



**Communications
Commission
of Kenya**

**NOTIFICATION OF THE COMMISSION'S INTENTION TO
DECLARE REGULATED SERVICES**

**“REGULATED SERVICES IN SPECIFIC/RELEVANT
MARKETS IN THE TELECOMMUNICATIONS
MARKET IN KENYA”**

CONSULTATION PAPER

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ABBREVIATIONS

CCK	Communications Commission of Kenya
GSM	Global System for Mobile Communications
HHI	Herfindahl-Hirschman Index
ICT	Information Communication Technology
KDN	Kenya Data Networks
KPLC	Kenya Power and Lighting Company
LRAC	Long Run Average Cost
MPT	Hypothetical Monopoly Test
PPC	Partial Private Circuits
R&D	Research and Development
SCP	Structural Conduct Performance
SMP	Significant Market Power
SMS	Short Message Service
SSNIP	Small but Significant, Non Transitory Increase in the Price
TKL	Telkom Kenya Limited
TRX	Transceivers

1. INTRODUCTION

This consultation paper on Regulated Services in Specific Markets in the Kenya's Telecommunications Sector is made under the Kenya Information and Communications Act chapter 411A of the Laws of Kenya (hereinafter referred to as the Act) and the Kenya Information and Communications (Tariff Regulations), 2010 as amended (hereinafter referred to as Regulations).

The Commission recognizes that an effectively competitive and liberalised ICT sector is the most efficient process that leads to competitive prices; affordable and quality services/products. It also promotes sustainable investment, innovations and more technically allocative, productive and dynamic efficiencies. The nature of the telecoms sector, however, is that certain market segments are susceptible to market failures and therefore are not effectively competitive.

In order to protect the consumers and promote innovations and investments in the ICT sector the Commission continues to ensure that market forces are allowed to set the optimal efficiency in segments that are effectively competitive, while at the same time ensuring that regulatory intervention on pricing is applied to segments which are not effectively competitive and therefore the need to identify a basket of services/products to be regulated.

The purpose of this consultation paper is therefore to notify all licensees about a basket of services/products which the Commission considers to be regulated services/products in telecommunication sector in Kenya. The identified basket of regulated services/products will be subjected to appropriate and proportionate regulation in order to address market failures and competition concerns associated with the services/products.

In contemporary competition law and practice in telecommunications sector, the logical sequence in the approach to assessing the level of competition in telecommunication markets is to:

- First, identify the product(s)/service(s) in the telecoms market.
- Second, to define the boundaries and identify relevant markets in which competition will be assessed. This recognises that competition takes place within economic markets and cannot be properly appreciated with a vague review of the overall sector. The third stage involves subjecting the identified relevant markets to the Structural-Conduct- Performance (SCP) model for evaluation of competitive landscape in these markets and identification of licensees with Significant Market Power (SMP). This is because existence of an SMP implies that services in such market segments exhibit monopolistic tendencies that necessitate regulation.
- The final stage involves identifying, designating and gazetting a basket of regulated services for application of appropriate and proportionate regulatory remedies to correct market failures and competitive weaknesses that are likely to be caused by the licensees offering products/services in market segments where there are competition concerns.

The four stages are examined in the following sections.

2. IDENTIFICATION OF PRODUCT(S) OR SERVICE(S) IN TELECOMMUNICATIONS MARKET IN KENYA

The two broad types of electronic communications services that constitute the telecoms market in Kenya are voice and data communications. The main products/services within these categories at both retail and wholesale levels are shown in **Table 1**.

Table 1: Retail and Wholesale Telecoms Services in Kenya

A. Voice			
1. Retail Services		2. Wholesale Services	
Service	Variation of Services	Service	Variation of Services
Fixed Access and Calls	Fixed wireline	Access and origination	
	Fixed wireless	Fixed transit	Single vs double
Mobile Access and Calls		Fixed termination	
	2G	Mobile termination	
	2.5G		
	3G		
SMS			
B. Data			
1. Retail Services		2. Wholesale Services	
Service	Variation of Services	Service	Variation of Services
Internet Services	Narrowband	International access /connectivity	Sub-sea cable, satellite
	Broadband	Wholesale broadband access	
	Fixed		
	Mobile		
Leased Lines Sold to Business Enterprises	Different speeds and delivery modes	Leased lines/transmission	Self-provided (microwave) vs Leased lines
			Different bandwidths

Source: Communications Commission of Kenya.

3. IDENTIFICATION OF RELEVANT MARKETS AND SERVICES IN TELECOMMUNICATIONS MARKET IN KENYA

The purpose of market definition is to identify, in a systematic way, the competitive constraints that firms face and the identify relevant economic markets. The key driver to competitive constraints is the extent to which products and services are substitutable on both the demand side and the supply side. Having defined the product(s) and service(s) that exist in the telecoms market in Kenya, the Commission considered the following when identifying relevant market segments that constitute the telecommunications sector in Kenya.

- (a) *Dimensions of the product(s)/service(s) that constitute a specific market that are assessed by:*
- i) *Demand side substitutability* which captures the extent to which consumers are prepared to substitute other products or services for the product or service in question. This behaviour by consumers tend to constrain attempted price increases by the supplier of the product or service in question since switching by consumers in response will render such price hikes unprofitable.

- ii) *Supply side substitutability* which refers to the ease with which suppliers, other than those offering the product or service in question, are readily able to switch in the immediate to short term, their line of production to offer the product or service in question without incurring significant additional costs. This ability also constraints the pricing behaviour of suppliers of the product or service in question.
- (b) *The geographic scope of that market for a given group of consumers, considering the following conditions:*
- i) The geographical distribution of and evolution over time of market shares of licensees;
 - ii) The pricing of products or services across the area under consideration by various licensees;
 - iii) Pricing of the different licensees as well as evolution of prices over time in the relevant areas and for relevant products/services; and
 - iv) Additional supply and demand characteristics such as products and services characteristics, customer groups, and industry views; which may indicate the existence of different competitive pressure.
- (c) *The Commission also considered the following other relevant factors/issues:*
- i) Common pricing constraints which are primarily relevant to geographical market definition and where a uniform price across regions effects a form of *de facto* competition across what are otherwise distinct regional markets;
 - ii) Cluster markets which recognizes that the precise composition of relevant markets may depend upon the way products are generally supplied to consumers and consumer behaviour and attitudes;
 - iii) Homogeneity of demand and supply conditions may enable the placement of products/services not linked by demand and supply substitution in the same economic market; and
 - iv) Chains of substitution where two products (or areas) are not direct substitutes but are effective pricing constraints on one another due to the presence of a third product (area) which lies in the middle of these products (areas) and which is a direct substitute for each of them.

The analysis therefore applied the Hypothetical Monopoly Test (HMT) model, one of the most common means of applying the concepts of demand and supply side substitution in market definition. The test takes the approach of evaluating, in a candidate market, the dynamics that would play out if there was a Small but Significant, Non Transitory Increase in the Price (SSNIP) above the competitive price level of a given product or service. The SSNIP test applies in a similar manner in defining the geographic dimension of the market by evaluating the response by customers and suppliers in other areas to a SSNIP in the price of a given product/service.

In response to a SSNIP in the candidate product, if a certain number of customers would drop out of the market or switch to other products/services and producers switch from the production of other products/services (other areas) to the product/service in question, the price increase would become unprofitable to the hypothetical monopolist and those substitute products/services would then be considered to be in the same market as the candidate product/service.

Based on the application of the market definition model described above in delineating relevant markets in the telecommunications market in Kenya, **Table 2** shows the list of wholesale and retail market segments that the Commission defined and identified for the telecommunications market in Kenya.

Table 2: List of Retail and Wholesale Markets for Market Analysis

No.	Relevant Market/ Market Segments	Products/Services
RETAIL		
1	Mobile telephony – this includes voice and SMS services	Mobile access and origination
2	Fixed telephony	Fixed access and origination Fixed wireline and fixed wireless
3	Retail leased lines	Leased lines over fibre, copper, wireless, of any speed and location
WHOLESALE		
4	Fixed termination	Voice termination on each individual fixed network
5	Mobile termination	Voice termination on each individual mobile network
6	Fixed transit	Single and double tandem fixed transit
7	Wholesale broadband internet access	Wholesale internet access provided to ISPs
8	Wholesale leased lines and transmission	Wholesale leased lines; Transmission links (trunk and partial private circuits)
9	International connectivity	Access to international connectivity via subsea cable as input into wholesale internet access provided to ISPs

Source: Communications Commission of Kenya.

The nine defined, identified and designated markets are then subjected to the SCP model for evaluation of the competitive landscape in these markets and identification and designation of licensees with SMP as shown in Section 4.

4. COMPETITION ASSESSMENT IN TELECOMMUNICATIONS MARKET IN KENYA

4.1 Background to Competition Assessment

Competition assessment helps to identify the various services provided in the telecoms market and to ascertain the nature and extent of competition in each of these markets. To the extent that market failure in those markets exist and there are licensees with SMP or market power which signals lack of effective competition; a basket of services offered by such licensees are then identified and subjected to appropriate and proportionate regulatory interventions in order to promote effective competition.

The Commission carried out an independent assessment of the competitive landscape in the telecommunications sector in Kenya with a view to identifying relevant markets and services where there is no effective competition; identifying licensees with SMP; and designing appropriate regulatory remedies to promote effective competition. The assessment was underpinned on the following structured approach:

- a) Elaboration on the theoretical foundation underpinning market definition, assessment of competition in those markets, identification of licensees with SMP in those markets and formulation of appropriate and proportionate regulatory interventions;

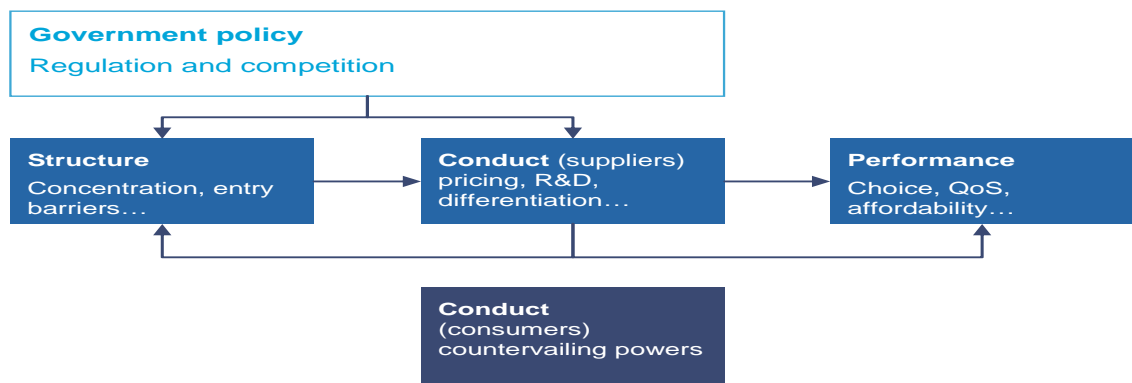
- b) Application of this theory to market definition and delineation of relevant markets in the telecoms market in Kenya;
- c) Assessment of the competitive landscape in each of these markets, identify markets that are effectively competitive and those that are not effectively competitive and identification of licensees with SMP;
- d) Identify a basket of services in the identified relevant markets that are not effectively competitive and are therefore prone to regulation; and
- e) Recommending appropriate and proportionate regulatory interventions to remedy the competitive weaknesses in these markets.

4.2 Competition Assessment Model

The competition assessment was made using a range of qualitative and quantitative criteria and adopted the well-established Structure-Conduct-Performance (SCP) model, which places primacy on the **structural** characteristics of markets in developing criteria for competition assessment. The SCP model is based on three key attributes namely market **structure**; **conduct** and **performance**. The underlying linkage between these elements is the presumption that the structure of the market such as the number of sellers and ease of entry may explain or even determine to a large degree the conduct of the participants in that market (pricing policies, advertising). In addition, the conduct of industry players then determines the performance of the firms in terms of profitability, efficiency and technical progress.

The reliance on this model is considered relevant especially in the context of forward-looking ex-ante regulation, since conduct detrimental to competition must be anticipated primarily on the basis of the structural characteristics of the market. **Figure 1** shows a representation of the Structural Conduct and Performance model.

Figure 1: Structure Conduct Performance Model



Source: Communications Commission of Kenya

Table 3 summarizes the market evaluation criteria for competition assessment using the SCP model.

Table 3: Overview of Criteria to Assess Effective Competition in Kenyan Telecoms Sector

Category	Criteria	Indicator
Market Structure	Horizontal market concentration (S1)	Market shares, concentration ratios and HHI.
	Structural barriers to entry (S2)	Sunk costs; Economies of scale and scope; Control of essential facilities; Vertical integration; Technological advantages or standards; Access to financial resources; Distribution and sales network; Presence of substitutes (not included in market definition).
	Legal and regulatory barriers to entry (S3)	Licences, patents, exclusivity provisions, availability of spectrum, legislative/regulatory constraints
Conduct (suppliers)	Pricing strategies (C1)	Pricing trends; the extent of reaction to a price change, existence of leadership; Exploitative pricing; Excessive pricing, cross subsidisation; Exclusionary pricing; predatory pricing, price discrimination; Tacit collusion.
	Non-pricing behaviour (C2)	Refusal to supply or delay in access to wholesale; Advertising and branding; Switching costs; Product service diversification/bundling.
	Market transparency (C3)	Availability of product/service information; Comparability of information.
Conduct (consumers)	Countervailing power ¹ (C4)	Number of consumer groups, percentage of large consumers; importance of buyer to supplier.
Performance	Innovation (C10)	Product choice and differentiation. Technologies.
	Economic efficiency (C11)	Trends in cost-profit margins.
	Affordability and consumer satisfaction (C12)	Quality of service parameters (call completion, congestion, disruption rate; time for installation and repairs, number and quality of reported complaints). Tariff structure design, percentage of household expenditure. Universal coverage.

Source: Communications Commission of Kenya.

This set of criteria was then applied to each of the relevant markets identified in the telecoms sector with a view to ascertain the degree of prevalence of these attributes as a basis for determining and assessing the level of competition.

4.3 Competition Assessment in the Relevant Market Segments

The Commission evaluated the competitive landscape in the above market segments using SCP model; with a view to:

- (a) assessing the level of competition in each of these relevant markets with the aim of identifying whether the identified markets are effectively competitive;
- (b) determine a licensee(s) who holds a position of market power to the extent that it is characterised as dominant or SMP licensee; and
- (c) Identify services offered in the relevant markets that are not effectively competitive.

¹ Typically, this is only really used in a wholesale context, since it is a bargaining interface context, not a one-to-many context. In the latter, consumer response is better considered in the context of demand-side substitution/market definition.

The competitive assessment was made against a range of quantitative and qualitative parameters that are most relevant to the structure of each of the markets in Kenya as shown in **Table 4**.

Table 4: Markets and Potential Criteria for Competition Analysis in Kenya

No	Market	Criteria/Indicators
RETAIL		
1	Mobile telephony	Market shares, concentration ratios and HHI (S1); Sunk costs (S2); Economies of scale and scope (S2); Vertical integration (S2); Availability of spectrum (S3); Pricing strategies (C1); Switching costs (C2); Advertising and branding (C2); Market transparency (C3)
2	Fixed telephony	Market shares, concentration ratios and HHI (S1); Sunk costs (S2); Economies of scale and scope (S2); Control of essential facilities (S2); Vertical integration (S2); Pricing strategies (C1)
3	Retail leased lines	Market shares, concentration ratios and HHI (S1); Vertical integration (S2); Sunk costs (S2); Economies of scale and scope (S2); Control of essential facilities (S2); Pricing strategies (C1)
WHOLESALE		
4	Fixed termination	Market shares (S1); Structural barriers to entry (S2); Absence of countervailing buyer power (C4)
5	Mobile termination	Market shares (S1); Structural barriers to entry (S2); Absence of countervailing buyer power (C4)
6	Fixed Transit	Market shares, concentration ratios and HHI (S1); Barriers to entry (S2); Pricing behaviour (C1); Refusal to supply or delay in access to wholesale (C2)
7	Wholesale broadband internet access	Market shares, concentration ratios and HHI (C1); Structural barriers to entry (S2)
8	Transmission (wholesale leased lines and transmission links (trunk and partial private circuits (PPC))	Market shares, concentration ratios and HHI (C1); Structural barriers to entry (S2)
9	International connectivity	Market shares, concentration ratios and HHI (S1); Structural barriers to entry (S2); Refusal to supply or delay in access to wholesale (C2)

Source: Communications Commission of Kenya.

Table 5 presents the findings of the analysis upon the application of the above criteria with respect to the market definition, competition assessment and market power analysis.

Table 5: Results of Competition Assessment in Relevant Market Segments in Kenya's Telecommunications Market

No	Relevant Market Segment	Licensee	Status of Competition	Designation of the SMP Licensees
		RETAIL		
1	Mobile voice and SMS services	Safaricom Limited	Not Effectively Competitive	Safaricom Limited
		Celtel Kenya Limited		Non SMP
		Telkom Kenya Limited - Orange		Non SMP
		Essar Telecom Kenya Limited		Non SMP
2	Fixed voice services	Telkom Kenya Limited	Not Effectively Competitive	Telkom Kenya Limited
		Flashcom Limited		Non SMP
		EM Communications		Non SMP
3	Leased lines		Effectively Competitive	Effectively Competitive
		WHOLESALE		
4	Fixed voice termination	Telkom Kenya Limited	Monopoly Market	All Terminating Fixed Voice Operators (Telkom Kenya Limited; Flashcom Limited and EM Communications Limited)
		Flashcom Limited		
		EM Communications		
5	Mobile voice and SMS termination	Safaricom Limited	Monopoly Market	All terminating mobile voice operators
		Celtel Kenya Limited		
		Telkom Kenya Limited - Orange		
		Essar Telecom Kenya Limited		
6	Fixed transit	Telkom Kenya	Not Effectively Competitive	Telkom Kenya
7	Wholesale internet access	Afsat; Alldean; Comcarrier; Fourth generation; Gateway; Jamii; KDN; KPLC; Seacom; TKL; UUNET; Wananchi and Access	Nascent Market	<ul style="list-style-type: none"> • Nascent market: regulation not appropriate/deleterious to investment. • The Commission to monitor market performance.
8	Leased lines/transmission links	Jamii; KDN; KPLC; TKL; UUNET; Access	Nascent Market	<ul style="list-style-type: none"> • Nascent market: regulation not appropriate/deleterious to investment. • The Commission to monitor market performance
9	International connectivity	Afsat; Alldean; Celtel; Comcarrier; Essar; Jamii; KDN; Safaricom; Seacom; TKL; UUNET	Nascent Market	<ul style="list-style-type: none"> • Nascent market: regulation not appropriate/deleterious to investment. • The Commission to monitor market performance

Source: Communications Commission of Kenya.

In designating Safaricom limited dominant in retail mobile voice and SMS services; and Telkom Kenya Limited in retail fixed voice and transit services, the Commission applied the following specific criteria in those relevant market segments.

4.3.1 Criteria Applied in Declaring Retail mobile voice and SMS services Offered by Safaricom Limited as a Dominant Licensee a Regulated Service

In considering the level of competition in the retail mobile voice market in order to ascertain whether and to what extent market power is present and which licensee has significant market

power or dominance, the SCP criteria was applied to this market and the following were the results:

- (a) *Market shares, concentration ratios and Herfindahl–Hirschman Index (HHI)*: The retail mobile voice services are offered by the four GSM operators namely Safaricom, Zain, Essar Telecom Kenya Limited and Orange Telkom. Based on market share analysis, Safaricom's market shares of 69.9% on the basis of subscriber base and 81% on the basis of revenue is considered above the threshold that would lead to a rebuttable presumption of dominance. In established competition case law, sustained market shares of over 50% give rise to a rebuttable presumption of dominance while market shares of over 40% are suggestive of the possibility of dominance. In order to establish dominance, it is necessary that high market shares are sustained over a period. Based on industry data, it is evident that Safaricom's market shares have steadily risen over time. This is reflected in the high market concentration for the retail mobile voice market as demonstrated by the high Herfindahl Hirschman Index (HHI) of 5,230 based on the subscriber base and 6,758 based on the revenue base. Competition authorities ascribe HHI above 1,800 with highly concentrated oligopoly market structures. On this basis of market share alone, Safaricom holds a position of SMP in the retail mobile voice market.
- (b) *Sunk costs*: Sunk costs are those which must be incurred to enter a market but which cannot be recovered upon exit and are a chief source of barriers to entry and competition. Sunk costs in the retail voice market are significant in Kenya (in the absence of wholesale access) since substantial investments in upstream network infrastructure is required in order to provide voice services to end users. The bulk of these investments is unlikely to be recovered on exit. Given the magnitude of these investments and the associated risks, sunk costs represent significant barriers to entry and competition in the retail mobile voice market in Kenya. Sunk costs introduce asymmetry between new entrants and existing operators in Kenya since new entrants must recover their sunk costs in addition to avoidable fixed and variable costs while existing operators need only recover the avoidable costs to remain in the market. Sunk costs therefore provide significant cost advantage to an operator like Safaricom compared to late entrants like Orange and Essar Telecoms.
- (c) *Economies of scale and scope*: Economies of scale and scope mean that an entrant would need to attain a large share of the market if it is to effectively compete since established operators exhibit declining average cost curves. Safaricom operates a substantially large network (81% of population coverage, 24% of land coverage and 75% of all Transceivers (TRXs)) and a small network producing at a higher Long Run Average Costs (LRAC) would not be price competitive in relation to Safaricom that is able to produce at lower LRAC due to economies of scale and scope.
- (d) *Vertical integration*: Presence of vertical integration where mobile operators operate at both wholesale and retail level potentially allow the opportunity to leverage market power into downstream markets to the detriment of competition. Vertical integration offers large operators with the opportunity to cross subsidize operations or undertake margin squeeze to foreclose competition downstream.
- (e) *Switching costs*: Awareness and comparability of alternative products/services and the ability, ease and cost of switching between them is a key driver of competition in

markets. When transparency of alternatives is low and the cost of switching suppliers are high, even markets with many competitors may tend towards a lack of effective competition. The indirect costs of switching in the mobile voice market in Kenya are significant and they present a significant barrier to effective competition. New entrants therefore find it difficult to attract subscribers from established operators such as Safaricom due to high switching costs in the absence of Mobile Number Portability.

- (f) *Advertising and branding:* Due to its size, profitability and access to capital, Safaricom enjoys advantages over its competitors in terms of advertising and marketing. This can be seen as a further source of market power since Safaricom is able to consolidate its position in the market through extensive advertising and branding.
- (g) *Pricing strategies:* Based on market shares and the market structure as elaborated above, there are clear concerns about Safaricom's market power in the retail mobile voice market. Such market power should, in the absence of effective regulation or threat of regulation, be manifested in the pricing behaviour. In particular, one might expect some evidence of either excessive pricing or exclusionary pricing. Given that market power is the ability to persistently price above the competitive level, the review evaluated whether Safaricom is in a position to, or indeed does, command a price premium above its competitors. This price premium is not matched by either a higher network coverage or better quality of service standards relative to the other operators. Moreover, Safaricom is found to sustain a high on-net off-net price margin as a way of entrenching network externalities/club effect. This pricing strategy tilts the off-net traffic balance in favour of Safaricom making the other operators net payers to Safaricom.

Based on the above evidence, Safaricom's market share by far exceeds the thresholds where firms are typically presumed to be dominant. On balance therefore, Safaricom has an enduring Significant Market Power in retail mobile voice and SMS services which enables it to behave, to an appreciable extent, independently of its competitors, customers and ultimately consumers.

4.3.2 Criteria Applied in Declaring Retail Fixed Voice and Fixed Transit Services Offered by Telkom Kenya Limited as a Dominant Licensee Regulated Services

A similar criteria was used to evaluate dominance in the retail fixed voice and fixed transit market as discussed below:

- (a) *Market shares, concentration ratios and HHI:* Telkom's almost full market at 98% by subscriber base is clear evidence of dominance in this market. This finding is reinforced by the relatively concentration of this market segment as demonstrated by the HHI ratio of above 9,000.
- (b) *Structural barriers to entry:* High sunk costs and large economies of scale and scope pose significant barriers to entry and post entry competition. Telkom is therefore not sufficiently constrained by threat of entry or competition on its ability to price services appreciably above the competitive level. Moreover, as demonstrated in the

retail voice market, vertical integration in the fixed voice market presents significant barriers to competition.

On the basis of its large market share and high structural barriers to entry, Telkom Kenya Limited is found to have Significant Market Power in the retail fixed voice and fixed transit markets.

4.4 Identification of Competition Concerns and Designation of Regulated Services in the Relevant Markets

a). Retail Mobile Market

The retail mobile voice and SMS market in the telecommunications market are potentially competitive and retail intervention is usually considered too intrusive. Consequently retail intervention is only justified under circumstance where there are clear competition concerns that include uncompetitive behaviour by firms with significant market power.

As demonstrated above, the mobile voice market in Kenyan is characterised by an enduring dominance by Safaricom and a relatively high market concentration as measured by the HHI. While it is recognised in contemporary competition law and practice in telecommunications that large market shares and/or market dominance are not in themselves transgressions of competition law, presence of dominance of a significant nature and the attendant market concentration are indications of market failure or lack of competition in those markets.

Moreover, a review of the pricing strategy by Safaricom shows that the licensee is using the on-net and off-net price differentials to entrench and/or sustain a club effect through network externalities. On-net and off-net price differentials by dominant operators create tariff mediated network externalities as described by Laffont et al. (1998b)² which make larger networks more attractive to consumers than smaller networks. When on-net calls are set below the off-net calls, *ceteris Paribas*, subscribers to the large network experience lower average call charges than subscribers to the smaller network since more of their calls are made on-net. This makes the large networks more attractive and places the smaller networks at a competitive disadvantage.

In addition, recent empirical literature (i.e. Birke and Swann 2006, 2007) confirms that tariff-mediated network effects play an important role in mobile telecommunications and that inducing network effects via on-net/ off-net tariff differentials has been a successful strategy for incumbent mobile operators in different jurisdictions. According to Birke and Swann (2006), their empirical analysis supports the conclusion that, “the high price of off-net calls cannot only be a result of market power but can be a significant source of market distortion , which can especially be used to pre-empt entry by or impede competition from new competitors. Recent theoretical literature too suggests that strategically inducing network effects is an effective strategy for attracting and maintaining market shares, and for pre-empting entry and retarding growth of small networks.

While the on-net/ off-net price differential for the industry reduced significantly over the last three quarters of 2010, Safaricom charges an off-net price premium of over 33% above the

² Laffont, J-J, Rey, P. and J. Tirole (1998b) “Network Competition: II. Price Discrimination,” *RAND Journal of Economics*, 29: 38-56.

on-net price for retail voice services. This signifies the pricing mindset of the firm to sustain a club effect in the market through these tariff mediated network externalities. A 33% off-net price premium above the on-net price for a company with a significant market power has adverse impacts on the competitive landscape in the market. The SMS segment is also characterised by similar pricing by Safaricom where the firm is charging a 50% price premium on off-net tariffs above the on-net tariffs. The tariff mediated networks effects generated by this pricing strategy by a firm with a significant market power in the retail mobile voice and SMS market is therefore a competition concern that requires re-dress through appropriate and proportionate retail interventions.

Moreover, the wholesale interventions implemented by the Commission from 2007 have been inadequate in addressing this competition concern and an overt but proportionate retail intervention is the most appropriate proportionate remedy. Consequently, the Commission has declared the Retail Mobile Voice and SMS services offered by Safaricom as Regulated Services for purposes of the Act and attendant regulations.

b). Retail Fixed Voice Market

The retail fixed voice market is also characterised by a large discrepancy between the on-net and off-net tariffs by Telkom Kenya that is the dominant licensee in this market. Theoretically, the firm is also entrenching a clubbing effect by inducing tariff mediated network effects using on-net off-net price differentials. However, a review of the recent dynamics in the fixed voice market shows that this market segment is very small and has been shrinking over the recent past four quarters. The subscriber base for fixed voice market has consistently declined from 247,082 subscribers in the quarter ending December 2009 to 226,587 subscribers in the quarter ending December 2010. The fixed wireless business has also shrank from 429,289 subscribers in the quarter ending December 2009 to 141,580 subscribers in the quarter ending September 2010 before improving slightly to 154,161 subscribers in the quarter ending December 2010.

Considering that the four mobile operators have a combined subscriber base of over 24Million, the fixed voice services, though in different market segment, is a small market relative to the entire voice business ecosystem. The fixed voice traffic for the first quarter of 2010/11 Financial Year was under 30 Million minutes relative to about 6.6billion for mobile voice services over the same period. This growth profile for the fixed network is partly attributable to legacy structural constraints facing fixed networks in emerging markets and growing competitive pressures from mobile services.

Based on this analysis, it is apparent that despite the apparent dominance of Telkom Kenya in fixed voice market and evidence of on-net to off-net price spread pricing strategy employed by the licensee, the severity of impacts of any tariff mediated network effects induced through this pricing strategy on the telecommunication ecosystem is insignificant. In addition, the consistent decline in fixed network subscriber base despite the on-net to off-net price differentials discounts any probability of an enduring clubbing effect in retail fixed voice market.

The Commission, therefore considers a designation of the retail fixed voice services as regulated services, as a disproportionate regulatory intervention relative to the competition concern. Thus, for purposes of the Act and attendant regulations this market segment is, for the time being, not categorized regulated service.

c). Leased Lines

Leased line services is currently considered an effectively competitive market. This market segment is therefore not categorised as a regulated service for purposes of the Act and attendant regulations.

d). Fixed and Mobile Wholesale/Termination Market

Termination markets are characterised by a series of monopolies as each termination service provider has exclusivity in providing call termination services to subscribers on its network. This structural character of the termination market combined with the Calling Party Pays principle that operates in the Kenyan market eliminates all incentives for any competition to happen in the provision of transit services. Lack of competition in this market is therefore a competition concern that requires redress through regulatory interventions. Consequently, the Commission hereby declares fixed and mobile termination services as regulated services for purposes of the Act and attendant regulations.

e). Fixed Transit Services

Fixed transit services are monopoly services provided by Telkom Kenya. Lack of competition in this market is therefore a competition concern that re-quire re-dress through regulatory interventions. The Commission has therefore declared Fixed Transit Services as regulated services for purposes of the Kenya Information and Communication (Tariff) Regulations 2010 as amended.

f). Wholesale Internet Access, Leased Line/Transmission Links and International Connectivity

These market segments are considered to be nascent and therefore do not warrant any overt interventions by the Commission at the retail level at the moment. However, the Commission will continuously monitor the performance of these markets in order to promote competition.

5. DETERMINATION OF A BASKET OF REGULATED SERVICES IN TELECOMMUNICATIONS MARKET IN KENYA

Based on the above analysis and pursuant to the existing regulatory framework, the Commission hereby designates the following markets as regulated services.

Regulated Service	Affected Licensee
a) Wholesale mobile termination services (Voice and SMS)	All mobile service providers
b) Wholesale fixed termination services	All fixed service providers
c) Wholesale fixed transit services	Telkom Kenya Limited
d) Retail mobile voice services	Safaricom Limited

6. RE-DESIGNATION OF REGULATED SERVICES

The designation of Regulated Services will remain for as long as the identified competition concern exists in the relevant market.