

Rachel Alemu

The Liberalisation of the Telecommunications Sector in Sub-Saharan Africa and Fostering Competition in Telecommunications Services Markets

An Analysis of the Regulatory
Framework in Uganda

Munich Studies on Innovation and Competition

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Preface

The basis for this study stemmed from my interest in the phenomenal growth of the telecommunications sector in Sub-Saharan Africa. Within the space of a decade, the telecommunications sector went from being characterised as having poorly developed infrastructure with less than 1% of the population having access to telecommunications services in 1994, to having 82% telephone penetration rate in 2016. The dramatic change was due to the opening up of the telecommunications sector to competition. This led me to ponder the issue—how the telecommunications sector which traditionally was a monopoly would be regulated. Was regulation still needed in a sector that was now open to competition? If so, what regulatory approach would be taken?

Admittedly, I would not have been able to successfully complete this study without a strong support group. I would like to express special appreciation and gratitude to my PhD supervisor Professor Dr. Josef Drexler, for his unwavering support throughout the exciting albeit challenging PhD journey. The advice and encouragement received enabled me to grow as a researcher. Special thanks also go to my assistant supervisors Dr. Mor Bakhoun and Dr. Marc-Oliver Mackenrodt for their steady guidance and availability throughout the course of my PhD studies. In this context, it is also worth mentioning the financial support received from Max Planck Institute for Innovation and Competition Law together with the Munich Intellectual Property Law Center. Without this support, this research, particularly the invaluable information obtained during the field study in Uganda, might not have been possible.

I would like to extend my sincere gratitude to all the telecommunications sector experts in Uganda who took time out of their busy schedules to provide me with invaluable insights into the key competition issues affecting the telecommunications sector in Uganda and other countries in Sub-Saharan Africa. Notable mentions include Ms. Ann Rita Ssemboga, Ms. Joan Kyomugisha, Ms. Rebecca Mayanja, Mr. Abdul Musoke, Ms. Helen Kyeyune and Mr. Godfrey Sengendo representing communications regulator UCC, Mr. Paul Mwebesa, Mr. Dennis Kakonge, Ms. Zulaika Kasujja and Mr. Ronald Zakumumpa providing the perspective of the

telecommunications operators and Dr. Ham Mulira, Dr. Nora Mulira, Dr. Vincent Kasangaki, Dr. Abel Katahoire and Dr. Fredrick F Tsubira representing the prominent ICT experts in Uganda.

A special thanks goes to my family. Words cannot express how grateful I am to my mother and father for all of the sacrifices that you have made on my behalf. Thank you for consistently inspiring me to reach greater heights and always believing in me. To my dear brother, thank you so much for the constant moral support. I would also like to convey my gratitude to my relatives, family friends and friends whose words of encouragement have carried me all the way through to the end of this PhD journey.

Last but not least, I would like to thank God for his never ending grace and mercy which has enabled me to get this point in my life.

Munich, Germany

Rachel Alemu

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Abbreviations

2G	Second-generation wireless telephone technology
3G	Third-generation technologies
ACCC	Australia Competition and Consumer Commission
ADSL	Asymmetric digital subscriber line
AKDEF	Aga Khan Fund for Development
APEC	Asia-Pacific Economic Coordination
ARPU	Average revenue per user
BT	British Telecom
CAG	Comptroller and Auditor General of India
CCC	COMESA Competition Commission
CCK	Communications Commission for Kenya
CDMA	Code Division Multiple Access
CIT	Committee on Investment in Telecommunications
CJEU	European Court of Justice
CLEC	Competitive local exchange carriers
COMESA	Common Market for Eastern and Southern Africa
CSTs	Community Service Telephones
CUTS	Customer Unity & Trust Society
DSL	Digital subscriber line
EAC	East African Community
EACCA	East Africa Community Competition Authority
EACSO	East African Common Service Organisation
EAETC	East African External Telecommunications Company
EAP&TC	East African Posts and Telecommunications Corporation
EAPTA	East African Post and Telecommunications Administration
EAPTC	East African Post and Telegraph Company
ECN	European Competition Network
ECOWAS	Economic Community of West African Countries
EDGE	Enhanced Data Rates for GSM Evolution
EEO	Equally efficient operator
EU	European Union

FCC	Federal Communications Commission
FDI	Foreign Direct Investment
FTC	Federal Trade Commission
FTM	Fixed to mobile interconnection
GDP	Gross Domestic Product
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
HSPA	High Speed Packet Access
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
ILECs	Incumbent local exchange carriers
IMF	International Monetary Fund
IP	Internet Protocol
ISP	Internet Service Provider
ITU	International Telecommunications Union
LAP	Libya Africa Investment Portfolio
MIO	Model Interconnection Offer
MNC	Multinational corporation
MTF	Mobile to fixed termination
MTG	Multinational Telecommunications Group
MTM	Mobile to mobile termination
MTR	Mobile Termination Rate
NBI	National Data Transmission Backbone Infrastructure
NCC	Nigerian Communications Commission
Ofcom	Office of Communications United Kingdom
Oftel	Office of Telecommunications United Kingdom
OTDR	Department of Public Enterprise and the Office of the Director of Telecommunications Regulations
PCS	Personal communications services
PIP	Public Infrastructure Provider Licence
PPIAF	Public-Private Infrastructure Advisory Facility
PSP	Public Service Provider Licence
PwC	PriceWaterHouseCoopers
REO	Reasonably efficient operator
RIO	Reference interconnection offer
SADC	Southern African Development Community
SIM	Subscriber Identity Module
SSA	Sub-Saharan Africa
SSNIP	Small but significant and non-transitory price
TCRA	Tanzania Communications Regulatory Authority
TDM	Time-division multiplexing
TFEU	Treaty of the Functioning of the European Union
TRO	Triennial Review Order
TVWS	TV whitespace

UBC	Uganda Broadcasting Council
UCC	Uganda Communications Commission
UHF	Ultra high frequency
UMTS	Universal Mobile Telecommunications System
UPTC	Uganda Post and Telecommunications Corporation
USAID	US Agency for International Development
UTL	Uganda Telecom
VANS	Value Added Network Services
WAEMU (UEMOA)	West African Economic and Monetary Union
Wi-Fi	Wireless Fidelity
WiMAX	Worldwide Interoperability for Microwave Access
ZCCPC	Zambia Competition and Consumer Protection Consumer

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Chapter 1

Introduction

1.1 Background of Research

A little over a decade ago, the telecommunications sector in Sub-Saharan Africa was still characterised by poorly developed infrastructure, primarily concentrated in urban areas,¹ and poor service provision with less than 1% of the population accessing telecommunications services. In 1994 the telephone penetration rate in Africa was 1.5 main lines per 100 people compared to the United States with 65 main lines per 100 population and OECD countries with 47 main lines.² When one took into consideration the fact that 40% of the telephone lines were concentrated in a single country, South Africa,³ the penetration rate in individual countries in the region was even smaller. Fast forward to 2016, the telephone penetration rate in Sub-Saharan Africa stands at approximately 82 telephone subscribers per 100 inhabitants.⁴ In contrast to the situation a decade ago where most telephone line subscribers on the African continent were located in South Africa as well North Africa, the current data reveals increased access to telecommunications services in Sub-Saharan Africa countries.⁵ More importantly, the current penetration confirms

¹Uganda is cited as an example. Statistics from 1997 indicate that even though the capital city Kampala had less than 10 percent of the population, it had 70 percent of all subscriber lines in 1997, while the Eastern and Western regions of the country, home to more than 50 percent of the population, only had 20 percent. See Mary Shirley, Fred Tsubira, Luke Haggarty, and Frew Gebreab, 'Telecommunications Reform in Uganda' (2002) World Bank Working Research Paper No.2864 9.

²Eli M Noam, *Telecommunications in Africa* (Oxford University Press 1999) 3.

³Ibid.

⁴ITU, 'Key 2005-2016 ICT Data for the World, by Geographic Regions and by Level of Development' <<http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>> accessed 15 June 2017.

⁵Ibid.

that the telecommunications reforms that began to take place in Sub-Saharan Africa in the mid-1990s have significantly transformed the sector. The telecommunications reforms that facilitated the transition from monopoly to competition have enabled a great portion of the population to access telecommunications services.

Traditionally, telecommunications services in Sub-Saharan Africa, and around the world, have been provided through a regulated state-controlled monopoly operator.⁶ A key rationale for that state of affairs was the perception that the telecommunications sector was a natural monopoly. According to the natural monopoly theory, a natural monopoly exists where one producer can supply the market more efficiently than several producers.⁷ The telecommunications sector was deemed as exhibiting natural monopoly characteristics, as a result, telecommunications sector policy-makers and telecommunications regulators opted to provide telecommunications services through one operator in order to avoid wasteful duplication of networks.⁸ In order to prevent the monopoly operator from abusing its monopoly power, a series of controls were put in place including controls on the prices which could be imposed on end-users.⁹

In the last quarter of the twentieth century, growing awareness of the inefficiency of the monopolist operator and technological changes sparked reforms in the telecommunications sector.¹⁰ In the 1980s the governments in the United States, Japan and the European Union¹¹ commenced telecommunications policy reforms which later triggered reforms worldwide. The telecommunications reforms included the privatisation of the state monopoly operator and liberalisation of the telecommunications sector by removing barriers to market entry, in particular, legislative barriers that opened up different telecommunications market segments to private sector investment. In Sub-Saharan Africa, substantive telecommunications reforms resulting in the liberalisation of telecommunications markets began to take place in the mid to late 1990s with Ghana, Uganda and Zimbabwe as pioneers. Other countries followed suit leading to the startling transformation of the telecommunications sector in Sub-Saharan Africa into a booming sector at the heart of economic development.

The liberalisation of the telecommunications sector in Sub-Saharan Africa has resulted in increased access to telecommunications services. This is specifically the case in the mobile communications market which has grown exponentially with the

⁶It should be noted that most of the monopoly telecommunications operators were state-owned with the exception of Canada and the United States where the telecommunications services were provided through privately owned monopolies.

⁷Kevin G Wilson, *Deregulating Telecommunications: US and Canadian Telecommunications, 1840-1997* (Rowman and Littlefield 2000) 89.

⁸Jacques Pelkmans and David Young, *Telecoms-98* (Centre for European Policy Studies 1998) 19.

⁹Damien Geradin and Michel Kerf, *Controlling Market Power in Telecommunications: Antitrust vs. Sector-Specific Regulation* (Oxford University Press 2003) 1.

¹⁰Jean-Jacques Laffont and Jean Tirole, *Competition in Telecommunications* (MIT Press 2000) 3.

¹¹The European Union started its liberalisation policy based on Article 106 (3) of the TFEU.

mobile telephony penetration increasing from 1% in 2000 to almost 81% in 2016, with the region having approximately 772 million mobile telephone subscribers.¹² It is worth noting that by 2011, the mobile telephone market in Africa was crowned the fastest-growing in the world over taking Asia.¹³ The majority of the countries in the region have more than one operator serving the mobile market.¹⁴

Pivotal to the transformation of the telecommunications sector has been wireless technology that has become the primary means through which the population in the region accesses telecommunications services with limited use of the fixed-line infrastructure.¹⁵ In this regard, it should be noted that the exponential growth of the telecommunications sector has occurred in some markets and not others. Specifically, the fixed telephony market has grown at a very slow pace and in a number of countries growth has stagnated with penetration rates in most countries at 1% or below.¹⁶ The internet market in Sub-Saharan Africa has experienced mild success. ITU statistics reveal that there were 280 million active mobile broadband subscriptions and 6 million fixed wired broadband subscriptions in 2016.¹⁷ The low fixed broadband penetration rate stems from the low telephone landline density in the region.¹⁸ The introduction of mobile internet using GSM technology, WiMAX, and Wi-Fi in the mid to late 2000s¹⁹ is increasing internet penetration in the region as evidenced by the significantly greater number of mobile broadband internet subscriptions compared to fixed wired subscriptions. Mobile internet, specifically

¹²ITU, 'Key 2005-2016 ICT Data for the World, by Geographic Regions and by Level of Development' <<http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>> accessed 15 June 2017. However, it should be noted that several countries (Botswana, Cape Verde, Côte d'Ivoire, Djibouti, Gabon, Gambia, Ghana, Mali, Mauritius, Namibia, Seychelles, and South Africa) have a penetration rate of more than 100 percent, while other countries have less than 30 percent penetration rate. For example, Eritrea, 7 percent, Central African Republic, 26 percent.

¹³GSMA, 'Africa Now the World's Second Largest Mobile Market' *GSMA Press Release* (London, 9 November 2011) <<http://www.gsma.com/newsroom/press-release/africa-now-the-worlds-second-largest-mobile-market-reports-gsma/>> accessed 15 June 2017.

¹⁴Mark D J Williams, Rebecca Mayer, and Michael Minges, *Africa's ICT Infrastructure: Building on the Mobile Revolution* (World Bank 2011) 79.

¹⁵The limited use of fixed-line infrastructure stems for the fact that the fixed-line network is poorly developed in the region.

¹⁶ITU, 'Key 2005-2016 ICT Data for the World, by Geographic Regions and by Level of Development' <<http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>> accessed 15 June 2017.

¹⁷Ibid.

¹⁸In other regions of the world, particularly in developed jurisdictions, the majority of the population accesses internet through fixed wireline. In the European Union, the popular DSL technology-based broadband internet is provided through landline copper lines. In the United States the key medium is the cable lines built up by cable TV operators.

¹⁹ITU, 'Study on International Internet Connectivity in Sub-Saharan Africa' (March 2013) 3 <www.itu.int/en/ITU-D/Regulatory-Market/.../IIC_Africa_Final-en.pdf> accessed 15 June 2017.

internet connection with GSM is of great significance in Sub-Saharan Africa because GSM 3G is the most widespread network in the region.²⁰ The future of broadband internet connection undoubtedly lies essentially in mobile broadband technologies. However, even with the population of the region gaining increased access to internet via wireless technology, the internet connection statistics pertain primarily to the population in urban areas. In fact, it should be pointed out that the transformation of the telecommunications sector in general has been more positive in urban rather than rural areas.²¹ That said, the tremendous growth of the telecommunications sector has greatly enhanced connectivity within Sub-Saharan through, *inter alia*, increased competition which has translated into lower prices and better quality of services for consumers. Therefore, the liberalisation of the telecommunications sector is a development that should be maintained and fostered. A crucial tool for fulfilling this objective is effective regulation of the telecommunications sector.

Regulation has played a pivotal role in bringing about the transition from monopoly to competition. Undoubtedly, the removal of barriers to entry through, *inter alia*, modification of the licensing regime and liberalisation of FDI restrictions to allow for increased private sector participation, have been important for purposes of bringing the liberalisation policy into effect. However, it is the introduction of a sector-specific regulatory framework aimed at ensuring that telecommunications markets become competitive and the establishment of an independent regulator that has primarily facilitated the transition to competition.

It has long been argued by academics that effective competition in a market reduces the need for regulatory intervention primarily because strong competition for a market constitutes a self-regulating system that ensures the elimination of excess profits.²² However, it has been pointed out that liberalisation often involves a change, not a decrease, in the nature of regulation.²³ One key reason put forward for the need for continued regulation in the liberalised telecommunications sector is to establish a level playing field for competitors and to ensure that

²⁰Ibid.

²¹Helen Nyambura-Mwaura and Simon Akam, 'Telecoms Boom Leaves Rural Africa Behind' *Reuters* (Johannesburg, 31 January 2013) <<http://www.reuters.com/article/2013/01/31/us-africa-telecoms-idUSBRE90U0MK20130131>> accessed 15 June 2017.

²²Martin C Stewart-Smith, *Industry Structure and Regulation* (World Bank Publications 1995) 22.

²³Philip Cerny, 'The Deregulation and Re-Regulation of Financial Markets in a More Open World' in Philip Cerny (ed), *Finance and World Politics; Markets, Regimes, and States in Post Hegemonica Era* (Aldershot Edward Elgar 1993). Also see Damien Geradin and Michel Kerf, *Controlling Market Power in Telecommunications: Antitrust vs. Sector-Specific Regulation* (Oxford University Press 2003) 2, providing a similar argument in the context of the telecommunications sector by stating the need for regulatory oversight in the liberalised telecommunications sector.

competitive pressures remain sufficiently intense.²⁴ Therefore, in the liberalised telecommunications sector, the existence of competition does not automatically eliminate the need for regulatory intervention.

In Sub-Saharan Africa, competition-related regulatory concerns in the liberalised telecommunications sector, particularly in the mobile telephony and internet markets, point to the need for regulatory intervention to protect the benefits arising from having open competition.

Among the major regulatory concerns are: interconnection, access to spectrum for wireless services, and anti-competitive behaviour. With regard to interconnection, a key concern is the high mobile interconnection rates that work in favour of incumbent mobile operators and against new entrants.²⁵ To ensure that interconnection does not become a bottleneck to competition, ensuring fair and efficient interconnection is a must.

Availability of spectrum for wireless services, specifically mobile services, is also another critical issue that is threatening the continued growth of the mobile market with scarcity of spectrum affecting entry into that market.²⁶ One factor most likely contributing to this problem is the legacy of uneven distribution of spectrum holding among telecommunications operators prior to full liberalisation with incumbent operators telecommunications operators having substantially larger spectrum holdings in ‘superior spectrum’²⁷ than other telecommunications

²⁴Damien Geradin and Michel Kerf, *Controlling Market Power in Telecommunications: Antitrust vs. Sector-Specific Regulation* (Oxford University Press 2003) 2.

²⁵Interconnection rates can have an impact on competitiveness of a mobile market due to network effects. Network effects occur when the value of a product or network to a user changes as the number of users of the product or network increases. In the context of the telecommunications sector, the more subscribers a network has the more valuable its network is as a subscriber can communicate with more people. Since new entrants usually have a smaller network than incumbent operators, if interconnection rates are set too high, a customer will prefer to join the larger network which offers connection to more people. One the other hand, if interconnection rates are set too low, there will be less incentives for the provider of interconnection to maintain and upgrade its network affecting quality of telecommunications services. Regulation of the interconnection should therefore find the right balance between the two competing interests.

²⁶This is the case in Ivory Coast, Ghana, and Uganda, where scarcity of spectrum for mobile services in the GSM frequency bands has hindered market entry. See ‘Cote D’Ivoire: Warid Telecom Pays for Licence but Can’t Get Enough Spectrum to Operate’ *Balancing Act* (13 March 2009) <<http://www.balancingact-africa.com/news/en/issue-no-445/top-story/cote-d-ivoire-warid/en>> accessed 15 June 2017; ‘Spectrum Unavailability and Review of Guidelines Delayed Globalcom’s Operations in Ghana says Minister Iddrisu’ *Balancing Act* (2 September 2011) <<http://www.balancingact-africa.com/news/en/issue-no-570/telecoms/spectrum-unavailabil/en>> accessed 15 June 2017; and Julius Barigaba, ‘Uganda: Country cannot take more GSM operators says UCC’ *The East African* (Kampala, 25 August 2008) <<http://www.theeastafrican.co.ke/news/-/2558/462354/-/s2iw2ez/-/index.html>> accessed 15 June 2017.

²⁷‘Superior spectrum’ refers to the spectrum in the GSM frequency band, 900 MHz band which is more efficient than the alternative 1800 MHz band. Operators with spectrum holdings in the 900 MHz band invest less in base stations since lower frequency bands offer higher transmission ranges than higher frequency bands.

operators putting the latter at a competitive disadvantage.²⁸ Thus, there is need for more efficient spectrum management in the telecommunications sector.

The third most significant regulatory concern is anti-competitive behaviour by telecommunications operators. One area of concern is collusion with allegations of collusion by incumbent operators to restrict competition in the mobile services markets. For example, in South Africa, the Competition Commission investigated claims of collusion by the incumbent mobile operators MTN and Vodacom that raised their interconnection rate by 500% shortly before a third mobile operator Cell C entered the market.²⁹ Abuse of dominant position, through for example, predatory pricing and refusal to grant access to essential facilities has also been a source of concern. In South Africa, the Competition Commission had, for several years, sought to address allegations of refusal by the incumbent fixed-line operator, Telkom SA, to grant access to essential facilities in the value-added services market.³⁰ In Ghana, Ghana Telecom (now Vodafone Ghana) has also been accused of predatory pricing in the broadband internet market by internet service providers.³¹

Linked to the concern of anti-competitive behaviour in the liberalised telecommunications sector in Sub-Saharan Africa is the conduct of the large multinational telecommunications groups that have a strong presence in the telecommunications markets in Sub-Saharan Africa.³² There is a substantial amount of literature, albeit not specifically focusing on the telecommunications sector, which concludes that multinational corporations have a greater tendency to engage in anti-competitive behaviour in developing countries in order to become dominant or acquire monopoly status in a market.³³ One example of anti-competitive behaviour is predatory

²⁸For example, in Uganda, UCC data, see UCC, 'Usage of Frequency Bands as at December 31st 2012', reveal that some telecommunications operators have spectrum holdings in the 900 MHz band while other telecommunications operators have been assigned spectrum in the 1800 MHz band.

²⁹'MTN, Vodacom in Clear on Collusion Charges' *Techcentral* (23 March 2011) <<http://www.techcentral.co.za/mtn-vodacom-in-the-clear-on-collusion-charges/22038/>> accessed 15 June 2017.

³⁰In 2011, the South Africa Competition Tribunal adjudicated over the issue in *Competition Commission v Telkom SA Ltd* 11/CR/Feb04 [2011] ZACT 2 finding Telkom SA liable under the Competition Act 1998.

³¹'Internet Ghana Takes on Ghana Telecom over Anti-Competitive Practices' *Balancing Act* <<http://www.balancingact-africa.com/news/en/issue-no-263/internet/internet-ghana-takes/en>> accessed 15 June 2017.

³²Particularly in the mobile market where subsidiaries of multinational telecommunications groups have taken control. In most countries the former monopoly operator continues to dominate the fixed-line market.

³³Sanjaya Lall, 'Multinationals and Market Structure in an Open Developing Economy: The Case of Malaysia' (1979) 115(2) *Weltwirtschaftliches Archiv* 325; Magnus Blomström, 'Foreign Direct Investment and Productive Efficiency: The Case of Mexico' (1986) 35(1) *Journal of Industrial Economics* 97; and Selim Raihan, 'Foreign Competition and Growth: Bangladesh Manufacturing Industries' in Paul Cook, Raul Fabella and Cassey Lee (eds), *Competitive Advantage of Competition Policy in Developing Countries* (Edward Elgar Publishing 2007) 281.

pricing. Local subsidiaries of the multinational telecommunications groups are likely to have the financial capacity to engage in predatory pricing and drive out smaller operators since they can withstand short term losses recoupable once competitors have exited the market.³⁴ The other potential area for anti-competitive conduct is in relation to cross-border mergers. Multinational telecommunications groups seeking to enter the telecommunications markets in Sub-Saharan Africa are increasingly relying on cross-border mergers. Mergers, have the potential to limit competition, as they can create or extend monopoly power and increase the scope for collusion in a market which, post-merger, will be more oligopolistic and less competitive than was the market pre-merger.³⁵ Therefore, there is need for mechanisms, for example, merger control, in place to ensure that mergers do not have anti-competitive effects.

The above concerns indicate that although a liberalisation policy has been implemented in the region and the population is benefiting from the policy through increased competition, which has translated into lower prices and better quality of services for consumers, it is important to ensure the benefits arising from the liberalisation are sustainable. This entails ensuring that the regulatory framework, which was put in place with an objective of creating competitive telecommunications markets, promotes sustainable competition.

1.2 Statement of the Problem

The introduction of competition in the telecommunications sector following the liberalisation of the sector has not taken away the need for regulatory intervention. In the absence of perfect competition, regulatory intervention is still needed to ensure a level playing field among competitors and maintain sustainable competition in the telecommunications markets. However, in contrast to the monopoly

³⁴Predatory pricing by multinational corporations has been observed in other sectors in developing countries. See, for example, Magnus Blomström, 'Foreign Direct Investment and Productive Efficiency: The Case of Mexico' (1986) 35(1) *Journal of Industrial Economics* 97, with regard to multinational corporations (MNCs) in the manufacturing industry in Mexico; Richard S Newfarmer 'TNC Takeovers in Brazil: The Uneven Distribution of Benefits in the Market for Firms' (1979) 7(1) *World Development* 25, which explores the effect of foreign direct investment (FDI) in the Brazilian electrical industry noting that MNCs used predatory pricing as a means of gaining dominant position in the industry; and Maria C Lattore, 'Multinationals and Foreign Direct Investment: Main Theoretical Standards and Empirical Effects' UCM Working Paper 6/2008 23 <http://estudiosestadisticos.ucm.es/data/cont/docs/12-2013-02-06-CT06_2008.pdf> accessed 15 June 2017. Lattore's article highlights two reasons why MNCs presence can lead to high market concentration in a given market: (1) they are more efficient than local firms; and (2) they can engage in conduct that restricts competition for example, predatory pricing sustained by their financial staying power.

³⁵Sandra Marco Colino, *Competition Law of the EU and UK* (7th edn, Oxford University Press 2011) 348.

period where regulatory intervention focused on price control to ensure that the monopoly operator did not exploit its privileged position, in the liberalised telecommunications sector, regulatory intervention entails a significant change in the nature of oversight to an approach that focuses on, *inter alia*, fostering and maintaining competitive telecommunications markets.

However, the increasing number of competition-related regulatory concerns prevalent in the liberalised telecommunications sector in Sub-Saharan Africa including: anti-competitive behaviour, high interconnection rates, and spectrum scarcity, suggest that the existing regulatory framework for competition in the telecommunications sector in different countries in the region does not reflect the change in regulatory requirements.

On that basis, this study focuses on the issue whether the existing regulatory framework, for the telecommunications sector in countries in Sub-Saharan Africa sector effectively deals with emerging competition-related concerns in the liberalised sector. In order to address this issue, Uganda is used as a case study. The choice of Uganda, among all other Sub-Saharan Africa countries is down to four key reasons.

Firstly, it is one of the pioneer countries in the region taking concrete steps to liberalise the telecommunications sector with the adoption of the telecommunications policy of 1996 and the enactment of a Communications Act of 1997 providing for the establishment of an independent telecommunications regulator. Therefore, Uganda has gained substantially more experience regarding regulation of a liberalised telecommunications sector in contrast to other countries in Sub-Saharan Africa.

Secondly, shortly before the full liberalisation of the telecommunications sector in 2006, the regulatory framework for telecommunications was comprehensively modified with the introduction of several statutory instruments aimed at implementing the provisions of the Communications Act of 1997. The statutory instruments notably cover three main regulatory areas of concern, anti-competitive,³⁶ interconnection,³⁷ and spectrum.³⁸ The modification of the regulatory framework in Uganda illustrates a proactive effort on the side to telecommunications policy-makers and the telecommunications regulator to provide a framework in line with the changes in regulatory requirements in the sector. The analysis of the regulatory framework in Uganda therefore provides one with the opportunity to establish whether the efforts to modify the framework to reflect changes in regulatory requirement are sufficient.

Thirdly, Uganda has one of the most active telecommunications sectors in the region, with several telecommunications operators including two major operators in

³⁶Communications (Fair Competition) Regulations 2005, SI 2005/24.

³⁷Telecommunications (Interconnection) Regulations 2005, SI 2005/26.

³⁸Communications (Radio) Regulations 2005, SI 2005/23.

the fixed-lines market and several internet service providers.³⁹ The presence of numerous players in Uganda's telecommunications sector suggests a high potential for competition-related regulatory concerns.

Fourthly, despite the introduction of competition in Uganda's telecommunications sector two decades ago,⁴⁰ Uganda still relies exclusively on sector-specific rules to govern competition in the telecommunications sector. This approach is an exception to the norm (both at the regional and global level) whereby national competition legislation plays a role in the regulation of the telecommunications sector. Thus, by focusing on Uganda, one can establish whether exclusive reliance on sector-specific rules to govern the telecommunications sector is the appropriate regulatory approach for facilitating sustainable competition in the liberalised telecommunications sector.

1.3 Main Objective and Research Questions

As pointed out in the previous sub-section, the main objective of this study is to establish whether the regulatory framework for telecommunications in countries in Sub-Saharan Africa adequately deals with the regulatory issues following from the liberalisation of the telecommunications sector.

In order to analyse the efficacy of the regulatory environment for competition in the telecommunications sector, the following questions are specifically addressed as having the greatest bearing on sustainable competition in the telecommunications sector in Uganda:

- (1) Whether Uganda's regulatory framework for telecommunications provides sufficient measures to prevent or curb anti-competitive behaviour in the sector.
- (2) Closely connected to the first issue is whether the relevant sector-specific competition rules in Uganda are encompassing enough to deal with the anti-competitive conduct of large multinational telecommunications groups particularly with regard to cross-border mergers.
- (3) Whether the regulatory framework promotes fair and efficient interconnection and network access.
- (4) Whether there is efficient spectrum management, specifically with regard to spectrum for mobile services.
- (5) Whether competition law should play a significant role in the sector that is already subject to regulatory control by an independent regulator implementing sector-specific rules.

³⁹This is according to UCC's 'List of Licensees' <<http://www.ucc.co.ug/data/smenu/80/List-of-Licensees.html>> accessed 15 June 2017.

⁴⁰Substantive introduction of competition in the telecommunications sector occurred in 1998 when a second national operator, MTN Uganda began to provide telecommunications services in the fixed-line market, competing against the former state monopoly operator, Uganda Telecom, and in the mobile market competing against mobile operator Celtel (now Airtel).

1.4 Justification of Research

The topic of research is motivated by the increased intensity of activities in liberalised telecommunications market segments in Sub-Saharan Africa which has given rise to a number of regulatory issues. The notable issues already highlighted in Sects. 1.1 and 1.2 of this chapter are: interconnection, scarcity of spectrum, and anti-competitive behaviour.

There is an amount of literature on the regulation of the liberalised telecommunications sector. Some of the literature has focused on the telecommunications reforms in the telecommunications sector in Sub-Saharan Africa. Gadio in his PhD dissertation looks at the key reasons behind the telecommunications reforms in Sub-Saharan Africa and focuses on the role of international economic development agencies, World Bank and IMF.⁴¹ However, the thesis does not delve into the issue of regulatory intervention in the liberalised telecommunications sector. Similarly, Shirley, Tusubira, Haggarty, and Gebreab provide comprehensive research on the telecommunications reforms in the 1990s in Uganda.⁴² While they point out potential areas of regulatory concern, for example, interconnection in the telephone market, the issue is not explored in detail.

Most of the literature specifically addressing the issue of regulation stems from South Africa. Books focusing on the regulation of telecommunications in Sub-Saharan Africa are scarce. Notable publications include one by Thornton, Carrim, Mtshualana and Reburn, along with several other contributors focusing on the legislative framework for telecommunications in South Africa.⁴³ However, the book while serving as a great reference for information on telecommunications law and regulation in South Africa, does not highlight the contemporary regulatory issues in detail. Additionally, the publication focuses on the Telecommunications Act of 1996 which was later repealed by the Electronic Communications Act of 2005. The other notable publication is the PhD thesis by Oyata which stands out as an in-depth research focusing on the regulation of the telecommunications sector in Nigeria under the Communications Act of 2003.⁴⁴ The analysis of the regulatory framework includes specific discussion of interconnection. However, interconnection is primarily discussed within the context of access to telecommunications services through universal service. Thus, while the thesis greatly contributes to the general understanding of telecommunications regulation in Nigeria, and

⁴¹Cheikh Tidiane Gadio, 'Institutional Reform of Telecommunications in Senegal, Mali and Ghana: The Interplay of Structural Adjustment and International Policy Diffusion' (DPhil dissertation, Ohio State University 1995).

⁴²Mary Shirley, Fred Tusubira, Luke Haggarty, and Frew Gebreab, 'Telecommunications Reform in Uganda' (2002) World Bank Working 2864/2002.

⁴³Lisa Thornton, Yasmin Carrim, Patric Mtshualana, and Pippa Reburn (eds), *Telecommunications Law in South Africa* (STE 2006).

⁴⁴Chukwudiebube Bede Abraham Oyata, 'Telecommunications Law and Regulation in Nigeria: A Study of Universal Service Provision' (PhD Thesis, University of Warwick 2010).