providers would be desirable in terms of ensuring a ‘level playing field’ for all market players. However, there are likely to be some practical issues in implementing third-party STK access so if a voluntary agreement on lowering USSD prices can be reached quickly then we see no need for the CA to pursue this more intrusive remedy in the short term.

Tariff control

► *Description*

We propose that the price of USSD access should be regulated based on LRIC but agree with the conclusion of the MKA USSD report that, given the time and cost required to develop a suitable costing model, if each operator were to agree voluntarily to a price below KES1 per session (or if charged per hop, a price reaching the equivalent result) then the CA should give due consideration to accepting this offer as a short-term alternative.

Operators may offer volume-based discounts on USSD access where these are justifiable on cost grounds, but the same schedule of volume-based rates should apply to all access seekers. We understand that some wholesale USSD access agreements currently work on a revenue-sharing rather than a wholesale charge basis. Service providers which have entered into such arrangements should have the option to continue with these arrangements or move to the new voluntarily agreed or regulated wholesale charges.

► *Justification and proportionality*

Even at current price levels, USSD wholesale charges do not constitute a significant revenue stream for Tier 1 mobile operators and therefore the proposed remedy will have minimal financial impact on operators. Prices based on LRIC are justified and proportional, given that third-party mobile money providers are competing with the operators’ own vertically integrated services based on STK access.

Non-discrimination

► *Description*

USSD access should be offered on a non-discriminatory basis. This consists of ensuring equivalent conditions in equivalent circumstances to other undertakings.

► *Justification and proportionality*

Non-discrimination is a basic obligation for a dominant operator (which may otherwise be tempted to offer more favourable treatment to its own downstream arm than to other operators/service providers). This obligation of non-discrimination should include price parameters as well as non-price parameters.

Transparency

► *Description*

Service providers should be required to propose a reference offer for approval by the CA, describing the technical and pricing terms on which wholesale USSD access will be offered, the

maximum timescales for achieving each milestone involved in setting up USSD access, and the service levels that will apply once wholesale access commences.

► *Justification*

In order to ensure the compliance of operators with this obligation of non-discrimination, it is necessary to impose an obligation to publish a reference offer.

9 Market analysis of relevant retail markets and identification of appropriate remedies

In Section 7 of this report we defined the relevant retail markets in Kenya. In this section, we start by identifying the retail markets that are susceptible to ex-ante regulation using the three-criteria test. This allows us to focus our detailed market analysis only on those markets that are susceptible to ex-ante regulation. Where dominance is established, we then identify appropriate remedies to address the market issues identified.

It is important to note that:

- at least one remedy (and typically several based on the identified market failures) has to be imposed on each relevant market where there is no effective competition.
- the CA is empowered to regulate at the retail level under regulation 3A(2)(c)(iv) as described in the Guidelines attached to the Tariff Regulations, 2010, which are contained in the Schedule. Regulation of retail markets is typically considered when wholesale regulation are not considered to be sufficient to address the issues identified in the retail markets.

9.1 Identification of retail market susceptible to ex-ante regulation

9.1.1 Retail mobile communications market

Presence of high and non-transitory barriers to entry

The mobile communications market is subject to strong and non-transitory barriers to entry: a mobile operator requires access to scarce resources in the form of spectrum (in the small number of bands that are internationally harmonised for mobile use) or MVNO access with a Tier 1 operator. An operator also requires a national network of dealers and agents to sell SIMs and airtime.

Whether market structure tends towards effective competition within the relevant time horizon

As presented in Section 6 above, Safaricom has maintained a very high share of the retail mobile market (above 80% by value) for many years. The fourth mobile operator, Essar Telecom Kenya (yu), exited the market in 2014 after incurring large operating losses. In the same year, Orange Group gave notification that it intended to sell its 70% stake in Telkom Kenya; it eventually sold 60% to Helios Investment Partners in June 2016, while the Kenyan government increased its stake from 30% to 40%. Airtel has also spoken publicly about barriers to competition in the Kenyan mobile communications market, and has suggested that the company may be forced to consider

abandoning its investment if the situation does not improve.²⁷ We therefore believe that effective competition among existing licensees is not established in the present environment.

Application of competition law alone would not adequately address the market failure(s) concerned

We consider that ex-post competition law is not sufficient to address the current market issues, particularly Safaricom's continued high market share, the fact that Airtel and Telkom cannot afford to match Safaricom's coverage at present), as well as the strong leverage that Safaricom's position in the mobile money market gives it in the provision of mobile services. The wholesale remedies that the CA has applied to date, including regulation to reduce mobile termination rates and the licensing of MVNOs or even the new wholesale obligations proposed, such as regulated access to sites in rural areas, are not sufficient to address the competition concerns.

Conclusion

We believe that retail mobile communications is a relevant market that is susceptible to asymmetric ex-ante regulation.

9.1.2 Retail mobile money

Presence of high and non-transitory barriers to entry

The mobile money market is also subject to strong and non-transitory barriers to entry: a mobile money provider needs a national network of agents to provide deposit and withdrawal services and ideally a national network of merchants able and willing to accept payments via the provider's platform. Given Safaricom's high share of mobile subscribers, other mobile operators wishing to provide mobile money services need an acceptable method of transferring money to and from Safaricom subscribers, while an independent mobile money provider also needs a way of accessing Safaricom subscribers in order to be successful.

Whether market structure tends towards effective competition within the relevant time horizon

Safaricom has maintained a very high share of the mobile money market (above 80% by value) for many years. We believe that Safaricom's high share of the mobile money market, coupled with the difficulty and expense of making cross-platform mobile money transfers, is a key reason why other operators have failed to make progress in the mobile communications market. We therefore believe that effective competition among existing licensees cannot develop in the present environment.

²⁷ See, for example, KTN interview with Adil Youssefi, then Airtel Kenya CEO, in September 2015, available at <http://www.standardmedia.co.ke/ktn/video/watch/2000097937/-airtel-threatens-to-exit-kenya-s-market-if-safaricom-s-dominance-is-not-curbed>

Application of competition law alone would not adequately address the market failure(s) concerned

We consider that ex-post competition law is not sufficient to address the market issues that we have identified, in part because previous competition law remedies such as a ban on mobile money agents acting exclusively for one operator, have had little impact on the market and there is now an urgent need for intervention. Furthermore, while absolutely necessary, the wholesale regulation proposed for upstream markets, such as regulation of USSD access, is not sufficient to address the retail market issues.

Conclusion

We believe that retail mobile money is a relevant market that is susceptible to asymmetric ex-ante regulation.

9.1.3 Retail fixed narrowband services

Presence of high and non-transitory barriers to entry

The advent of voice over IP (VoIP) technology, provided on existing networks, as well as the evolution of OTT services means that there are relatively low barriers to entry for existing providers that wish to enter the retail fixed narrowband market.

Whether market structure tends towards effective competition within the relevant time horizon

The sharp fall in the number of fixed narrowband subscribers over the last five years indicates that the market has limited potential. We believe that there is already a reasonable level of competition among the different telecoms providers and no particular competition issues were mentioned in our contact with operators.

Application of competition law alone would not adequately address the market failure(s) concerned

We do not believe there are currently significant failures in the retail fixed narrowband services market that cannot be addressed through the application of competition law.

Conclusion

We conclude that the market for retail fixed narrowband services is not susceptible to ex-ante regulation at the present time.

9.1.4 Retail fixed broadband services for enterprises and leased lines

Presence of high and non-transitory barriers to entry

The provision of retail fixed broadband services for enterprises and leased lines requires a suitable access network and potentially a national network as well, but this could to some extent be leased from existing providers.

Whether market structure tends towards effective competition within the relevant time horizon

We believe that the market for retail fixed broadband services and leased lines for enterprises in Kenya is relatively competitive, with multiple providers (including AccessKenya, JTL, Liquid Telecom, Safaricom, SimbaNET/Wananchi and Telkom) serving the largest towns and cities where enterprises are concentrated. We recognise that there are some issues with rights of access to particular buildings or sites, but believe that symmetric regulation should deal more efficiently with these issues than asymmetric regulation (see Section 9).

Application of competition law alone would not adequately address the market failure(s) concerned

We do not believe there are currently any failures in the market for retail fixed broadband services and leased lines for enterprises that cannot be addressed through the application of competition law.

Conclusion

We conclude that the market for fixed broadband services for enterprises and leased lines is not susceptible to asymmetric ex-ante regulation.

9.1.5 Retail fixed broadband services for consumers

Presence of high and non-transitory barriers to entry

The provision of retail fixed broadband services for consumers requires a suitable access network, but this can be built progressively (as JTL and Wananchi have demonstrated). However, in order to be attractive, fixed broadband services for consumers may need to be packaged with attractive entertainment content, and existing providers have found it difficult to secure rights to the premium content (especially sport).

Whether market structure tends towards effective competition within the relevant time horizon

Wananchi currently has a high share of the market for retail fixed broadband services (the CA does not currently collect separate data on residential and enterprise fixed broadband connections).

However, the fixed broadband market is still at an early stage of development, with penetration at just over 1% of households. While there are multiple providers, their coverage is currently very limited. As a result, most Kenyan households cannot obtain fixed broadband, and only a tiny proportion have access to more than one provider.

Wananchi does not have any exclusive access to rights of way and its roll-out has been financed by private capital. Overbuilding by other companies, such as KPLC, remains a possibility, and 4G mobile broadband services may provide indirect competition and additional choice for lighter users. Safaricom is also expected to become more active in this market. Consequently, we believe that this is an emerging market. For this reason, it would be premature to conclude that the market structure cannot tend towards effective competition within the relevant time horizon, and therefore premature to impose any remedy.

Application of competition law alone would not adequately address the market failure(s) concerned

We do not believe there are currently any failures in the market for retail fixed broadband services for consumers that cannot be addressed through the application of competition law.

Conclusion

We conclude that the market for fixed broadband services for consumers is not currently susceptible to asymmetric ex-ante regulation. However, given the dynamism of this market, we suggest that CA should monitor its evolution closely and, if necessary, undertake a market review before the standard three-year timeframe.

9.2 Market analysis of retail mobile communications

9.2.1 Market share assessment

Figure 9.1 shows Safaricom’s latest market share in retail mobile communications based on various measures. The historical evolution of market share is discussed in Section 6.3.1.

Figure 9.1: Safaricom’s market share in retail mobile communications [Source: CA, 2016]

Measure	Safaricom share
Mobile subscriptions	65% in 2Q 2016
National minutes on mobile networks	78% in 2Q 2016
Voice, data and SMS revenues	87% in 2015 (average for year)

Figure 9.1 demonstrates that Safaricom controls more than half of the services that are rendered in the retail mobile communications market in Kenya regardless of how this is measured. It has held this position for many years.

There is therefore a strong presumption of dominance by Safaricom in the retail mobile communications market, in line with the Kenyan regulatory framework and European best practice.

9.2.2 Other criteria considered

We believe that a number of other factors confirm our presumption of Safaricom's dominance of the retail mobile communications market:

Economies of scope and scale and lower resulting unit costs

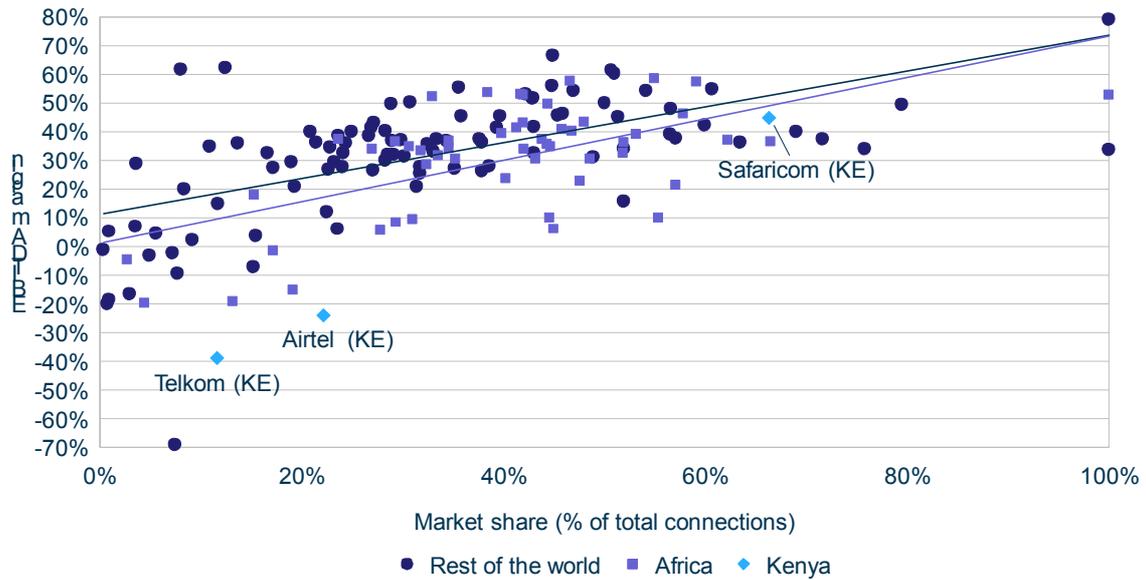
Safaricom has deployed an extensive network (see discussion of network coverage below) on which it enjoys very strong economies of scale (due to this very high market share) and economics of scope in the provision of mobile communication services.

Around 95% of Safaricom's voice traffic is on-net, while the other operators have 60–80% of voice traffic on-net. Safaricom's average interconnect outpayment per minute is therefore much lower than that of Airtel and Telkom. Most capital expenditure (cost of base stations, backhaul and backbone networks) and many items of operating expenditure including spectrum fees, management, strategy, marketing and network maintenance costs do not scale with subscriber numbers or traffic volumes. Consequently, Safaricom is much more profitable than its competitors and can afford to spend more on above-the-line advertising and below-the-line promotions.

Safaricom reported an underlying EBITDA margin (earnings before interest, taxation, depreciation and amortisation) of 44.6% for the year ending 31 March 2016. This has increased to around 50% (or 46.5% when normalised for a one-off adjustment) for the six months to 30 September 2016. This contrasts starkly with the financial performance of the other two operators. [38]

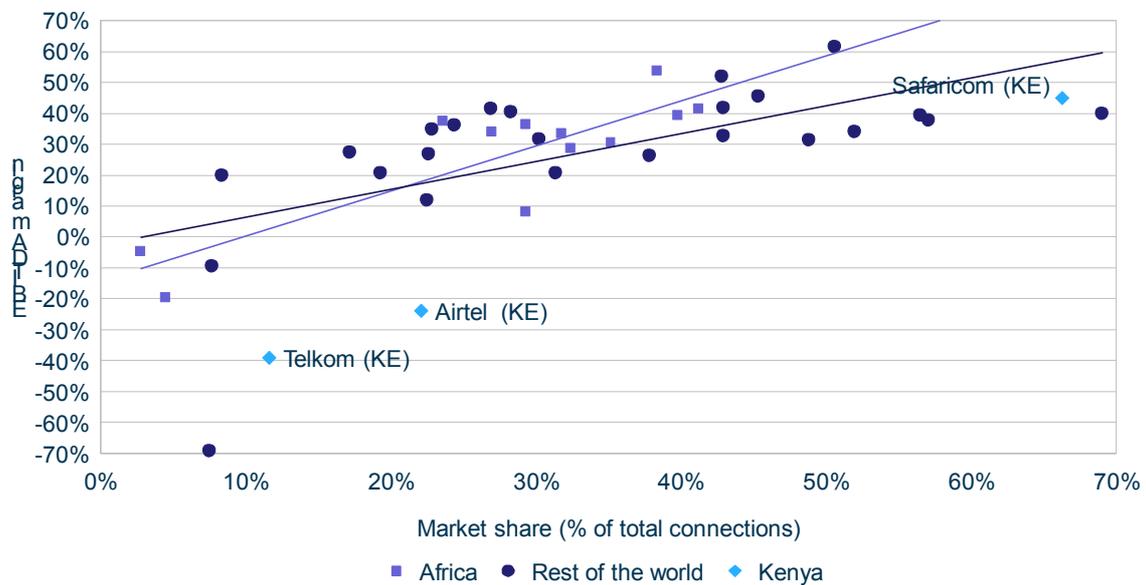
Figure 9.2 shows a benchmark of EBITDA margin against market share by number of subscribers for as many other established emerging market mobile operators as we could find in the GSM Association's GSMA Intelligence database. It suggests that Telkom Kenya and Airtel Kenya are amongst the least profitable mobile operators in emerging markets anywhere in the world: in fact, the database indicates that the only established operator with a lower EBITDA margin is Entel Peru. The benchmark suggests that EBITDA margin is loosely correlated with market share, but the margins for Airtel and Telkom are well below the trendline.

Figure 9.2: Benchmark of EBITDA margin against market share in emerging markets [Source: Analysys Mason from GSMA Intelligence data, 2016]



We also repeated the exercise using the subset of data points from the previous analysis that relate to three-player markets. The results show a similar trend (see Figure 9.3).

Figure 9.3: Benchmark of EBITDA margin against market share in emerging markets (three-player markets only) [Source: Analysys Mason from GSMA Intelligence data, 2016]



An argument could be made that the poor financial performance of Airtel and Telkom is the result of inefficiency. However, according to Airtel’s annual report for the year to 31 March 2016, the average EBITDA margin across all of the company’s African operations was around 22%. Until recently, Telkom was majority-owned by Orange Group. In 2015, Orange reported an average

EBITDA margin across its operations in Africa and the Middle East of 34.0%. It is therefore difficult to imagine that management of both Airtel's and Orange's operations in Kenya could be so much worse than across the rest of each group that the EBITDA margin should be 46 percentage points below average in the case of Airtel and 73 percentage points below average in the case of Orange. It seems far more likely that the continuing losses of Airtel and Telkom in the Kenyan market must be attributable in large part to market conditions.

Tariff

It appears from our analysis (see Section 6.3.1) that Safaricom does not offer lower prices than Airtel and Orange overall but still manages to enjoy a very high market share and to maintain this over time.

Better network coverage

Safaricom's high market share means that it can operate base stations profitably in areas of low population density and/or low ARPU where Airtel and Telkom would make a loss. This means that Safaricom is the only network available in some areas, or the only network with 3G or 4G coverage. Superior coverage means that subscribers with multiple SIMs will also tend to give people their Safaricom number as their primary contact number, thereby perpetuating the low share of on-net traffic for Airtel and Telkom. Figure 9.4 and Figure 9.5 illustrate the difference in coverage between the operators. It should however, be noted (as per our comment in the figures) that each operator appears to make different assumptions about coverage per cell.

Figure 9.4: Comparison of 2G coverage by operator [Source: Analysys Mason from CA data, 2016]

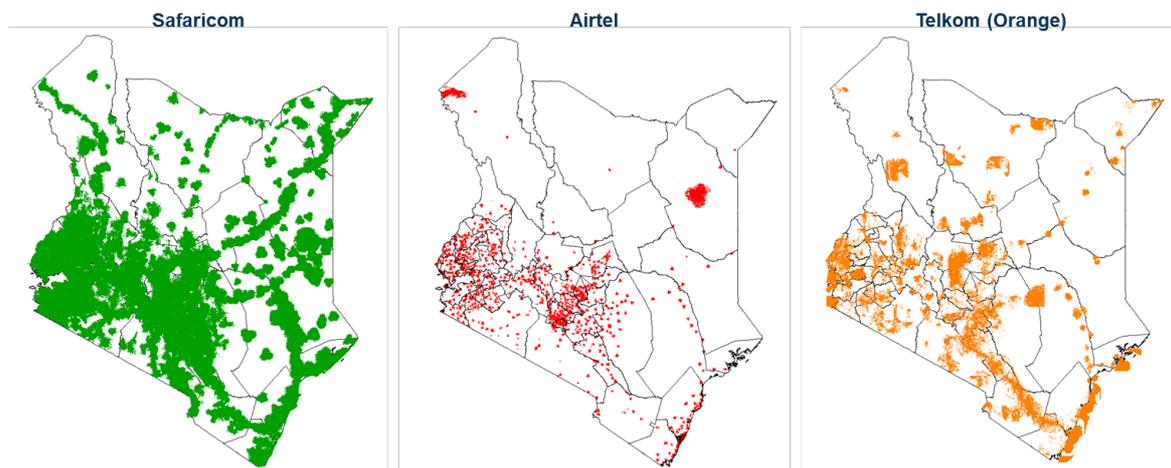
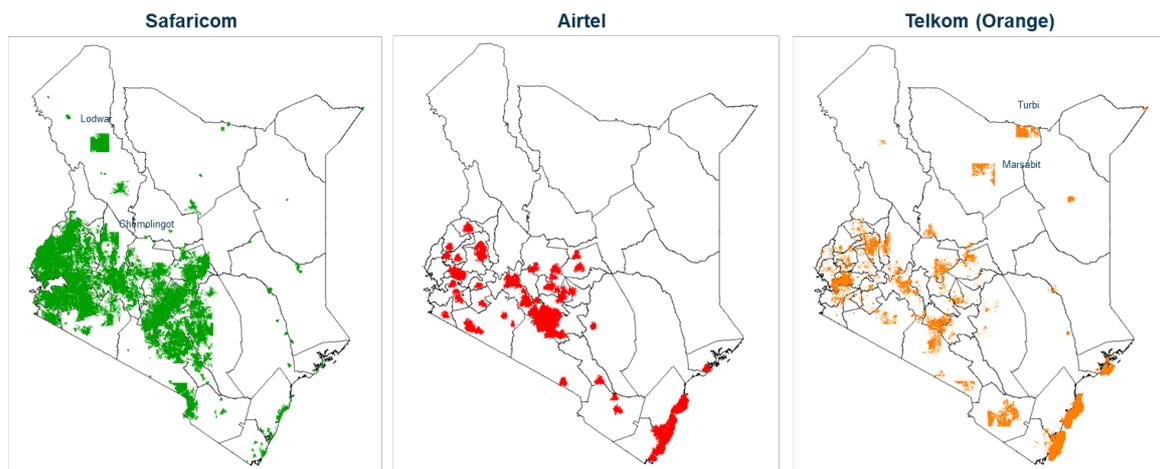


Figure 9.5: Comparison of 3G coverage by operator [Source: Analysys Mason from CA data, 2016]



Better sales network

Safaricom’s high market share makes it easier for the company to recruit and retain agents since they can expect to handle more transactions than an Airtel or Telkom agent. Prepaid users, who make up 97% of the mobile subscriber base in Kenya, therefore find it more convenient to use Safaricom.

Leveraging of mobile money

Safaricom’s dominant position in the retail mobile money market (discussed in Section 9.3) offers a strong incentive for customers to retain a Safaricom SIM. Better marketing, network coverage and distribution encourage such end users to make Safaricom their primary SIM.

Evidence of anti-competitive behaviour

Safaricom is in a position where it would benefit greatly from the club effect if it charges less for on-net calls than for off-net calls. At present Safaricom is not formally required to charge the same for on-net and off-net calls but the CA’s policy is only to approve Safaricom tariffs with the same on- and off-net pricing. This arrangement appears to be working for the most part but there do appear to be exceptions. For example, a story in *The Standard* newspaper dated 26 May 2016 stated that “Safaricom Ltd has lowered its calling rates within the company network in the rural parts of Kilifi where locals will calls [sic] for Sh2 down from the normal Sh4 calling rate per minute for 60 days from now to give the people an opportunity to make calls”. Moreover, a proportion of Safaricom customers are believed to be on legacy tariffs which do offer lower rates for on-net calling.

Safaricom’s *Stori Ibambe na Storo* Bonus scheme is an opt-in loyalty scheme for prepaid subscribers. It offers 100% bonus airtime to those subscribers who achieve a daily usage target. The usage target is set by Safaricom and is to be used by midnight on the day that it is granted. The scheme appears to incentivise users who have more than one SIM to continue using Safaricom

in the absence of differential pricing for on-net and off-net calls. The scheme lacks transparency because the target-setting process is vaguely defined (the terms and conditions simply say participants' targets are "based on their average daily usage") and the scheme is not subject to any external scrutiny. Moreover, it could be argued that it is discriminatory because different participants are set very different daily targets, in which case it contravenes section 4(5) of the Tariff Regulations, 2010 which state that "[t]he tariff of a licensee shall be non-discriminatory and shall guarantee equality of treatment". Some of the marketing material is also misleading because Safaricom's website says that "[t]he bonus airtime can be used for Safaricom to Safaricom Voice calls and SMS"²⁸ without mentioning that it can also be used for off-net calls and SMS (this point is only mentioned on page 2 of the detailed terms and conditions).

9.2.3 Conclusion and competition issues

Based on the preceding analysis and evidence, we believe Safaricom should be considered as a dominant player in the retail mobile communications services market. This finding is consistent with the finding in the MKA USSD report.

In our opinion, Safaricom's dominance of the retail mobile communications market raises the following competition issues:

- *Lack of competition intensity and higher mobile tariffs.* Safaricom is potentially able to set tariffs independently of its competitors. The benchmarking that we carried out in Section 6.3.1 indicates that Safaricom tariffs are higher than Telkom's, although Airtel's headline tariffs are the same as Safaricom's.
- *Lack of choice in rural areas.* Safaricom is the only network available in many rural parts of Kenya and rural consumers thus face a lack of choice.
- *Worse service in rural areas.* It is likely that there are more 'notspots' (i.e. locations with no coverage) in rural areas than there would be if all three operators offered similar levels of coverage. Moreover, since mobile spectrum is allocated on a national basis, Airtel's and Telkom's spectrum is unused in areas where these operators have not rolled out. Consumers experience worse quality of service in these areas than they would if the same number of subscribers were spread across two or three networks. This is an important consideration for mobile broadband where download and upload speeds are very dependent on the number of simultaneous users on each base station.
- *Long-term viability of other operators.* Essar (yu) has already exited the Kenyan market and Orange Group has sold its majority stake in Telkom to a private equity fund. Airtel and Telkom cannot be expected to sustain annual operating losses indefinitely. We consider there is a risk of a further reduction in the number of mobile operators, resulting in less competition and less choice for consumers.

²⁸ <http://www.safaricom.co.ke/personal/calls-sms/prepay/stori-ibambe-na-storo-bonus> (wording checked on 21 November 2016)

9.3 Market analysis of retail mobile money

9.3.1 Market share assessment

Figure 9.6 shows Safaricom M-Pesa’s latest market share of retail mobile money based on various measures. The historical evolution of market share is discussed in Section 6.3.2.

Figure 9.6: Safaricom M-Pesa’s market share in retail mobile money [Source: CA, 2016]

Measure	Safaricom share as of 2Q 2016
Mobile money subscriptions	65%
Transactions by volume	82%
Transactions by value	84%

Figure 9.6 demonstrates that Safaricom controls more than half of the services that are rendered in the retail mobile money market in Kenya regardless of how this is measured. It has held this position for many years.

There is therefore a strong presumption of dominance by Safaricom in the retail mobile money market, in line with the Kenyan regulatory framework and European best practice.

9.3.2 Other criteria considered

As with retail mobile communications, we believe that a number of factors confirm Safaricom’s dominance of retail mobile money.

Economies of scope and scale and lower resulting unit costs

As mentioned in the retail mobile communications market analysis, Safaricom has deployed an extensive mobile network that it uses to provide a wide range of services (including mobile money services) over its entire footprint. Safaricom enjoys very strong economies of scale due to this very high market share. It also enjoys economies of scope in the provision of mobile money services. As stated in our analysis of the retail mobile communications market, this results in a very high and growing EBITDA margin which enables the operator to behave independently of its competitors.

High cost and inconvenience of cross-platform transfers

It costs between two and four times as much to transfer a sum of money from M-Pesa to a user of another mobile money platform as it does to transfer the same sum of money to a registered M-Pesa user. In addition, the lack of wallet-to-wallet interoperability means that a person-to-person transfer across platforms requires the recipient to withdraw the money in cash from an M-Pesa agent and then pay it in at an agent for the recipient’s own platform.

Better agent network

Safaricom's high market share makes it easier for the company to recruit and retain M-Pesa agents since they can expect to handle more transactions than an Airtel or Telkom agent. Consequently, Safaricom has nearly six times as many agents as any other mobile money platform.

Better merchant network

Safaricom's high market share also makes it easier for the company to recruit and retain merchants who accept payments via M-Pesa. As a result, over 36 000 merchants accept M-Pesa payment, far more than the number that accept payments using Airtel Money or Orange Money.

Leveraging of mobile communications

Safaricom's dominant position in the retail mobile communications market was a key factor in enabling M-Pesa to become such an established platform in the first place. The fact that Safaricom continues to have such a high proportion of subscribers undoubtedly helps the company to recruit and retain M-Pesa agents and merchants.

Evidence of anti-competitive behaviour

In the past, Safaricom has threatened M-Pesa agents with loss of accreditation if they acted as agents for other mobile money providers and has arranged to remove or cover point-of-sale advertising for other providers. Airtel documented a number of examples of these practices in 2015. We understand, based on exchanges with Airtel and Telkom, that the situation has improved since then but the two operators believe that the issue has not been entirely eradicated. When asked for more recent evidence, both companies stated that it is difficult to persuade agents to provide it for fear of action by Safaricom.

The MKA USSD study concluded that Safaricom seems to be engaging in conduct that "appears to constrain competition at several levels". This includes:

- raising the costs of bank and non-MNO mobile money services providers through unfairly high USSD charges and price discrimination
- refusing account-to-account interoperability with other mobile wallets to intensify the network effects from which M-Pesa benefits
- offering preferential treatment to lending products from CBA and KCB in which it has a financial interest.

9.3.3 Conclusion and competition issues

Based on the preceding analysis and evidence, we believe Safaricom should be considered as a dominant player in the retail mobile money market. This finding is consistent with the finding in the MKA USSD report.

In our opinion Safaricom's dominance of the mobile money market raises the following competition issues:

- *Lack of competition and high mobile money tariffs.* Safaricom is able to set tariffs independently of its competitors. The M-Pesa tariff for transfers to non-registered users is consistently higher than those for Airtel Money and Orange Money, and the M-Pesa tariff for transfers to registered users is the most expensive for transfers of more than KES1500.
- *Lack of innovation.* Tigo Tanzania has developed a Tigo Pesa app for smartphones which allows the service to be accessed from any network, but no such app is available for M-Pesa. Safaricom promotes smartphones heavily on its website and has developed an app for subscribers to manage their accounts. It therefore appears as if the lack of an M-Pesa app may be part of a deliberate strategy to restrict M-Pesa to Safaricom subscribers. Safaricom's opposition to Equitel's launch of thin SIM technology could also be viewed as an attempt to stifle innovation in the market, as could the high wholesale charges for third-party providers.
- *Impact on mobile communications.* As noted in section 9.1, we believe that Safaricom's position in the mobile-money market also enables the company to maintain its position in the retail mobile communications market and is thus a contributor to the competition issues identified above.

9.4 Proposed remedies – Retail mobile communications

9.4.1 Summary

We provide a summary of the recommended remedies to be imposed on Safaricom in the retail mobile communications market below. These items are described in more detail in Sections 9.4.2 to 9.4.8.

Access

Cost basis for national roaming. For an initial period of five years, Safaricom should be obliged to offer 2G, 3G and 4G national roaming in seven designated counties at regulated rates to other Tier 1 mobile operators (note: national roaming is a wholesale remedy but it is included here because it is being applied to address competition concerns in the retail mobile communications market).

Tariff control

Replicability of retail tariffs, loyalty schemes and promotions. Safaricom standard tariffs, permanent loyalty schemes and promotions (including non-tariff promotions such as lotteries) should be capable of being profitably replicated by a reasonably efficient competitor.

Prohibition on discounted retail on-net calls. Safaricom may not charge differential rates for on-net and off-net calls under any circumstances and all marketing materials relating to airtime bonuses must make clear that the bonuses can be used for off-net as well as on-net calls.

National roaming. Rates should be set on a geographically averaged LRAIC basis.

Non-discrimination

Prohibition on individually tailored loyalty schemes and promotions. Safaricom may not offer loyalty bonuses or promotions for which the qualification criteria require different levels of expenditure or usage by different subscribers in the same category.

Prohibition on differential quality of service for Safaricom subscribers and national roaming customers. Safaricom may not prioritise its own subscribers over national roaming customers or otherwise impair the quality of service offered to national roaming customers compared to its own subscribers,

Transparency

Reference offer for national roaming. Safaricom should issue a RAO detailing the commercial and technical description of its national roaming offers.

Figure 9.7 presents the market issues that each obligation aims to address. These obligations, their justification and proportionality are described in more detail below.

Figure 9.7: Proposed remedies and competition issues addressed [Source: Analysys Mason, 2017]

	Lack of competition and higher mobile tariffs	Lack of choice in rural areas	Worse service in rural areas	Long-term viability of other operators
Access				
National roaming offer	✓	✓	✓	✓
Tariff control				
Cost basis for national roaming	✓	✓	✓	✓
Replicability of retail tariffs, loyalty schemes and promotions	✓			✓
Prohibition on discounted on-net calls	✓			✓
Non-discrimination				
Prohibition on individually tailored loyalty schemes and promotions	✓			✓
Prohibition on differential QoS for Safaricom subscribers and national roaming customers	✓	✓	✓	✓
Transparency				
Reference offer for national roaming	✓	✓	✓	✓

9.4.2 National roaming

Description

Safaricom should provide 2G, 3G and 4G national roaming to other Tier 1 mobile operators in the seven counties (Isiolo, Garissa, Mandera, Marsabit, Samburu, Turkana, and Wajir) selected on the basis of the relative number of base station sites for Safaricom and the other two operators. These sites cannot easily be duplicated technically or financially.

In each of these counties, site location data provided to the CA shows that the current number of Safaricom sites is more than three times the number of sites for Airtel and Telkom Kenya together (and collectively across these counties, Safaricom has more than four times the total number of sites operated by Airtel and Telkom). In total these counties account for more than 50% of the Kenyan territory, but only contained around 10% of the population at the time of the 2009 census. This obligation would be for an initial period of five years from the date of approval of Safaricom's RAO (see below). A RAO can be required in terms of the Interconnection and Provision of Fixed Links, Access and Facilities Regulations, 2010, and specifically regulations 18(1) and (6), and regulation 20(1).

Justification and proportionality

This obligation is justified since, with their current market shares and ARPU, Airtel and Telkom cannot profitably extend their current 2G or 3G geographic coverage and are likely to face similar financial difficulties in rolling out 4G infrastructure in the more rural parts of the country. As presented in section 9.1, this lack of ubiquitous coverage prevents Airtel and Telkom from acquiring subscribers in non-covered areas but also has an impact in covered areas as some users will subscribe to Safaricom to maximise the chance of being covered irrespective of their location.

This remedy aims to allow Airtel and Telkom to match Safaricom's coverage in the short term, and thus have the opportunity to gain market share.

This obligation is proportionate since this still encourages the smaller Tier 1 operators to deploy their infrastructure to cover a large majority of the population and provides incentives for them to extend their coverage in the longer term (since the remedy is limited in time), thus preserving infrastructure-based competition. Furthermore, this obligation should not create additional cost for Safaricom or be burdensome. Due to the low population density, Safaricom can be expected to have spare capacity in the area where national roaming is imposed (no significant network adjustment should therefore be necessary). The additional revenue that Safaricom derives from national roaming will provide a contribution to sunk costs (in the case of existing sites) and costs that Safaricom would have incurred anyway (in the case of new sites).

This obligation also complements the site access obligations proposed in the tower market (which cannot have a short-term impact) and will allow Tier 1 operators to reach a higher subscriber in rural areas that should ultimately promote infrastructure based competition.

9.4.3 Replicability of retail tariffs, loyalty schemes and promotions

Description

Safaricom's standard tariffs, permanent loyalty schemes and promotions (including non-tariff promotions such as lotteries) should be capable of being profitably replicated by a reasonably efficient competitor. At least five days before launching a new tariff, loyalty scheme or promotion, Safaricom should provide a justification that the proposals can be replicated by a reasonably efficient operator, for which the key parameters (market share, cost structure etc) will be defined by the CA.

Justification and proportionality

Since Safaricom has a far higher share of on-net traffic than the other operators and enjoys economies of scale in many other areas, it is in a position where it could offer tariffs, permanent loyalty schemes and promotions that the other operators cannot match without losing money. This measure is proportionate as it is the least burdensome remedy to prevent Safaricom from leveraging its strong position to set rates that others in the market cannot match and thus ensure a level playing field in the retail market. We propose that a spreadsheet-based replicability test should be developed by the CA to allow Safaricom to determine in advance if its proposals are compliant. This spreadsheet would specify the cost structure of the reasonably efficient operator and the minimum acceptable margin.²⁹ Specific adaptation should be permitted on a case-by-case basis to ensure that specific offers and promotions can still be considered appropriately.

In its submission to the MoICT on 12 January 2016, Airtel proposed a price floor on Safaricom's retail pricing based on the operator's current retail tariffs and thus significantly above the MTR. We believe that this approach places unnecessary restrictions on Safaricom's ability to innovate with its tariff plans and promotions. Our proposed replicability test is designed to ensure that the smaller operators can compete with Safaricom tariffs, permanent loyalty schemes and promotions while allowing Safaricom a greater degree of flexibility which will benefit consumers.

9.4.4 Prohibition on on-net discounts

Description

Safaricom should not be permitted to charge different rates for on-net and off-net calls and messaging to any customers under any circumstances (i.e. via its standard tariffs, promotions or permanent loyalty schemes). This includes a requirement that any bonus airtime granted to Safaricom customers should be usable for on-net and off-net calls and messaging at the same rates. To ensure that customers are aware of this remedy, all Safaricom advertising marketing materials

²⁹ In particular we recommend that the prevailing MTR should be used as the assumed cost of terminating traffic on-net as well as off-net. This avoids disagreement about what proportion of on-net traffic it is appropriate to assume and the extent to which particular tariffs, loyalty schemes and promotions may alter the on-net versus off-net balance. This would have the effect of setting the prevailing MTR as an absolute price floor for retail tariffs.

referring to tariffs, promotions and customer loyalty schemes should make it clear that on-net and off-net tariffs are the same and that bonus airtime may be used for on-net and off-net calls and messaging. Printed materials, including advertising posters, should mention this in clearly legible type, visitors to the Safaricom website should not be required to click through to another page to find the information, and radio and TV advertising should contain appropriate messages.

Justification and proportionality

Experience in numerous mobile markets demonstrates that discounts for on-net calls create a club effect which incentivises subscribers to remain with the largest operator. This makes it very difficult for smaller operators to gain market share. Given the very high market share of Safaricom and its very high proportion of on-net traffic, prohibiting any on-net/off-net tariff differentiation is necessary to ensure a level playing field in the market.

We understand that, in principle, Safaricom is already prohibited from charging lower rates for on-net calls but this agreement is undocumented and may not be adhered to in all circumstances. The proposed remedy is therefore only to formalise the current situation, although it will place a small incremental burden on Safaricom in the content of its marketing messages.

9.4.5 Prohibition on individually tailored loyalty schemes and promotions

Description

Safaricom may not offer loyalty bonuses or promotions for which the qualification criteria require different levels of expenditure or usage by different subscribers in the same category. Categories could include prepaid subscribers, subscribers registered in particular geographic areas and subscribers to a particular tariff plan. However, to allow some flexibility to Safaricom we recommend that the final decision on what constitutes a category should be made by the CA on a case-by-case basis.

Justification and proportionality

We believe that the lack of transparency and potential discrimination in Safaricom's *Stori Ibambe na Storo* Bonus scheme creates an opportunity for Safaricom to behave anti-competitively and makes it very difficult for the CA to test whether the offer is replicable. Consequently, we propose that in the future Safaricom may not offer loyalty bonuses or promotions for which the qualification criteria require different levels of expenditure or usage by different subscribers in the same category.

By way of illustration, providing the replicability condition were satisfied, it would be acceptable for Safaricom to offer a KES50 airtime bonus to all pre-paid subscribers who spend KES50, or to a defined subset of pre-paid subscribers such as those registered in a particular county. Safaricom would, however, no longer be permitted to offer airtime bonuses that require some subscribers in a particular category to spend more than other subscribers.

Such a measure appears proportionate given that Safaricom's market power in retail mobile communications could put the company in a position where it can discriminate amongst its own subscribers.

It should be noted that this remedy is not inconsistent with the regulation 4(6) of the Tariff Regulations, 2010, that provides that different services can be provided on different terms to different customers. Indeed, the proposed remedy does not prevent different services (and promotions) to be offered to different subscribers but rather aims to ensure that similar subscribers (in terms of spending for example) get similar tariffs and promotions (unless justified on objective grounds).

9.4.6 Prohibition on differential QoS for Safaricom subscribers and national roaming customers

Description

National roaming customers should enjoy equivalent quality of service to Safaricom subscribers in the same area, i.e. there should be no prioritisation of Safaricom subscribers and no other form of impairment of the national roaming service.

Justification and proportionality

The success of national roaming will be reduced if the quality of service is inferior to that experienced by Safaricom subscribers in the same region. The national roaming areas have low subscriber density and hence low traffic density. We therefore believe that any incremental traffic from national roaming will have minimal detrimental impact on the quality of service that Safaricom is able to provide to its own subscribers.

9.4.7 Cost basis for national roaming

Description

The Safaricom national roaming offer should be based on the underlying LRAIC of an efficient operator with market share equivalent to Safaricom providing coverage in the rural area covered by the national roaming obligation.

Since it may take some time to calculate the LRAIC of providing national roaming, the CA should consider an interim pricing approach based on commercial discussions between the operators and the CA.

Justification and proportionality

As mentioned above Airtel and Telkom, cannot economically provide coverage in the areas of Kenya that have low population density. A national roaming offer based on LRAIC will ensure

that these operators can benefit from the Safaricom's economies of scales of and therefore compete on par with the dominant operator.

Such a remedy is proportionate since the proposed remedy also recognises that providing coverage on the most rural parts of the country is more costly than covering the more densely-populated parts of the country. Safaricom will be able to recover part of its underlying cost of providing coverage in the area concerned through national roaming receipts. This obligation will also allow the operator to benefit from more economies of scales (by having the traffic of Airtel and Telkom on its network).

9.4.8 Reference offer for national roaming

Description

Safaricom should issue a reference access offer (RAO) detailing the commercial and technical aspects of its national roaming offer.

Justification and proportionality

Drafting an RAO is a best practice where a dominant operator provides a wholesale service to its competitors. It ensures that the provision of relevant services are appropriately detailed from a technical, ordering and billing perspective. It will also allow CA to ensure that the national roaming offer is effective and reasonable.

Such an obligation should not be burdensome for Safaricom as it will need to specify the commercial and technical details internally in any case. It is also essential to ensure appropriate transparency and non-discrimination to Airtel and Telkom.

9.5 Proposed remedies – Retail mobile money

Summary

To address the issues that we have identified in the retail mobile money market, we propose the following asymmetric remedy.

Prohibition on surcharges for cross-platform money transfers

Safaricom should apply the same fee structure and fee level on transfers to registered and unregistered users.

Figure 9.8 presents the market issues that the obligation aims to address. These obligations and their justification and proportionality are detailed in Section 9.5.2.

Figure 9.8: Proposed remedy and market failures addressed [Source: Analysys Mason, 2017]

	Lack of competition and higher tariffs	Lack of innovation	Impact on mobile communications
Prohibition on surcharges for cross-platform money transfers	✓	✓	✓

9.5.2 Prohibition on surcharges for cross-platform money transfers

Description

Safaricom should apply the same fee structure and fee level on transfers to registered and unregistered users, including users of other platforms. The fee for cross-platform transfers shall include the fee with cash withdrawal at the Safaricom agent (as it does now) until such time as full wallet-to-wallet interoperability (by which we mean the automatic and near-instantaneous transfer of funds between mobile wallets on different platforms without the need to take cash out and pay it back in again) is available.

Justification and proportionality

The differential in fees between transfers to registered and unregistered users creates a strong club effect for the M-Pesa platform. This is the mobile money equivalent of differential on-net and off-net pricing of voice calls in the retail mobile communications market. Given the strong and stable dominance of Safaricom in the retail mobile-money market, we propose that surcharges on transfers to users of platforms other than M-Pesa should be prohibited in the same way that we are proposing that differential pricing of on-net and off-net voice calls should be formally prohibited (see Section 9.4).

We recognise that at present Safaricom incurs some (small) incremental cost in cross-platform transfers compared to transfers on the M-Pesa platform because it has to pay agent commissions for the cash-out element of the transaction. This is however, a temporary situation until wallet-to-wallet interoperability is implemented. We believe it would be reasonable to expect Safaricom to absorb the additional cost for the time being as a further incentive to minimise the delay in implementing interoperability.

We note from the benchmarking that we undertook in Section 6.3.2 that although the majority of mobile money providers charge more for cross-platform transfers, this practice is by no means universal: in Kenya, Airtel and Telkom do not charge extra for cross-platform transfers (although the recipient still has to pay cash withdrawal fees) and Vodafone India does not charge extra either.

10 Proposals to address other market barriers

In this section we discuss other barriers in retail markets and how they could be addressed. We also discuss remedies suggested by stakeholders that we have chosen not to include in our proposed remedies in this report and explain our rationale for not including them. [X]

10.1 Mobile communications

10.1.1 Imbalance in 900MHz spectrum holdings

There is currently an imbalance in the 900MHz holdings as follows:

- Safaricom $2 \times 17.5\text{MHz}$
- Airtel $2 \times 10\text{MHz}$
- Telkom (Orange) $2 \times 7.5\text{MHz}$.

Telkom has proposed that $2 \times 2.5\text{MHz}$ should be transferred to it from Safaricom, thereby increasing its allocation to $2 \times 10\text{MHz}$. We accept that Telkom may not be able to deploy UMTS900 efficiently using its current holding since UMTS900 requires at least $2 \times 5\text{MHz}$ and Telkom may not be able to free up this amount of spectrum from 2G services without building a significant number of new sites.

In principle, removal of $2 \times 2.5\text{MHz}$ from Safaricom's allocation should not have a large impact on Safaricom in the medium term. Safaricom should be able to migrate UMTS900 traffic to LTE at 800MHz and, to a lesser extent 1800MHz (where Safaricom also has twice as much spectrum as the other two operators), and may also be able to migrate more 2G traffic to 1800MHz in urban areas. However, we accept that it could require a lot of small network adjustments on Safaricom's part in the short term. [X]

Moreover, from Telkom's perspective an LTE deployment using $2 \times 10\text{MHz}$ of spectrum at 800MHz will offer a much better mobile broadband experience than a UMTS900 deployment using $2 \times 5\text{MHz}$. Our view is that the spectrum transfer would not have much impact on Telkom's competitiveness in the short term.

In conclusion, we believe that while achieving more balanced spectrum holdings is desirable in the long term, transferring $2 \times 2.5\text{MHz}$ from Safaricom to Telkom is not a short-term priority.

10.1.2 Reduction in regulatory fees

Plum Consulting's submission on behalf of Telkom points out that each operator is being asked to pay the same fee for $2 \times 10\text{MHz}$ of 800MHz spectrum and that other spectrum fees represent a much larger proportion of revenue for Airtel and Telkom than for Safaricom. In addition, Plum Consulting's report highlights the fact that the annual operating levy and USF levy are based on

revenue rather than profit and that VAT and excise tax is also calculated as a percentage of revenue.

VAT and excise tax are imposed by the Government not the CA and it is beyond the scope of this study to consider whether the overall tax burden on mobile operators is reasonable.

The annual operating levy and USF levy represent a relatively small proportion of revenue and calculating these levies as a percentage of revenue is simple and transparent. A revenue-based levy is also the standard approach used in numerous other countries due to the complexity of a profit-based approach and the ability of operators to manipulate their profits to some extent. We see no need for an immediate overhaul of either levy but as and when the levies are reviewed we propose that the CA should consider introducing a sliding scale so that larger companies pay a higher percentage of revenue than smaller companies.

We understand that the CA's rationale for charging the same sum to each operator for the 800MHz spectrum is that each operator is being given access to the same amount of scarce resource. A similar rationale applies to recurring spectrum fees. While this approach is logical, the argument that spectrum charges are placing an excessive burden on the smaller operators and ultimately constraining their ability to expand also has some merit. We understand that the CA reviews spectrum fees on a three-yearly basis and the next review is not due until 2018. We recommend that when the next review takes place the CA should consider ways in which the charging structure could be adjusted to lessen the burden on the smaller operators.

10.1.3 Access to in-building wireless solutions

In-building wireless solutions are typically used to improve mobile signals in large indoor spaces, such as airports and shopping malls. Given the cost and complexity of in-building wireless solutions, it is usually only feasible to install one system per building. We therefore propose that where a licensed network facilities provider (NFP) owns or controls any in-building wireless solution, they should be required to make it available to all other licensed NFPs on non-discriminatory and cost-oriented terms. Price regulation would be difficult to implement and not justified or proportionate at this point since in-building wireless solutions tend to be designed individually for each deployment and costs can vary widely as a result. However, NFPs will be able to complain to the CA if they believe that another NFP's pricing is not cost-oriented. The existing and draft Facilities Leasing regulations can justify and support this obligation as they stand since the definition of "network facility" is very broad.

10.2 Mobile money

10.2.1 Wallet-to-wallet interoperability

Wallet-to-wallet interoperability would clearly benefit consumers in terms of:

- convenience (avoiding the need to withdraw cash from an agent of the sender's network and pay it back in at an agent of the recipient's network). In this regard, we note the recent launch of Pesa Link by the Kenya Bankers Association which enables electronic transfers between bank accounts of participating banks to be made quickly and cost-effectively. Pesa Link may give rise to a new divide between consumers within the formal banking sector – who now have access to convenient low-cost cross-platform money transfers – and those who use mobile money instead – for whom cross-platform money transfers are inconvenient and relatively high cost
- potentially increased competition amongst providers on transfer fees, leading to lower fees overall.

It is also likely that wallet-to-wallet interoperability would benefit the smaller mobile money providers as it would reduce the 'club effect' currently enjoyed by Safaricom as the provider of the dominant platform. We therefore recommend that the CA should set a firm timetable for the implementation of wallet-to-wallet interoperability between all licensed mobile money platforms in Kenya and work with the licensees, the Competition Authority of Kenya (CAK) and the Central Bank of Kenya (CBK) to ensure that this timetable is adhered to. In the event that the timetable is not adhered to and the CA has reasonable grounds for believing that this is due to actions or lack of action by one or more licensees, the CA should take appropriate measures against licensee or licensees concerned.

10.2.2 Agent-to-agent interoperability

At present mobile money agents require a separate float for each platform that they support. This acts as a barrier to the recruitment and retention of agents by Airtel and Telkom since at present their agents need to tie up working capital in support of a small volume of transactions. We consider that the scarcity of Airtel Money and Orange Money agents relative to Safaricom M-Pesa agents is another factor that tends to entrench Safaricom's dominant position in the retail mobile money market. Telkom has proposed that a system should be set up under which agents can support multiple mobile money platforms using a single float. They describe this system as agent-to-agent interoperability.

We agree that this is a desirable goal which would help to promote competition in the retail mobile money market but it constitutes banking regulation rather than telecoms regulation and consequently falls outside the remit of the CA and the scope of this study. Nevertheless, we believe it would be helpful for the CA to work with the CBK, and potentially the CAK, to explore how agent-to-agent interoperability could be implemented (see further comments on improving liaison between regulators in section 10.6.3).

10.3 Fixed broadband for enterprises and leased lines

10.3.1 Access to monopoly building/site entry points

There are two possible approaches to the issue of monopoly entry to a site or building. The first approach is similar to the approach proposed for in-building wireless solutions in section 10.1.3. It would involve a new requirement that any licensed network facilities provider controlling a monopoly entry to a building or site should be required to make it available to all other licensed network facilities provider on non-discriminatory, cost-oriented terms. This would be on the basis that those facilities would be “essential facilities” and on this basis, the controlling licensee would have SMP.

[<]

The second approach would be to apply the currently “standard” rules about giving access to network facilities which are referenced in the Facilities-Leasing regulations, in the broadest sense. The facilities leasing regulations currently include this at regulation 19(2) in relation to collocation. This would still allow a choice of provider to the landlord and occupants of the site or premises, without having to dig more than once or allow numerous and various operators to continually enter the site or premises.

As with in-building wireless solutions, new site/building costs could vary widely and over-intrusive regulation at this stage could discourage operators from extending their networks. Consequently, we recommend against regulating the price of building/site access at this stage, although operators will be able to complain to the CA if they believe that another operator’s pricing is not cost-oriented. The access obligation is already dealt with sufficiently in the existing Facilities Leasing regulations. We have set out elsewhere some of our concerns about the draft Infrastructure Sharing regulations.

[<]

10.4 Fixed broadband for consumers

10.4.1 Better enforcement on illegal networks

One of the complaints made by Wananchi and other fixed broadband operators is that their business model is being undermined by unauthorised redistribution of their services. This typically involves someone taking out a single subscription and then selling access to nearby residents, either by setting up a Wi-Fi hotspot or, in some cases, by running co-ax cables around and between buildings which allows TV services as well as Internet access to be resold. This form of unlicensed resale is already prohibited but the licensees claim that [<] the practice is rampant.

Clearly, theft of service deprives fixed broadband operators of revenue and lessens their incentive to continue investing in network expansion and upgrades. We therefore recommend that the CA

should review its current processes for handling complaints about illegal networks with the aim of providing a faster response [§].

10.4.2 Review of competition in media content markets

Another complaint of fixed broadband operators who also provide TV service is that they have difficulty accessing attractive subscription content. This is because MultiChoice has bought exclusive rights to much of the most attractive content (including major sports and movie releases) on a long-term basis for the company's DSTV business and is unwilling to wholesale it. Fixed broadband operators complain that lack of premium content reduces the attractiveness of their offering and thus reduces the penetration of homes passed and ARPU which ultimately reduces their ability to expand and upgrade their networks. Moreover, they claim that some of the content to which MultiChoice has exclusive rights is not even shown on DSTV so in practice the company is depriving all Kenyans of access to this content.

A review of competition in media content markets in Kenya is beyond the scope of this study but regulation of access to media content is within the CA's jurisdiction. [§] We also note that similar issues have arisen in pay-TV markets in many other parts of the world and regulators elsewhere have been able to implement appropriate remedies, such as forcing owners of exclusive rights to attractive content to make it available to the operator of any broadband access or broadcast platform.

10.5 Content services

10.5.1 Reference access offers

We understand that the CA has received complaints from CSPs (particularly providers of premium rate SMS services) that Safaricom is taking a long time to arrange access, requiring would-be providers to deposit a large amount of money with them in advance, levying unreasonable charges for short codes and taking an excessive share of the retail revenue.

In our opinion, a number of these problems could be solved, or at least alleviated, if all licensed network facilities providers who support third-party content service providers were required to publish a RAO setting out their terms and conditions, including the scale of charges and the timescales required to implement new services. The RAO in this case would have a slightly different meaning to that RAOs that we are recommending should be put in place for access to telecommunications networks and capacity. Recently the CA imposed an obligation on signal distributors in the broadcasting market requiring them to produce a RAO for their conditions of carriage. This sort of RAO would be more appropriate as a model to be used with content service providers.

With regard to the sharing of retail revenue on premium rate services, we note that some EU countries (such as France and UK, for example) have recently moved to a system where the telecommunications and content element of the charges have been separated and made explicit.

We believe it would be premature to introduce this system in Kenya before first seeing what benefits the introduction of RAOs bring in terms of greater transparency and prevention of discrimination but if the RAO remedy fails to solve the underlying problems then the CA may wish to consider more intrusive forms of price regulation such as this.

10.6 General

10.6.1 Streamlining regulatory instruments

[§] At present, new drafts of most of the CA's main regulatory instruments are under discussion and this presents an opportunity to improve and streamline regulations to create a clearer and better regulatory framework for the future.

[§]

10.6.2 Improvements to collection of quarterly statistics

[§]

We note that the CA does not collect data on some of the markets defined in this study. For example, we believe that no data is currently collected on leased line volumes or USSD wholesale traffic.

[§]

10.6.3 Better regulatory liaison

The mobile-money-market issues identified by Analysys Mason and by the MKA USSD report are a good example of an instance where effective inter-authority liaison could be used to achieve an improved regulatory outcome. Some of the issues identified in the mobile money market also require, or would benefit from, action on the part of the CBK. [§]

